

M A R C H 2 0 0 6

**REPORT TO THE CONGRESS**

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# Medicare Payment Policy

**MEDPAC** Medicare  
Payment Advisory  
Commission

# MEDPAC

Medicare  
Payment Advisory  
Commission

The Medicare Payment Advisory Commission (MedPAC) is an independent federal body established by the Balanced Budget Act of 1997 (P.L. 105–33) to advise the U.S. Congress on issues affecting the Medicare program. In addition to advising the Congress on payments to health plans participating in the Medicare Advantage program and providers in Medicare’s traditional fee-for-service program, MedPAC is also tasked with analyzing access to care, quality of care, and other issues affecting Medicare.

The Commission’s 17 members bring diverse expertise in the financing and delivery of health care services. Commissioners are appointed to three-year terms (subject to renewal) by the Comptroller General and serve part time. Appointments are staggered; the terms of five or six Commissioners expire each year. The Commission is supported by an executive director and a staff of analysts, who typically have backgrounds in economics, health policy, and public health.

MedPAC meets publicly to discuss policy issues and formulate its recommendations to the Congress. In the course of these meetings, Commissioners consider the results of staff research, presentations by policy experts, and comments from interested parties. (Meeting transcripts are available at [www.medpac.gov](http://www.medpac.gov).) Commission members and staff also seek input on Medicare issues through frequent meetings with individuals interested in the program, including staff from congressional committees and the Centers for Medicare & Medicaid Services (CMS), health care researchers, health care providers, and beneficiary advocates.

Two reports—issued in March and June each year—are the primary outlets for Commission recommendations. In addition to annual reports and occasional reports on subjects requested by the Congress, MedPAC advises the Congress through other avenues, including comments on reports and proposed regulations issued by the Secretary of the Department of Health and Human Services, testimony, and briefings for congressional staff.

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Glenn M. Hackbarth, J.D., Chairman  
Robert D. Reischauer, Ph.D., Vice Chairman  
Mark E. Miller, Ph.D., Executive Director

March 1, 2006

The Honorable Richard B. Cheney  
President of the Senate  
U.S. Capitol  
Washington, DC 20510

Dear Mr. Vice President:

I am pleased to submit a copy of the Medicare Payment Advisory Commission's March 2006 *Report to the Congress: Medicare Payment Policy*. This report fulfills MedPAC's legislative mandate to evaluate Medicare payment issues and make specific recommendations to the Congress.

The report first provides context for the chapters that follow by documenting the rise in Medicare spending as a share of the economy and the federal budget. The report then assesses payment adequacy and provides the Commission's update recommendations on eight payment systems in traditional Medicare. It provides additional recommendations on valuing physician work in the physician fee schedule.

Sincerely,

A handwritten signature in black ink, appearing to read "Glenn M. Hackbarth".

Glenn M. Hackbarth, J.D.  
Chairman

Enclosure



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Robert D. Reischauer, Ph.D., Vice Chairman  
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March 1, 2006

The Honorable J. Dennis Hastert  
Speaker of the House of Representatives  
U.S. House of Representatives  
H232 Capitol Building  
Washington, DC 20515

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Chairman

Enclosure

## Acknowledgments

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## **Executive summary**

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## Executive summary

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The Congress charges the Medicare Payment Advisory Commission with reviewing Medicare payment policies and making recommendations concerning them each March. In this report we review Medicare payment systems for eight sectors: hospital inpatient, hospital outpatient, physician, outpatient dialysis, skilled nursing, home health, long-term care hospitals, and inpatient rehabilitation facilities. The Commission's goal is for Medicare payments to cover the costs efficient providers incur in furnishing care to beneficiaries. MedPAC also recommends changes to payment and other policies that are designed to make payments more accurate and improve the value received by beneficiaries and taxpayers for their expenditures on health care.

This year, for the first time, we evaluate payment adequacy for long-term care hospitals and inpatient rehabilitation facilities, two sectors that have been growing rapidly and have seen recent regulatory changes. We also recommend improvements to the process for determining relative values in the physician payment system and continue to evaluate the relative payments for different services within prospective payment systems (PPSs). Last year we made recommendations on improving relative values within the inpatient and skilled nursing facility PPSs.

In addition to recommending updates and improvements to the internal relative values that apply uniformly to all providers within a system, the Commission has called for the Medicare program to start differentiating among providers when making payments. Currently, Medicare pays providers the same regardless of their quality. We have recommended that Medicare pay more for higher quality performance. Further, the Commission has recommended measuring the resource use of physicians who treat Medicare beneficiaries and providing information about practice patterns confidentially to physicians. These are important steps to improving quality for beneficiaries and laying the groundwork for obtaining better value in the Medicare program.

As the new prescription drug benefit begins, new types of private plans enter the program and new payment systems go into effect, resulting in new patterns of care. In future work the Commission will analyze these changes and make recommendations to the Congress on how the new programs can be improved to increase their value.

At the beginning of each chapter we list the recommendations contained in it. Within the chapters we present each recommendation; its rationale; and its implications for beneficiaries, providers, and program spending. The spending implications are presented as ranges over one- and five-year periods and, unlike official budget estimates, do not take into account the complete package of policy recommendations, the interactions among them, or assumptions about changes in provider behavior. In Appendix A we present a list of all recommendations and the Commissioners' votes.

### Context for Medicare payment policy

The Medicare program faces powerful upward pressures on health spending that policymakers will find difficult to counter. Chapter 1 describes trends in health care spending and strategies to constrain its growth. Health care spending has been rising more rapidly than growth in national income for many decades, and all indications suggest that it will continue to do so into the future. The continuation of this trend, combined with the retirement of the baby boomers and Medicare's new prescription drug benefit, will lead the Medicare program to require unprecedented shares of federal spending.

Policymakers need to take steps to slow growth in Medicare spending sooner rather than later because taking measures earlier would permit more gradual changes to the program. Strategies to address Medicare's long-term sustainability include constraining payment rates for health care providers, rationalizing benefits, increasing the program's financing, and encouraging greater efficiency from health care providers. The last strategy—increasing efficiency—is the most desirable because it would enable the Medicare program to do more with its resources. Even if policymakers succeed at moving providers towards greater efficiency, they may still need to make other policy changes to help ensure that the program's financing is sustainable into the future.

Medicare and its beneficiaries are not alone in facing the challenges of rapid growth in health spending—all stakeholders in the U.S. health care system are confronting similar pressures. Medicare relies on providers and health plans that care for the entire population, not just Medicare beneficiaries, and thus broad trends in the health care

system affect the environment in which the program operates. In some areas, Medicare can and should take the lead in initiating changes. But for changes to be lasting, Medicare should work in collaboration with other payers. For example, Medicare could use comparative-effectiveness analysis more readily if other payers do so as well, and a common set of measures for quality and resource use across payers would reduce the reporting burden on providers.

### **Assessing payment adequacy and updating payments in fee-for-service Medicare**

Chapter 2 and Chapter 4 recommend payment updates for 2007 and other policy changes for fee-for-service Medicare. To help determine the appropriate level of aggregate funding for a given payment system, the Commission considers:

- Are payments adequate for efficient providers in 2006?
- How will efficient providers' costs change in 2007?
- How should Medicare payments change in 2007?

We answer the question of whether current Medicare payments are adequate by examining information about beneficiaries' access to care; changes in the capacity, volume, and quality of care; providers' access to capital; and, where available, the relationship of Medicare payments to providers' costs. Our assessment of the relationship between Medicare payments and providers' costs is influenced by whether current costs approximate those of efficient providers. Efficient providers use fewer inputs to produce quality outputs. We then account for expected cost changes in the next payment year, such as those resulting from changes in input prices. As part of this step, we apply a policy expectation for improvement in productivity (0.9 percent for 2007). This factor links Medicare's expectations for efficiency to the gains achieved by the firms and workers who pay taxes that fund Medicare. Market competition constantly demands improved productivity and reduced costs; as a prudent purchaser, Medicare should also require some productivity gains each year.

Chapter 2 addresses hospital inpatient and outpatient, physician, and outpatient dialysis services, and Chapter 4 discusses post-acute care services.

### **Hospital inpatient and outpatient services**

Indicators of payment adequacy for hospitals present a mixed picture. Our assessments of beneficiaries' access to care, service volume growth, and access to capital are positive, while the results on quality are mixed. The Commission is concerned about the downward trend in hospitals' overall Medicare margins and the unusually large cost increases in recent years. The rate of cost growth has been affected by unusual cost pressures, but it also has been influenced by the recent lack of financial pressure from private payers as networks broadened and hospitals consolidated. In prior periods when financial pressure from private payers was lacking, hospital costs also grew rapidly. In addition, our analysis suggests that more efficient hospitals may not be performing as poorly as the industry's aggregate margin would suggest. For example, hospitals with consistently negative Medicare margins have higher costs and lower occupancy than their competitors, and hospitals with high costs substantially reduce the aggregate Medicare margin.

Balancing these considerations, the Commission recommends an update of market basket minus half of our expectation for productivity growth for both inpatient and outpatient services. These updates should be combined with a quality incentive payment policy for hospitals and the improvements to the inpatient PPS relative values we recommended last year.

### **Physician services**

Our analysis of beneficiary access to physician care, physician supply, Medicare-to-private fee level comparisons, and the growth in physician service volume finds that many of these indicators are stable and shows that the large majority of beneficiaries are able to obtain physician care. Beneficiaries report very high levels of satisfaction with their access to physicians, levels that generally compare favorably to the privately insured. Additionally, the volume of services used per beneficiary continues to grow significantly, which has led to considerable spending increases. In consideration of expected input costs for physician services and our payment adequacy analysis, the Commission recommends that the Congress update payments for physician services by the projected change in input prices less our expectation for productivity growth for 2007.

In contrast to this recommendation, current law calls for substantial negative updates from 2007 to 2011, under the sustainable growth rate (SGR) formula. The Commission

does not support these impending fee cuts because they could threaten beneficiary access to physician services. The Commission is specifically concerned about the effect of rate cuts on access to services provided by primary care physicians and in the longer term about the attractiveness of primary care to new physicians. Furthermore, the Commission considers the SGR formula a flawed, inequitable mechanism for volume control and plans to examine alternatives to it in the coming year.

### **Outpatient dialysis services**

Most indicators of payment adequacy for outpatient dialysis services are positive. Beneficiaries are not facing systematic problems in accessing care. Providers are increasing capacity to meet patients' demand (as demonstrated by the increasing number of facilities and hemodialysis treatment stations), spending is increasing, and providers have sufficient access to capital. The quality of care is improving for some measures—dialysis adequacy and anemia status—and unchanged for others. Cost per treatment for composite rate services increased at a rate less than CMS's market basket index for dialysis services between 1997 and 2003, but the composite rate was only updated twice in that period.

Although most of the indicators for payment adequacy are positive, the Commission is concerned about the trend and level of Medicare margins for outpatient dialysis services. Balancing these considerations, the Commission recommends updating the composite rate in 2007 by the projected rate of increase in the end-stage renal disease market basket less half of the Commission's expectation for productivity growth.

In addition to updating the composite rate, the Commission reiterates its recommendation that the Congress eliminate payment differences between freestanding and hospital-based facilities for composite rate services and combine the composite rate and the add-on payment. Doing so is consistent with the principle of paying the costs incurred by efficient providers who furnish appropriate care, regardless of the care setting.

### **Valuing services in the physician fee schedule**

Relative value units (RVUs) are a key element of Medicare's physician fee schedule. They determine how payment rates vary among all of the more than 7,000 services that physicians furnish to the program's beneficiaries. Periodic review of RVUs is important because the resources needed to perform a service

can change over time. When that happens, the value of a service must be changed accordingly; otherwise, Medicare's payments will be either too high or too low.

Chapter 3 discusses the importance of accurate valuation of physician services and examines CMS's process for reviewing RVUs. Changes to the process are necessary because it does not do a good job of identifying services that may be overvalued. The Commission recommends improvements to the process that will help reduce the number of physician fee schedule services that are misvalued, thereby making payment more accurate. Inaccurate rates can distort the market for physician services and eventually threaten access to care and affect the supply of physicians—in particular those providing primary care services.

The Commission recommends that the Secretary establish a standing panel of experts to help CMS identify overvalued services and to review recommendations from the American Medical Association's Relative Value Scale Update Committee (RUC), and that the Congress and the Secretary ensure that this panel has the resources it needs to collect data and develop evidence. In consultation with this expert panel, the Secretary should initiate reviews for services that have experienced substantial changes in factors that may indicate changes in physician work and identify new services likely to experience reductions in value. Those latter services should be referred to the RUC and reviewed in a time period as specified by the Secretary. Finally, to ensure the validity of the physician fee schedule, the Secretary should review all services periodically.

### **Post-acute care providers**

The recuperation and rehabilitation services that post-acute care providers furnish are important to Medicare beneficiaries and cost the program about \$36 billion in 2004. In Chapter 4, the Commission analyzes payment adequacy for each of the four types of post-acute care providers: skilled nursing facilities (SNFs), home health agencies, long-term care hospitals (LTCHs), and inpatient rehabilitation facilities (IRFs). The payment systems for all four of these providers face similar issues:

- payments are not well calibrated to costs,
- services overlap among settings,
- the post-acute care product is not well defined, and
- assessment instruments differ among settings.

New prospective payment systems for post-acute care providers have led to changes in the patterns of post-acute care use, and providers' responses to the new incentives of the PPSs may not serve the program or beneficiaries well. These responses have led us to call for action to slow payments, refine the case-mix systems, and measure quality of care. However, even refining all of the case-mix systems would still not resolve issues of whether patients go to the right post-acute care setting or whether they need post-acute care at all. There is still no common assessment instrument or front-end assessment tool to sort patients, and no one has an incentive to direct patients to the most cost-effective setting.

### **Skilled nursing facility services**

Most indicators of payment adequacy for SNFs—access to care, supply, payments, quality, access to capital—are stable, and the volume of services continues to increase. In addition, the Medicare margin for SNFs continues to be high and SNF payments appear more than adequate to accommodate cost growth. Therefore, the Commission recommends that the Congress eliminate the update to payment rates for skilled nursing facility services for fiscal year 2007.

CMS's refinements to the SNF case-mix system in 2006 did not address long-standing problems with the allocation of SNF payments. Therefore, the Commission once again recommends that the Secretary modify the SNF PPS to more accurately capture the cost of providing care to different types of patients. This new system should: reflect clinically relevant categories of patients, more accurately distribute payments for nontherapy ancillary services, improve incentives to provide rehabilitation services based on the need for therapy, and be based on more contemporary data than the current system. We will continue work to further define such a new system.

Currently, CMS has only three quality indicators for SNF patient care, all of which are limited. Medicare urgently needs quality indicators that allow the program to assess whether patients benefit from SNF care and to distinguish between facilities. The Commission recommends that CMS:

- collect information on activities of daily living at admission and at discharge;
- develop and use more quality indicators, including process measures, specific to short-stay patients in skilled nursing facilities; and

- put a high priority on developing appropriate quality measures for pay for performance.

### **Home health services**

Evidence suggests that access to home health services is good: Communities across the country have providers and more providers are entering the program. In addition, the quality of care continues to improve slightly, and the number of users and the amount of service that they use are rising. These factors, along with more than adequate margins, suggest that agencies should be able to accommodate cost increases over the coming year without an increase in base payments. Therefore, the Commission recommends that the Congress eliminate the update to payment rates for home health care services for calendar year 2007.

The Commission continues to be concerned about aspects of this payment system. There is some evidence that payments are not being distributed accurately within the system. The number of visits per episode and the mix of the type of visits (therapy, skilled nursing, and aide) have changed so substantially since the payment system was developed that it is unlikely that the case-mix system still accurately predicts the relative costliness of episodes. Ideally, case-mix adjustments should bring payments closer to costs. The Commission will continue to investigate improvements to the payment system.

### **Long-term care hospital services**

This year, for the first time, the Commission assesses the adequacy of payment for long-term care hospitals. LTCHs provide care to patients with clinically complex problems who need hospital-level care for extended periods of time. Medicare is the predominant payer for long-term care hospital services.

Medicare payments for LTCH services are more than adequate. The supply of LTCHs, the volume of services, and the number of beneficiaries admitted to LTCHs have all increased rapidly since 2001. Changes in quality are mixed and access to capital is good. Moreover, Medicare spending for these facilities increased twice as fast as volume, and in 2004 alone, spending increased almost 38 percent. Margins in this sector have been high.

The Commission concludes that long-term care hospitals should be able to accommodate cost changes in 2007 and therefore recommends that the Congress eliminate the update to payment rates for LTCH services for 2007.

### **Inpatient rehabilitation facility services**

This year, also for the first time, the Commission is assessing the adequacy of payment for inpatient rehabilitation facilities. IRFs provide intensive rehabilitation services. To be eligible for treatment in an IRF, beneficiaries must be able to tolerate and benefit from three hours of therapy per day.

Indicators of payment adequacy were generally positive through 2004. Supply and volume increased, quality was stable, and access to capital was good. Medicare payments

grew rapidly from 2002 to 2004, resulting in high margins for IRFs. A recent regulatory change—CMS’s 2004 modification of the 75 percent rule—complicates analysis of this sector. This rule has led to decreased admissions in 2005 and will affect Medicare margins. However, we estimate margins will still be more than adequate and that IRFs can accommodate price changes without an increase in payments. Therefore, the Commission recommends that the Congress eliminate the update to payment rates for inpatient rehabilitation facility services for fiscal year 2007. ■



CHAPTER

1

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**Context for Medicare  
payment policy**

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# Context for Medicare payment policy

## Chapter summary

The Medicare program faces powerful upward pressures on health spending that policymakers will find difficult to staunch. Health care spending has been rising much more rapidly than growth in national income for many decades, and all indications suggest that it will continue to do so into the future. Analysts attribute this general trend to the interaction between broad use of new medical technologies and health insurance coverage, which keeps patients from facing the full cost of health care services. The continuation of this trend, combined with the retirement of the baby boomers and Medicare's new prescription drug benefit, will lead the Medicare program to require an unprecedented share of federal financing. Moreover, other federal programs such as Social Security and Medicaid will also require greater resources at the same time that Medicare spending expands. For Medicare's beneficiaries, premiums and cost sharing will require increasing shares of their Social Security benefits. The introduction of the drug benefit is expected to offset some of beneficiaries' spending on drugs, however.

## In this chapter

- Medicare's long-term picture
- The broader U.S. health care system
- The U.S. health care system compared with those of other countries
- Changing Medicare policy within the broader U.S. health care system

Policymakers need to take steps to slow growth in Medicare spending sooner rather than later because taking measures earlier would permit more gradual changes to the program. Strategies to address Medicare’s long-term sustainability include constraining payments to health care providers, limiting benefits, increasing the program’s financing, and encouraging greater efficiency from health care providers. The last strategy—increasing efficiency—is the most desirable because it would enable the Medicare program to do more with its resources. Evidence suggests that we do not currently use Medicare’s considerable resources as wisely as we should. Even if policymakers succeed at moving providers towards greater efficiency, they may still need to make other policy changes to help ensure that the program’s financing is sustainable into the future.

Medicare and its beneficiaries are not alone in facing the challenges of rapid growth in health spending—many stakeholders in the U.S. health care system are confronting similar pressures. Medicare relies on providers and health plans that care for the entire population, not just Medicare beneficiaries, and thus broad trends in the health care system affect the environment in which the program operates. In some health care sectors, Medicare can and should take the lead in initiating certain changes. In other situations, Medicare must often work in collaboration with other payers to make lasting changes. ■

In this year's Report to the Congress on Medicare payment policy, the Medicare Payment Advisory Commission (MedPAC) asks policymakers to look to the program's future. Medicare fills a critical role in our society—ensuring that the elderly and disabled have good access to medically necessary care. Along with other payers in the U.S. health care system, the program has helped to finance important strides in medical technology. For the sake of its beneficiaries, we must preserve these aspects of the Medicare program. However, we should also use Medicare's considerable resources more wisely. The program rewards increases in the volume and the specialized nature of services, but not necessarily the value of services. Provider practices vary widely by geographic region, often with an inverse relationship between quality and spending. Some stakeholders view the program as one in which all providers are entitled to payment, regardless of the quality, efficiency, or sometimes even the need for their services. Unless these aspects of Medicare change, the burden on beneficiaries and future taxpayers will be more onerous.

The program's financial outlook is a strong impetus for change. As is true for other purchasers of health care services in the United States, Medicare's spending is growing much faster than the U.S. economy overall. Analysts often attribute this general trend to the interaction between broad use of new medical technologies and health insurance coverage. In addition, CMS began Medicare's new outpatient prescription drug program, Part D, in January 2006. This program adds an important benefit to the Medicare package but greatly expands the program's need for resources. The leading edge of the baby boomers will become Medicare beneficiaries beginning in 2010, which will also accelerate Medicare spending. Taken together, these factors will lead Medicare to require an unprecedented share of our national income.

Moreover, because of the retirement of the baby boom generation, other federal programs such as Social Security and Medicaid will also require greater resources at the same time that Medicare spending expands. Some analysts point out that growth in our nation's economy has historically been large enough to finance expansion of both health and nonhealth spending (Chernew et al. 2003). Future growth in the economy may be able to support Medicare's financing needs, particularly if policymakers take steps to slow growth in health care spending or to reallocate federal revenues towards health programs. Other analysts disagree, saying long-term economic growth alone will not be sufficient to bring the country's fiscal

position into balance. According to this point of view, fiscal stability will likely require a sizable slowdown in the growth rate of health spending and may also require a substantial increase in taxes as a share of our nation's economy (CBO 2005b).

Because the projected shortfall in Medicare's financing is so large, policymakers will need to use a variety of policy approaches. The best strategy is to make changes that would lead to efficient payments so that Medicare would pay no more than what is required to obtain quality services and good access to care for beneficiaries. However, Medicare relies on providers and health plans that care for the entire population, not just Medicare beneficiaries, and broad trends in the health care system affect the environment in which the program operates. Such trends include methods of paying providers, prevailing rates of reimbursement, expectations among individuals about what their health benefits cover, and the degree to which other payers reward or deter more efficient delivery of care and higher quality services. Medicare can and should take the lead in initiating changes. To be fully effective, however, Medicare must begin collaborating with other payers in creating incentives for providers to improve their efficiency.

The rest of this chapter outlines Medicare's long-term financial situation, describes the broader U.S. health care system, and compares the U.S. health care system with the systems in other countries. The chapter also discusses general approaches to help put Medicare on a more financially sustainable path.

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## **Medicare's long-term picture**

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For many years, the Medicare trustees, MedPAC, and numerous other organizations have been pointing to a large projected mismatch between the Medicare program's future levels of revenues and expenditures. Some analysts believe that reductions in the share of spending devoted to other federal programs cannot plausibly cover the program's projected shortfall (Aaron and Meyer 2005). Rapidly growing health costs also mean that Medicare beneficiaries will see increases in premiums and cost sharing that will require an increasing share of their Social Security checks and other sources of income.<sup>1</sup>

## Projections of Medicare's long-term financing needs

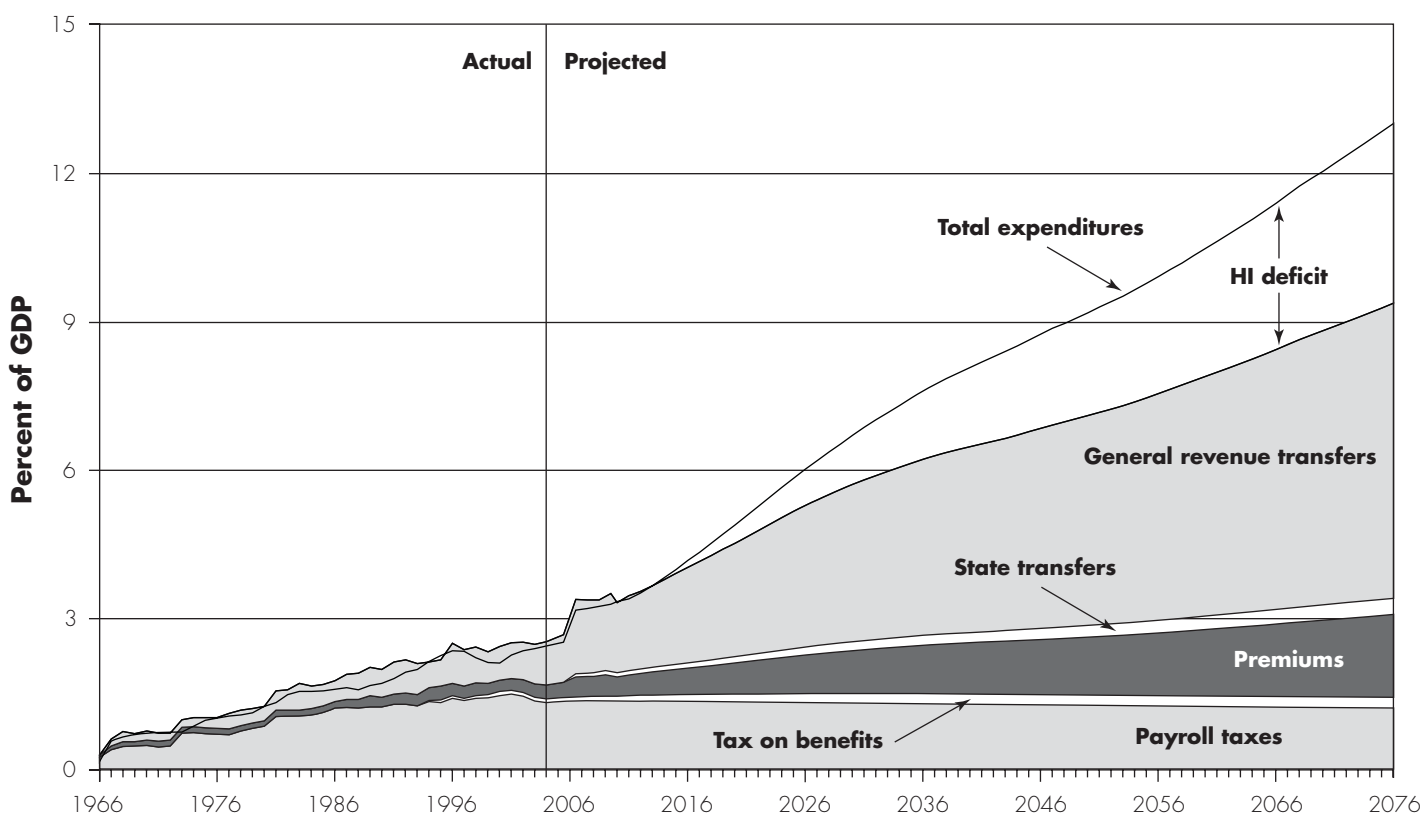
Under an intermediate set of assumptions, the Medicare trustees project that program spending will grow rapidly (Figure 1-1). Although federal program spending for Medicare currently makes up less than 3 percent of gross domestic product (GDP), spending is projected to grow to about 8 percent by 2036 and nearly 14 percent by 2078. Putting 14 percent in perspective, that amount is comparable to the current percentage of GDP spent on food, clothing, and fuel oil.

Even though these projections may seem high, some analysts consider them optimistic because they are based on the assumption that health care spending per person will grow only 1 percentage point faster than growth in GDP per person (see text box). Historically, health

spending has risen over 2 percentage points more than growth in per capita GDP. In addition, the trustees describe their own near-term projections of payments for Part B services as “unrealistically constrained due to multiple years of physician fee reductions that would occur under current law” (Boards of Trustees 2005). This statement alludes to the fact that under the sustainable growth rate (SGR) system, physician updates would be cut by 4 percent to 5 percent annually for 6 consecutive years, beginning in 2006. Under the Deficit Reduction Act of 2005, the physician payment rate for 2006 was kept at its 2005 level—in other words, the cut scheduled to take place under the SGR was not included and thus Medicare payments to physicians will be higher than previously anticipated.

**FIGURE 1-1**

**Medicare expenditures are projected to require a growing share of GDP**



Note: GDP (gross domestic product), HI (Hospital Insurance). These projections are based on the trustees' intermediate set of assumptions. Tax on benefits refers to a portion of income taxes that higher-income individuals pay on Social Security benefits that is designated for Medicare. State transfers (often called the Part D “clawback”) refer to payments called for within the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 from the states to Medicare for assuming primary responsibility for prescription drug spending.

Source: 2005 annual report of the Boards of Trustees of the Medicare trust funds.

## Projecting growth in Medicare spending

In making long-term projections of Medicare's costs, one of the most critical assumptions is the growth rate in program spending per person, after adjusting for the age and gender mix of the population.<sup>2</sup> Prior to their 2001 report, the Medicare trustees assumed that long-range spending would grow at the same rate as gross domestic product (GDP) per person. Growth rates vary depending on the time period over which one calculates them. Nevertheless, on average, real rates of increase in our nation's health expenditures have risen faster than real growth in the economy over the past six decades—even during the 1990s when managed care techniques and expanded use of prospective payment methods slowed spending increases (2004 Technical review panel on the Medicare Trustees Report). In recognition of this, the Medicare trustees began using an assumption that long-range Medicare program spending per person would grow at a rate of GDP plus 1 percentage point, excluding effects resulting from the population's age and gender mix (which they model separately). The trustees continue to use this assumption today.<sup>3</sup>

A higher assumption is more in keeping with experience. Between 1970 and 2003, for example, the inflation-adjusted growth rate in our nation's health spending per person was more than 2 percentage points higher than real GDP growth per person (CBO 2005b). Thus, the GDP plus 1 percentage point assumption in the trustees' intermediate scenario assumes unknown policy changes or other unspecified forces will slow the growth rate in future health spending.

Even an assumption that health care spending will grow 2 percentage points above GDP growth could be too low. One recent study combined projections of the health status of future Medicare cohorts with a look at ten medical technologies that are likely to be adopted widely (Goldman et al. 2005).<sup>4</sup> Widespread use of some of those technologies could boost spending even more rapidly.

The Medicare trustees are tasked with projecting the program's future costs based on how benefits are currently structured—that is, the trustees do not

forecast specific policy changes to Medicare benefits or payment rates. Nevertheless, one argument for assuming that Medicare's costs will grow somewhat more slowly than before is that past rates of growth are unsustainable. Projections based on higher assumptions about growth imply that future spending on health care will make up unprecedented shares of our nation's economy. One could argue that our nation will not be willing to devote, say, nearly 40 percent of our national income to health care in 2075, because that would probably crowd out spending for other national priorities.<sup>5</sup>

How much Medicare spending is sustainable? Individual definitions of sustainability are subjective, but our society's answer depends on how much value our political and budget-setting processes place on the Medicare program relative to other spending priorities. One definition of affordability is an amount of health spending at which the United States would never reduce current levels of nonhealth spending, and would devote 100 percent of future growth in income to greater consumption of health care. Chernew and colleagues believe that under this definition, devoting 1 percentage point above GDP growth of our national income to health care is affordable because nonhealth spending would remain the same as current levels. They estimate that growth of 2 percentage points above GDP growth would lead to declines in nonhealth consumption by the middle of the century (Chernew et al. 2003).

A further question related to Medicare's financing is whether the federal government could feasibly raise the resources needed to fund the program's growth. One researcher argues that devoting ever-increasing shares of GDP to Medicare, Medicaid, and other federal programs will ultimately run into the "historical reluctance of American voters to allocate much more than 18 percent of the GDP to federal spending" (Newhouse 2004). In the future, Medicare beneficiaries may make up a growing share of voters, which could lead to changes from the historical pattern. On the other hand, beneficiaries will become even more dependent upon nonelderly workers for the program's funding and younger generations may not want to foot this bill. ■

To look at Medicare's financial picture, one must understand how Medicare is financed. Currently about 55 percent of Medicare's program spending is for Hospital Insurance (HI), called Part A. Dedicated payroll taxes on current workers finance Part A and are held in the HI trust fund. (This payroll tax rate is 2.9 percent of earned income.) General revenues and beneficiary premiums finance Supplementary Medical Insurance (SMI) services, such as physician visits (Part B) and Medicare's new prescription drug benefit (Part D). (General revenues are federal tax dollars that are not dedicated to a particular use, but are made up of income and other taxes on individuals and corporations.) Currently the SMI program's general revenue financing requires about 10 percent of all personal and corporate income tax revenue.

If Medicare benefits and payment systems remain structured as they are today, over time the program will require major new sources of financing for Part A and a much larger share of general tax revenues for Parts B and D (Boards of Trustees 2005). The trustees project that dedicated payroll taxes will make up a smaller share of Medicare's total revenue and a large deficit between spending for Part A and revenue from dedicated payroll taxes will develop (Figure 1-1, p. 6).<sup>6</sup> In order to finance the projected deficit through 2080, the trustees estimate that Medicare's payroll tax would need to increase immediately from 2.9 percent of earned income to nearly 6.0 percent. If income taxes remain at their historical average share of the economy, the Medicare trustees estimate that the SMI program's general revenue financing would rise from 10 percent today to 29 percent by 2030 and to more than 50 percent by 2070.

Medicare's problems with long-term financing will become more prominent to policymakers over the next few years because of a warning system established in the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA). Each year, the Medicare trustees are required to project the share of Medicare outlays that is financed with general revenues in the current and six succeeding fiscal years. Under the warning system, if two consecutive annual reports project that general revenue will fund 45 percent or more of Medicare outlays in any given year, then the President must propose and the Congress must consider legislation to bring Medicare's spending below this threshold. In their 2005 report, the Medicare trustees projected that the program would hit this 45 percent trigger in 2012—just outside the seven-year projection window (Boards of Trustees 2005). Given current trends,

projections could reach 45 percent within the seven-year window in the trustees' 2006 and 2007 annual reports. If so, policymakers will be called upon to consider broad changes to Medicare's benefits and financing in the spring of 2008.<sup>7</sup>

Addressing Medicare's long-term financing needs could involve a combination of approaches. Several broad strategies include constraining payments to providers, limiting benefits, increasing the program's financing by raising taxes, and improving the efficiency of health care delivery. Given the size of Medicare's long-term financing needs, policymakers will likely have to use many of these options.

Improving the program's long-term financing is difficult because Medicare faces competing challenges, including demands by beneficiaries and providers to expand benefits, cover new medical technologies, and raise payment rates, as well as increasing Medicare enrollment. Nevertheless, the longer policymakers wait to realign Medicare spending and financing, the more drastic the changes will need to be.

### **Increasing burden on beneficiaries**

Rapid growth in Medicare spending has implications for beneficiaries as well as taxpayers, since both groups finance the program. Although premiums paid by Medicare beneficiaries (primarily for Parts B and D) are projected to make up a steady 12 percent to 13 percent of total program revenue, the dollar amounts of those premiums will require growing shares of beneficiaries' income. Between 2003 and 2006, Medicare beneficiaries have faced average annual increases in the Part B premium of nearly 15 percent, to a 2006 level of \$88.50 per month (or \$1,062 for the year).<sup>8</sup> Meanwhile, monthly Social Security benefits, which averaged just over \$900 per month in 2005, have grown by about 3 percent annually over the same period.<sup>9</sup> Under current hold-harmless policies, Medicare Part B premiums cannot increase by a larger dollar amount than the cost-of-living increase in a beneficiary's Social Security benefit. Recent Part B premium increases have offset about 30 percent to 40 percent of the dollar increase in the average Social Security benefit. Part D premium increases are not subject to a hold-harmless provision.

The overall economic position of the elderly has improved over the past several decades. Still, most Medicare beneficiaries have limited incomes. In 2002, about half of non-institutionalized beneficiaries had incomes of

around \$20,000 or less (Kaiser Family Foundation 2005). Seventeen percent had incomes less than poverty (defined then as \$8,628 for people living alone and \$10,885 for married couples) and 46 percent had incomes of 200 percent of the poverty level or below (MedPAC 2005a). In 2003, for 60 percent of the elderly, Social Security benefits made up 75 percent or more of their total income (Kaiser Family Foundation 2005).

In the future, beneficiaries could spend less on outpatient prescription drugs: Most who enroll in Medicare's new Part D benefit will see lower out-of-pocket spending. One estimate suggests that in 2006, average out-of-pocket spending on drugs will be 28 percent lower for Part D enrollees, and 83 percent lower for recipients of Part D's low-income subsidies (Mays et al. 2004b). As a specific example, a beneficiary with no prescription drug coverage prior to enrolling in Part D and \$3,000 in annual out-of-pocket drug spending would pay an average of \$1,500 in 2006 for cost sharing plus an additional \$386 in premiums if she enrolled in a standard Part D plan.<sup>10</sup> The Medicare program would pay for the remaining \$1,114 of her drug spending. Her savings would be even greater if she qualified for and enrolled in Part D's low-income subsidy program, since the program would cover much of her standard plan's premiums and cost sharing. However, other enrollees could pay higher out-of-pocket spending under Part D—one in four is projected to face increases in 2006 of \$250 or less (Mays et al. 2004b).

Yet even with the expansion of Medicare's benefits to include prescription drugs, growth over time in Medicare premiums and cost sharing will continue to outpace growth in Social Security income. With the introduction of Part D, the average cost of SMI premiums and cost sharing for Parts B and D offsets more than 30 percent of Social Security benefits. SMI premiums and cost sharing will make up a lower percentage—just under 20 percent—for those beneficiaries who do not choose to enroll in Part D. For most Medicare beneficiaries who enroll in Part D, however, 30 percent is likely to be a smaller share of Social Security benefits than what those individuals spent on premiums and cost sharing for Part B and prescription drugs prior to 2006. Nevertheless, this percentage will grow over time because SMI premiums and cost sharing are projected to grow faster than Social Security benefits (Figure 1-2, p. 10).

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## The broader U.S. health care system

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The \$300 billion Medicare program is just one part of an expansive and growing U.S. health care system. That system includes a broad array of private and public purchasers, insurers, providers, manufacturers, and suppliers. Combined expenditures on health care services in the United States totaled nearly \$1.9 trillion in 2004, or 16 percent of our economy (Smith et al. 2006).

### Private versus public financing in the U.S. health care system

Currently, public financing—federal, state, and local programs—makes up about 46 percent of all U.S. health care spending, with private sources providing the rest. The public share will grow to nearly 50 percent by 2014 with Medicare's prescription drug benefit (Heffler et al. 2005). In 2004, employers were the largest source of health insurance, covering about 60 percent of individuals residing in the United States (Fronstin 2005).

The United States uses private health insurance so extensively due to our country's tax policies and economic development. During the World War II era, larger U.S. companies began providing health insurance to offer higher compensation to relatively scarce labor while avoiding wage and price controls. The Internal Revenue Service did not consider such fringe benefits subject to wage controls, and health insurance contributions paid by employers were not considered taxable income (Helms 2005). At the time, the health insurance industry was in its infancy. Since then, the use of employer-sponsored health insurance and the broader market for private insurance have grown substantially. For 2004, the exemption of employer-paid health insurance from payroll and individual income taxes reduced federal revenues by about \$145 billion (CBO 2005a).

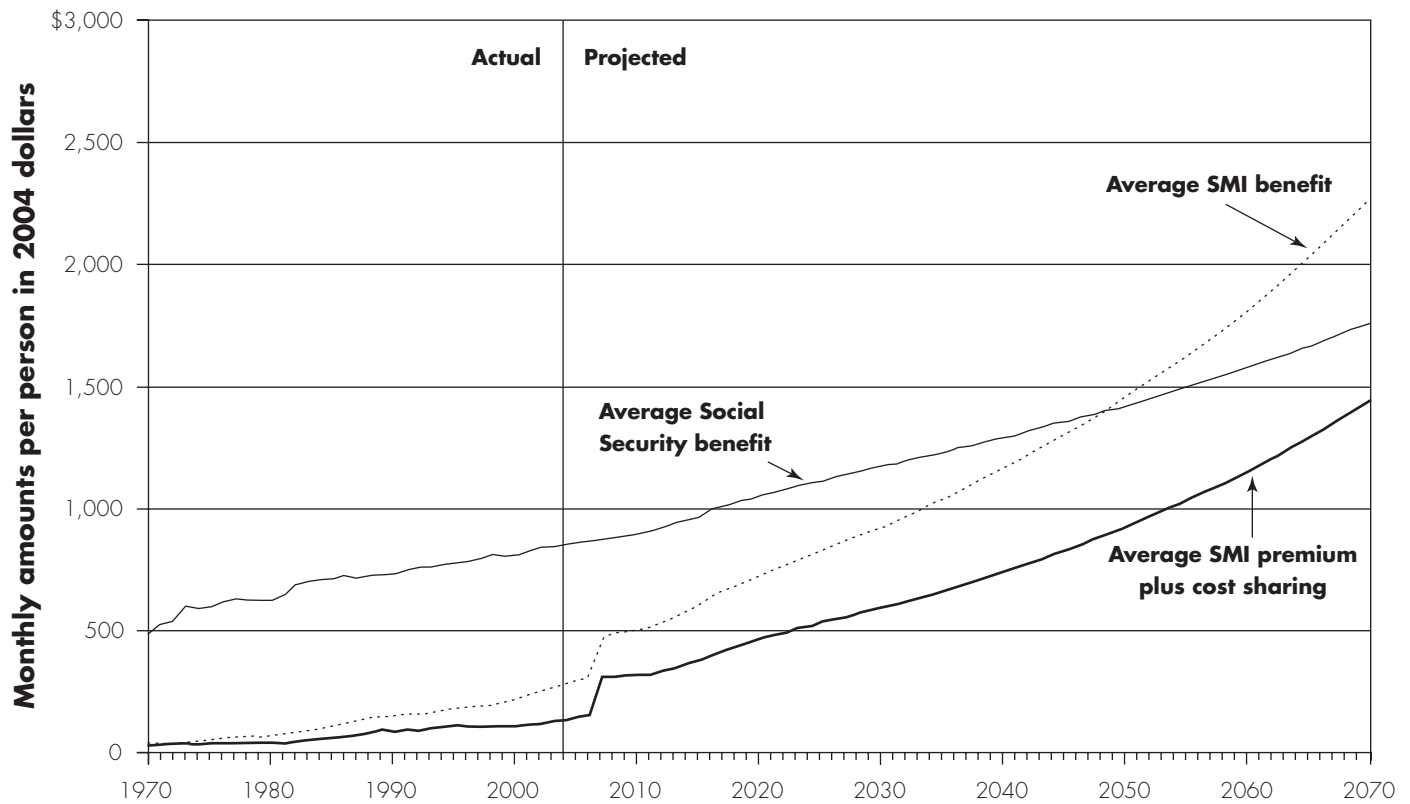
Even though nearly half of all U.S. health care spending is funded publicly, we rely on private plans and providers to deliver most of the country's care. Most publicly funded health care spending is through programs like Medicare and Medicaid that reimburse private providers.

### Rapid growth in health care spending among all payers

For each of the past several decades, the United States has spent an expanding share of its resources on health care. In 1960, for example, national health expenditures made up about 5 percent of GDP. That share grew to 16 percent

**FIGURE 1-2**

**Average monthly SMI benefits, premiums, and cost sharing are projected to grow faster than the average monthly Social Security benefit**



Note: SMI (Supplementary Medical Insurance). Average SMI benefit and average SMI premium plus cost sharing values are for a beneficiary enrolled in Part B and (after 2006) Part D. Beneficiary spending on outpatient prescription drugs prior to 2006 is not included.

Source: 2005 annual report of the Boards of Trustees of the Medicare trust funds.

by 2004, and CMS projects that it will make up nearly 19 percent by 2014 (Figure 1-3) (Heffler et al. 2005). All payers in the U.S. health care system—public (including Medicare and Medicaid) and private—are facing similar upward pressures on spending.

Many analysts point to the rates of development and diffusion of new technologies as the biggest long-term driver of growth in health care spending (Fuchs 2005, Newhouse 1992). Our use of health insurance fuels spending for new technology because patients do not face the full cost of their care. In addition, when providers recommend newer procedures, drugs, or devices, patients may not be able to evaluate independently whether those therapies would be of greater value to them than other therapies (see text box, p. 12). Although some medical technologies can lead to savings by reducing lengths of stays or avoiding hospitalizations, most technologies

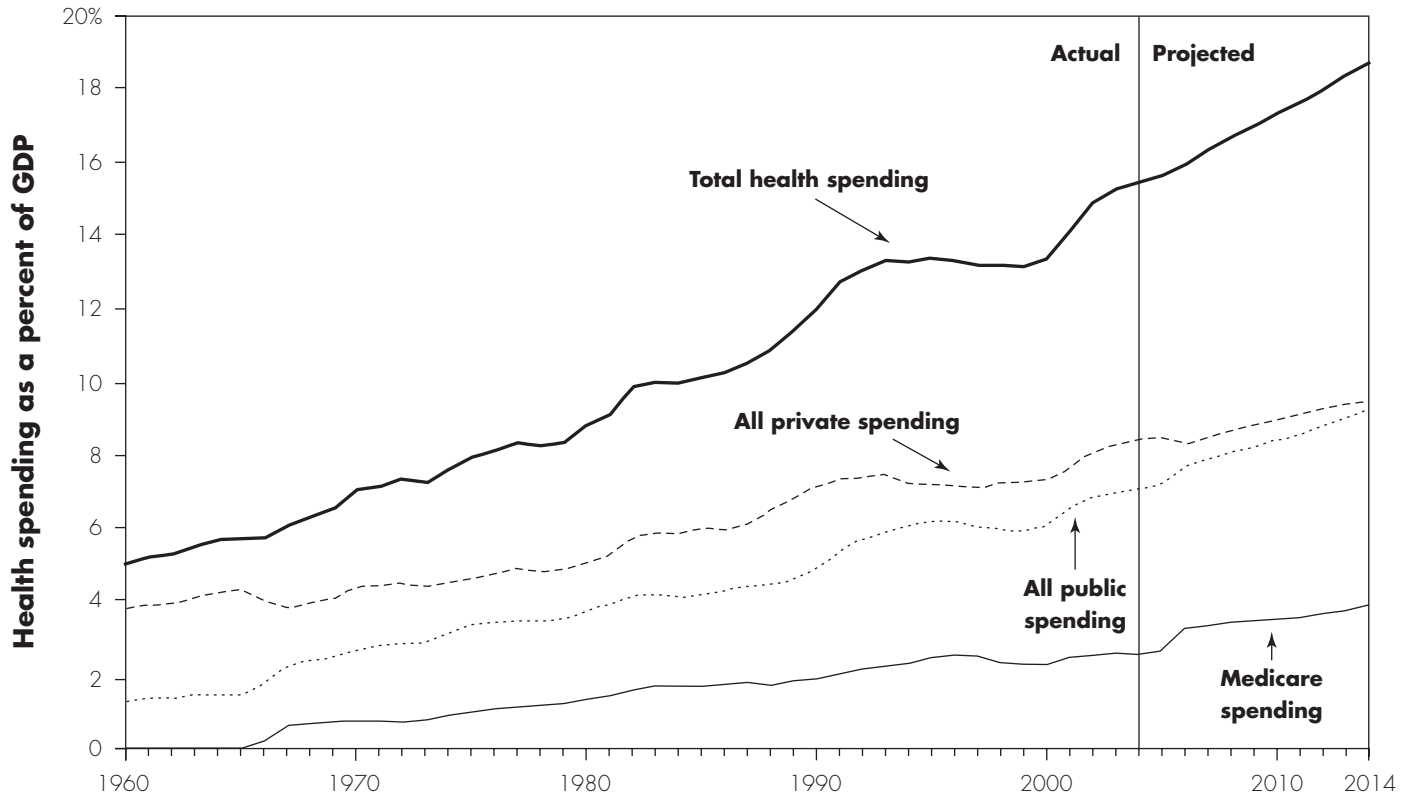
tend to expand demand for health care. As improved health outcomes resulting from a new technology become more obvious, the technology's broader applicability becomes more apparent to providers and consumers. For example, as surgical techniques for cardiac care improved, angioplasty was used more widely among patients who had not yet experienced a heart attack. Many technologies also reduce the invasiveness, serious side effects, discomfort, or social stigma associated with therapies, thereby lowering nonmonetary obstacles to beneficiaries as they decide whether to seek treatment. In some cases, providers may also use new technologies inappropriately or more broadly than intended.

Our nation's underlying health status also affects growth in health spending. The prevalence of obesity has doubled since 1980 to about 30 percent of the adult population today, due to changes in health behavior such as



**FIGURE  
1-3**

**Health care spending has grown more rapidly than GDP, with public financing making up nearly half of all funding**



Note: GDP (gross domestic product). Total health spending is the sum of all private and public spending. Medicare spending is one component of all public spending.

Source: CMS, Office of the Actuary.

overconsumption of food and a more sedentary lifestyle. Obesity in the elderly is associated with increased risk of diabetes mellitus, cardiovascular disease, hypertension, stroke, lipid abnormalities, osteoarthritis, and some cancers.

Advances in medical technology have led, on average, to improvements in our health—improvements from which we as a society benefit. Still, research on the wide geographic variation in health care spending suggests that we use resources wastefully (Fisher et al. 2003). Some payment systems contribute to the problem of wasteful spending by rewarding inefficient or low-quality care as much if not more than high-quality care delivered by efficient providers. Patients often do not know what specific services they need from providers. This fact, when combined with the perverse incentives of some payment systems and the widespread use of insurance, often keeps patients from distinguishing between care of high and

low value. The organizational structure of providers and separate “silos” payment systems also hinder providers from coordinating care for the same patient.

### **Consequences of rapid growth in health spending**

Rapid growth in health spending has had wide-ranging effects. The U.S. health care sector has produced many medical innovations that lengthen or improve quality of life. At the same time, some employers argue that the rising cost of health premiums affects their ability to compete in the world marketplace. Most economists contend that growth in health premiums paid by employers has no long-term effect on the competitive position of firms (Fuchs 2005). Instead, a firm’s costs for health premiums are a substitute for cash compensation that it would otherwise pay to workers, in the same way that retirement and other benefits substitute for higher

## Challenges of appropriate pricing for health care

Most sectors of the U.S. economy rely on market forces to ensure the efficient allocation of resources. Consumers buy a good or service if, at its price, the item has greater value to them than other items they could purchase. We rely on competition among producers and service providers to keep prices in check while they make the goods and services that society wants. Within most sectors of the economy, this interaction of demand and supply leads to prices that act as signals of how much society values a good or service relative to other uses and thus determines how resources are allocated.

Economists have long argued that the provision of health care differs from providing goods or services in other sectors (Arrow 1963). Problems with information and uncertainty, the use of insurance, and institutional details lead to prices for health services that are not necessarily good signals of value (Chernew 2005). Some of the unique challenges with health care are:

- Patients often do not know what specific health services they need or the relative benefits and costs of treatment options. They rely on physicians and other providers, in a principal-agent relationship, who help make decisions on their behalf. While professional codes of conduct should guide providers toward furnishing appropriate care, providers do not necessarily have the same motivations and preferences as their patients.
- Unlike sectors of the economy that produce standard products, health care providers must individually evaluate the symptoms and conditions of patients to tailor plans of care, and they must do so in the face of uncertainty about the best course of action. As a result, it can be difficult to evaluate the quality (including appropriateness) and efficiency of a

specific provider's care and build consensus among providers around standards of care.

- Health care is often financed with insurance. In the event of a health crisis, insurance spares patients from a catastrophic financial burden. When used in less urgent circumstances, insurance shields them from seeing the full cost of their care. This can lead patients, on the margin, to use more and higher-priced services than they would otherwise—particularly since they rely on providers to help decide what care they need.
- Lack of competition among certain types of suppliers can lead to relatively high prices for their products or services and little pressure to improve efficiency over time.

These general characteristics of health care can affect how well prices act as signals of value in all types of delivery systems and payment arrangements. All types of payers confront these challenges—including public programs such as traditional Medicare that use administratively set prices as well as private payers that negotiate rates with providers and health plans.

Mispricing of services can lead to misallocation of investment resources, which can have large effects on the organizational structure and cost of health care delivery over time. For example, the process for reassessing relative value units for physician services in Medicare's fee schedule does not do a good job of identifying services that may be overvalued. As a result, payments for some services may be too high. Such inaccurate payment rates may encourage inappropriate volume growth and, over time, may affect the supply of generalists and specialists by influencing physician decisions about whether to specialize (see Chapter 3). ■

wages. When total costs of labor compensation are high relative to a firm's productivity, that firm will not be competitive in the global economy. However, as would be the case with rapid growth in any other cost of firms, rapid growth in health premiums can make firms' need for greater productivity more apparent. In order to achieve

productivity gains quickly, firms sometimes take steps such as layoffs that are disruptive and that redistribute income and health coverage for workers and retirees.

Other distributional issues arise from rapid growth in health spending. In response to rapid increases in premiums, many employers have raised cost-sharing

requirements for their employees, asked them to contribute a larger share of premiums or, particularly for smaller firms, reduced the availability of coverage. The percent of individuals living in the United States that were covered by employer-based health insurance fell from 64 percent in 2000 to just under 60 percent in 2004. Analysts attribute this decline to smaller employers dropping coverage in the midst of a relatively weak labor market, as well as to workers declining offers of coverage (Fronstin 2005). Since required premium contributions by enrollees have risen faster than income, some workers choose to forgo coverage. During 2004, nearly 46 million people, or 15.7 percent of the U.S. population, were uninsured at any one point in time.

Increases in the number of people without private insurance coverage raise demand for public coverage, and may raise health care premiums for those who have insurance. The costs of caring for the uninsured do not fall equally on all providers, since the uninsured often postpone care until their conditions become more serious. In turn, providers that bear more of those costs sometimes seek public subsidies or limits on the competition they face. Rising costs put upward pressure on the financing needs of public and private health care programs for those beneficiaries who already have coverage. Some analysts believe that higher health care costs may also lead to greater fragmentation of risk pools in the health care market, as healthier people search for insurance alternatives that are less costly (Glied 2003).

New insurance products have emerged in response to rapid growth in health spending. For example, some employers are beginning to offer consumer-directed health plans that combine a high-deductible policy (often including a health reimbursement or savings account) with catastrophic protection. Enrollees in these newer products generally accept higher cost sharing at the point of service, making them more cost conscious when they seek care. In return, enrollees pay lower premiums (Tollen et al. 2004). The MMA allows employers to make nontaxable contributions to certain health savings accounts (HSAs), and contributions by individual account holders are tax deductible. Current Medicare beneficiaries cannot establish HSAs, but as individuals enroll in Medicare, they may use tax-free distributions from already existing HSAs to pay for Medicare premiums or the employee-share of premiums for employment-based retiree health insurance.

Consumer-directed health plans put greater responsibility for decision making on patients themselves. Some insurers

that offer consumer-directed products provide decision-support tools to help individuals understand treatment options and locate price information about providers. This type of insurance product assumes that consumers can weigh the costs and benefits of their alternatives. One limitation of consumer-directed health plans is that about 10 percent of people tend to account for about 70 percent of health care spending (Berk and Monheit 2001).<sup>11</sup> A strategy of raising enrollees' sensitivity to the costs of their care may reduce spending for some discretionary services, but it may not be as successful at constraining spending for patients whose use of services quickly pushes them beyond both the deductible and out-of-pocket spending limits.

Although enrollment in consumer-directed health plans has been low to date, they have attracted considerable attention. Larger numbers of employers are beginning to offer these products to their workers. Supporters of such plans believe that higher cost sharing will lead members to lower their use of unnecessary services, thereby slowing growth in health spending. Other analysts expect that this new type of product will encourage risk segmentation, since healthier enrollees might find lower premiums attractive while sicker individuals would likely stay with more comprehensive coverage. At this early stage, studies on the consequences of consumer-directed health plans are mixed (Rosenthal et al. 2005, Parente et al. 2004, Tollen et al. 2004).

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## **The U.S. health care system compared with those of other countries**

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Health care spending in the United States is far higher than in other countries—nearly \$5,300 per person in 2002, or almost twice the median of member countries of the Organisation for Economic Cooperation and Development (OECD).<sup>12</sup> Nevertheless, rates of growth have been similar among industrialized countries—in other words, most are facing upward pressure on spending (Newhouse 2004). By certain measures of health status, the United States does not compare favorably to other industrialized countries. We have higher rates of infant mortality, higher standardized rates of all-cause mortality, and our life expectancy is about the same (OECD 2005). By other measures, we compare more favorably. For example, many individuals may have readier access to more intensive care than is available in other countries. Our health care system differs markedly from those in other countries due to differences

## Competing policy goals for health care

Most countries have policy goals for their health care systems. These goals usually include ensuring good access to care for the nation's residents, striving for equity in that access, encouraging providers to deliver safe and high-quality care, and promoting efficiency and cost control so that the health care system has sustainable financing over time. However, many of these policy goals compete with one another, and different countries emphasize some goals over others.

The U.S. health care system emphasizes access to care—access to the provider of the patient's choosing and access to advanced medical technologies. Payers' continued use of fee-for-service (FFS) reimbursement reflects this emphasis, as does the public backlash against managed care organizations that used techniques such as prior authorization and restrictive networks to control costs in the 1990s. Enrollment in traditional FFS Medicare also continues to be higher than in Medicare Advantage (MA) plans. However, one should note that MA plans have not been available in all parts of the country, and Medicare policies have not always provided predictable payments to private plans. Several studies show the priority beneficiaries place on access to the provider of their choice. Polsky and colleagues found a preference among married workers for non-HMO coverage over HMO plans, which may be perceived as having greater restrictions on provider access (2005). An examination of retirees in the University of California's health system suggests that demand for FFS coverage increases with age because the nonmonetary costs of moving to managed care plans (such as disruption caused by changing physicians) are high (Buchmueller 2000).

Our preference for access to specific providers and technologies receives relatively more emphasis than other policy goals. Ensuring long-term sustainability of financing for our health system has received relatively less attention: Medicare and other payers have difficulty in controlling growth in health spending. As levels of health spending keep increasing, we also find that a relatively large number of people in the United States have limited or no insurance and thus could face problems with access to care. This equity problem is less severe for our elderly, since nearly all are covered by Medicare. Nevertheless, recent research on racial disparity in access to care among Medicare beneficiaries suggests some problems here as well (Jha et al. 2005).

Different countries use varied strategies for delivering and financing health care that reflect their policy choices. Governments in many other countries play a greater public role in delivering health care than in the United States. For example, the United Kingdom directly runs a large portion of the health care system through its National Health Service. Most other countries use public financing to a much larger degree; in 2002, the median public share of total health spending among member countries of the Organisation for Economic Cooperation and Development (OECD) was 75 percent, compared with 46 percent in the United States (OECD 2005). Countries such as Denmark and New Zealand set constraints on the public financing of privately delivered care through global budgets and regulation of prices and volume. Many countries use a combination of public funding for acute hospital care and primary care, with private health insurance to finance other services like access to private facilities, specialty care, amenities to hospital care, and sometimes outpatient prescription drugs. ■

in history, culture, and the mix of policy goals our society values (see text box). Thus, cross-national comparisons may have limited value. Such comparisons nevertheless raise questions for policymakers about whether we get as much value for our additional spending as we should strive for, particularly given important and competing alternative uses for those resources.

### **Greater market power of providers in the United States**

Because the organizational structure of financing health care is more fragmented in the United States, providers here may use their market power to negotiate more favorable payments than providers in other countries (Bodenheimer 2005a). By being more monopsonistic, other governments may lower or restrain growth in

payment rates for providers and prices for other services. The tactics of those governments include using a single purchaser approach, allowing multiple purchasers to bargain collectively, or using global budgets (Reinhardt et al. 2004).

The health care systems of other countries are not clearly preferable to ours. The drawbacks of other systems include longer waiting times for access to specialists and newer technologies—a cost not usually reflected in international comparisons (Danzon 1992)—as well as inefficiency and issues concerning quality of care. For example, in recent years the United Kingdom and other countries that provide health care directly have introduced reforms that try to inject more competition by separating the roles of payer and provider (Docteur and Oxley 2003). Global budgets are only as successful as each country's ability to stick with its budget, even when providers and patients pressure it to spend more. Another issue is the system of price controls some countries use to limit profits: Manufacturers and other stakeholders claim that such policies stifle investment in research and development, thereby slowing the pace of medical innovation.

Many industrialized countries have larger supplies of important inputs to health care than the United States. Our supply of acute care hospital beds, practicing physicians, and nurses per thousand of population was lower than in other OECD countries in 2002 (OECD 2005). These statistics do not necessarily mean, however, that the U.S. population has less access to care because they mask some important information. For example, average lengths of stay are lower in U.S. hospitals and physician visits per capita are higher.

Some analysts believe that the high levels of U.S. health spending are largely attributable to paying higher prices for the same services than other countries do. Data from the mid-1990s suggest that U.S. physicians had considerably higher incomes than physicians in other OECD countries (Reinhardt et al. 2002).<sup>13</sup> However, the United States has a wider distribution of compensation for all workers. Labor costs are higher for skilled health professionals because they would otherwise enter other fields that offer high compensation. The organizational structure of providers and the regulation of health services in other countries also affect the level of salaries. Countries with public systems that provide care directly often contract with general practitioners (GPs) at salaries negotiated centrally with physicians' associations. Other countries make risk-adjusted, capitated payments to GPs for each patient they

add to their list, thereby putting insurance risk on those physicians for the volume of care they provide. A few countries mix salary with capitated payments (Docteur and Oxley 2003).

### **Orientation toward specialists and specialized services**

Another theory about why we spend more on health care is that compared with other countries, we use more specialist care and specialized equipment and procedures. Health researchers have found that within the United States, the mix of specialist and generalist physicians varies markedly. U.S. counties with higher ratios of specialists to generalist physicians spend more per person on health care without higher quality (Baicker and Chandra 2004).

One must always be cautious with international comparisons because health needs as well as definitions and methods used for collecting data vary between countries. Nevertheless, OECD data suggest that the generalist-specialist mix in the United States is not too different from that in other industrialized countries. The current mix of physicians in the United States is about one-third generalists to two-thirds specialists. That mix is quite different from countries like Australia and Canada in which generalists make up about half of all physicians, but our ratio is not very different from the median of OECD countries for which we have data.

Still, important differences in the roles of generalists and specialists in the United States may help explain our higher spending. Some analysts contend that compared with other industrialized countries, a greater proportion of U.S. visits to physicians are to specialists (Starfield et al. 2005).<sup>14</sup> These analysts believe that because of their training, specialists suspect serious pathology more frequently than generalists, and conduct or order more diagnostic workups to rule out their suspicions. Others note that specialists in the United States provide a larger share of visits for evaluation and management (Fuchs 2005). Medical knowledge has expanded rapidly, and some researchers believe populations need specialists in order to provide quality care, as primary care physicians cannot be expected to stay up to date on everything (Salsberg 2005). A counterargument is that specialists may be less accustomed to acting as a patient's care manager and coordinating with other providers, with greater risk of duplication of tests and services.

Perhaps what matters more than the supply of specialists is whether they are used appropriately. In general,

**TABLE  
1-1****Comparisons of rates of selected inpatient procedures per 100,000 population in 2002**

	Percutaneous coronary interventions*	Coronary bypass	Cardiac catheterization	Pacemakers	Hip replacement	Knee replacement
Australia	130	82	303	62	142	119
Austria	N/A	54	519	78	240	168
Belgium	332	159	498	98	208	118
Canada	140	98	231	86	100	92
Czech Republic	N/A	71	N/A	N/A	N/A	N/A
Denmark	136	69	384	N/A	185	82
Finland	77	72	N/A	N/A	188	127
France	156**	41**	386**	25**	187**	85**
Germany	252	90	784	25**	N/A	N/A
Greece	63	N/A	302	N/A	N/A	N/A
Hungary	125	126	648	N/A	85	N/A
Iceland	198	55	301	38	138	82
Ireland	142	39	149	25	133	34
Italy	83	49	33	58	129	56
Luxembourg	155	72	390	96	212	120
Mexico	1	2	7	3	6	3
Netherlands	83	54	179	43	183	96
New Zealand	86	102	N/A	32	111	57
Norway	188	85	N/A	N/A	187	N/A
Portugal	59	23	118	42	87	29
Slovak Republic	N/A	N/A	N/A	31	N/A	N/A
Spain	68	19	139	48	84	71
Sweden	126	74	N/A	N/A	194	N/A
Switzerland	78	40	104	24	193	114
United Kingdom	86	58	14	52	167	89
<b>United States</b>	<b>417</b>	<b>181</b>	<b>455</b>	<b>69</b>	<b>120</b>	<b>145</b>
OECD median	126	70	302	43	154	89

Note: N/A (not available), OECD (Organisation for Economic Cooperation and Development). Rates are not adjusted for the health status or age and sex mix of each country's population.

\* Percutaneous transluminal coronary angioplasty and stenting.

\*\* Values are for 2001.

Source: OECD 2005.

FFS payment systems, used widely here, give patients less restricted access to specialists than managed-care approaches that use primary care providers as gatekeepers. In one international comparison of health systems, countries that used primary care gatekeepers tended to have lower health expenditures (Oxley and MacFarlan 1994). Partly for this reason, many OECD countries have adopted gatekeeping systems. Another study that scored OECD countries on the degree to which their health systems were oriented toward primary care found that strong primary care systems were correlated with lower

overall mortality rates and death rates for a number of specific conditions (Macinko et al. 2003).

Comparing the use of specialized equipment is another way to look at the role of specialty care across countries. International comparisons of the supply of specialized equipment are problematic because widely reported data are not comparable.<sup>15</sup> Nevertheless, one recent study of treatment for ischemic heart disease across 17 industrialized countries found that in the mid-1990s, the United States had more facilities with at least one cardiac

catheterization laboratory per 100,000 population than the other countries. We were second only to Japan in the number of facilities with at least one cardiac surgery room (Moise and Jacobzone 2003).

Data suggest that compared with other nations, U.S. providers conduct many types of certain high-tech, acute procedures more frequently. For instance, rates of performing advanced coronary procedures like angioplasty and stenting, bypass, cardiac catheterization, and pacemaker insertion were higher in the United States than the median of OECD countries (Table 1-1). Rates of knee replacement were higher as well, but those for hip replacement were lower. Note, however, that these data are not adjusted for differences in the demographic mix or underlying health status of each country's population, or for when each country began using these procedures more broadly.

In order to constrain growth in health spending, many countries have sought to control the diffusion of new technologies. Some use explicit capacity constraints, such as Canada's restrictions on the number of revascularization facilities or the United Kingdom's limits on the numbers of certain procedures through its contracts with hospitals. Other countries, including Sweden and Italy, use targeted funding as an indirect means of slowing technology diffusion (Moise and Jacobzone 2003). Other countries regulate marketing of health products more tightly. For example, while some countries allow manufacturers to raise consumer awareness of certain health conditions through advertising, no other country in the world permits direct-to-consumer advertising of specific prescription drugs (Lurie 2005, Palumbo and Mullins 2002).<sup>16</sup> Although fewer restrictions generally apply in the United States, payers use varied approaches to manage the use of technology. For example, some managed care plans cover new technologies only after the weight of evidence suggests that they are both clinically and cost effective. Other payers leave most coverage decisions to the medical judgment of individual physicians.

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## **Changing Medicare policy within the broader U.S. health care system**

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Medicare faces powerful upward pressures on spending that will be difficult to staunch. The interaction between broad use of newer medical technologies and health insurance is thought to account for much of the long-term spending growth in the United States, and those forces

will likely push future spending higher. Additionally, the launch of Medicare's new outpatient prescription drug benefit places a substantial new financial responsibility on the program. As we near the end of this decade, Medicare will also have to grapple with the additional challenge of higher enrollment levels associated with retiring baby boomers, which will affect program spending levels as well as the demand for federal resources for other programs that benefit the elderly such as Social Security and Medicaid.

To finance Medicare as the program is now structured, policymakers would need to direct an unprecedented share of our nation's resources to the program. Projections suggest that federal program spending for Medicare could grow from less than 3 percent of GDP today to 8 percent by 2036 and nearly 14 percent by 2078 (Boards of Trustees 2005). Premiums and cost sharing will also require growing shares of beneficiaries' income. The financial pressures on both beneficiaries and the federal budget are likely to spark more policy debate about Medicare's future. Under the MMA's warning system, this debate could begin as soon as the spring of 2008.

Several strategies are available to Medicare policymakers, but none is easy. These include:

- constraining payments,
- limiting benefits,
- increasing the program's financing by raising taxes, and
- increasing the efficiency of health care delivery.

Policymakers will need to use a combination of these approaches. Strategies to constrain payments may be shorter term in nature since over time, continually restricting Medicare's payments below the cost of providing care could hurt beneficiaries' access to care. The last strategy, increasing efficiency, refers to doing more with a given level of resources without adversely affecting access to or quality of care. Encouraging greater efficiency is the most desirable of these four approaches because it would enable the Medicare program to do more with its resources. Much of the Commission's work focuses on encouraging greater efficiency.

The magnitude of savings from any of these approaches is difficult to characterize because it would depend on the details of individual policy proposals. In particular, the outcome of policies that try to improve the efficiency

## What is Medicare's market share?

To get a sense of how large a purchaser Medicare is, we turned to data from the national health accounts (CMS 2005b). These data are CMS's estimates of the total amount of national health care spending in the United States by source of financing and by type of service delivered.<sup>17</sup>

Medicare in 2003 accounted for 30 percent or more of the market for hospital services, freestanding home health, and durable medical equipment (Table 1-2).<sup>18</sup> Federal, state, and local health care financing combined

accounted for nearly 60 percent or more of spending for all types of hospital-based care, freestanding home health, and freestanding nursing home care. Private health insurance accounts for 50 percent of physician and clinical services while Medicare accounts for 20 percent. In 2003, Medicare financed only a small share (2 percent) of outpatient prescription drug spending. After the program launched Part D in 2006, however, CMS projects Medicare's market share will jump to 28 percent. ■

**TABLE  
1-2**

**Medicare's market share varies among health care sectors, 2003**

**Distribution of selected payment sources by spending categories:**

Spending category	Public programs <sup>a</sup>			Private health insurance	Out-of-pocket spending <sup>b</sup>
	Medicare	Medicaid	All public programs		
Hospital care <sup>c</sup>	30%	17%	58%	34%	3%
Physician and clinical services	20	7	33	50	10
Other professional services <sup>d</sup>	14	5	28	39	27
Home health care (freestanding only)	32	25	62	18	16
Nursing home care (freestanding only)	12	46	61	8	28
Prescription drugs (retail sales)	2	19	24	46	30
DME (retail sales)	32	<0.5	37	19	44

Note: DME (durable medical equipment). Percentages for all public programs, private health insurance, and out-of-pocket spending do not sum to 100 because some categories of payers (such as the Department of Defense and Department of Veterans Affairs) are not shown.

a. Medicare and Medicaid are subsets of all public programs. Some public programs are not shown.

b. Excludes out-of-pocket premiums paid for private health insurance.

c. All hospital-based services including inpatient and outpatient procedures, pharmacy, home health, and skilled nursing. Measured as total net revenue, which equals charges less contractual adjustments, bad debts, and charity care.

d. Covers services provided in establishments operated by health practitioners other than physicians and dentists. These include professional services by private-duty nurses, chiropractors, podiatrists, optometrists, physical, occupational and speech therapists, and ambulance services.

Source: CMS Office of the Actuary, National Health Accounts.

of health care delivery can be highly uncertain. Where available, we provide specific estimates of savings.

### Constraining payments

Policymakers can constrain annual growth in Medicare spending by limiting the annual updates or increases in payment rates to health care providers. To some extent, setting such limits is part of being a prudent purchaser; Medicare should try to pay no more than what is required

to obtain good access to care for beneficiaries. This point of view underlies the Commission's analysis of payment adequacy for various health care sectors each year. However, other analysts might argue that policymakers should use regulatory tools such as price controls, limits on service volume, and more restrictive conditions on participation to a greater degree as other countries do.

Two factors allow Medicare to limit payments to providers—government authority and the program's size.



The Medicare program regulates many aspects of health care delivery. In addition, constraining payment increases makes use of the Medicare program's status as the largest payer in the U.S. health care system by exerting its market power in setting prices (see text box). However, the existence of a large number of other payers may limit the effectiveness of this approach, and the extent of Medicare's influence varies across health sectors. Some analysts contend that even in situations where Medicare has been the dominant purchaser, policymakers lack a strong track record of using the program's market power. Even so, Medicare significantly influences how health care is organized and delivered in the United States through payment and coverage decisions. Medicare implicitly plays the role of market leader among private insurers that adopt the program's systems of reimbursing physicians, hospitals, and other facilities.

U.S. policymakers have constrained growth in payment rates on occasion, such as policies initiated in the Balanced Budget Act of 1997 (BBA). However, such policies can be difficult to sustain over time. Changing prices alone does little to address the underlying factors that lead to spending growth—the diffusion of newer technologies fueled by the use of insurance. In the wake of the BBA, providers convinced policymakers that the law had tightened payment rates too restrictively and would ultimately reduce access to care. A subsequent bill, the Balanced Budget Refinement Act of 1999, restored much of the growth in payment rates that had been constrained by the BBA.

Constraining payment rates alone will not lower spending if the volume of services furnished increases—as with Medicare's payment system for physician services among others. Nor has the payment system provided incentives for physicians to coordinate the care that they provide to beneficiaries. Instead, the Medicare program may need more fundamental changes in how it pays physicians to reward them differently based on the quality of services they provide and the degree to which they coordinate care with other providers. Investments by physicians in information technology and electronic medical records could help Medicare's ability to measure quality and make it easier for providers to coordinate with one another.

### **Limiting benefits**

This general approach could involve measures such as raising Medicare's age of eligibility, expanding the portion of program spending financed with beneficiary premiums,

increasing cost-sharing requirements, or limiting Medicare's coverage for specific benefits.

### **Raising the age of eligibility**

Policymakers could gradually raise the age of eligibility for Medicare from 65 to 67, making the program more consistent with eligibility rules for full Social Security benefits.<sup>19</sup> As average life expectancy increases in the United States, encouraging longer participation in the labor force by raising the age at which people qualify for Medicare coverage is reasonable. If individuals work longer and delay retirement, they may also retain access to private health insurance at group rates—if their employers offer it.

By itself, the eligibility approach is unlikely to reduce Medicare's program spending by much. Less than 10 percent of today's Medicare beneficiaries are age 65 or 66, and those individuals have lower average Medicare spending because of their relative youth. One researcher estimates that savings would be on the order of 4 percent to 5 percent if the eligibility age were raised to 67 (Johnson 2005). Similarly, others estimate that phasing in an increase in the eligibility age to 70 would equate to a 0.8 percent reduction in program spending relative to GDP (CBO 2005a). However, some of that reduced spending would be offset by higher spending under Medicaid and other programs.

A drawback of raising the eligibility age is that it would affect access to care for some individuals in an age group for which it is typically more difficult and expensive to obtain other health insurance coverage. Even though many of the younger elderly may find alternative sources of health coverage, one estimate suggests that 9 percent of 65- and 66-year olds would not, and another 11 percent would be underinsured (Davidoff and Johnson 2003).<sup>20</sup> If policymakers chose this approach, they could allow those individuals just under Medicare's eligibility age to buy into the program by paying the full premium for coverage at actuarially fair rates. (An alternative option would be to broaden the availability of disability coverage to the near elderly.) Allowing people to buy into Medicare would help to reduce the numbers of uninsured, but premiums would likely be expensive and perhaps financially burdensome to those with no other coverage options. For this reason, some proposals for this buy-in approach would also subsidize premiums for low-income individuals (Johnson 2005). That further step would reduce the number of near elderly who are uninsured but also reduce federal program savings.

## Increasing premiums and cost sharing

Policymakers could raise Medicare's premiums or cost-sharing requirements, approaches used widely in the private sector. Raising cost-sharing requirements could rein in spending for health care services that are more prone to overuse. Increasing the share of Medicare's costs borne by beneficiaries through premiums would reduce the federal government's share of Medicare spending. However, since many Medicare beneficiaries have limited incomes, indiscriminate increases could impose financial barriers to essential care or cause hardship. Policy changes should try to balance these two sets of concerns.

One specific option would lower the federal government's funding of Part B premiums from the current 75 percent to 70 percent of average SMI expenditures for elderly beneficiaries. The Congressional Budget Office (CBO) estimates that increasing Part B premiums in this manner would reduce Medicare program spending by about \$85 billion over the 2006 to 2015 period (CBO 2005a). The MMA introduced a variant of this approach: Beginning in 2007, the federal government will provide lower subsidies to Part B enrollees who have higher adjusted gross incomes. CBO estimated that this policy would lower Medicare program spending by less than half of 1 percent over the 2004 to 2013 period. Some analysts contend that lowering federal premium subsidies could reduce the numbers of individuals who choose to enroll in Medicare. However, even at a level of 70 percent for most beneficiaries, federal subsidies would remain quite high. Moreover, others argue that enrollment would remain high because Medicare has advantages that private insurance may not—for example, a community-rated premium with unlimited access to most providers.

As structured today, Medicare's traditional benefit does not provide protection against catastrophic levels of out-of-pocket spending. Medicare's cost-sharing requirements are also complex and vary depending on the type of service provided and the site of care. About 90 percent of Medicare beneficiaries obtained supplemental coverage in 2002 through their former employers (32 percent), medigap policies (26 percent), Medicare Advantage plans (13 percent), Medicaid (16 percent), or other programs (2 percent) (MedPAC 2005a). Supplemental coverage often gives enrollees greater predictability of their out-of-pocket spending and, in return for paying an annual premium, first-dollar coverage policies (such as medigaps) reduce beneficiaries' cost sharing to near zero from the time they begin using health services each year. While

some protection against high out-of-pocket spending is desirable, lower cost sharing may reduce beneficiaries' sensitivity to the costs of care. Supplemental coverage that shields beneficiaries from FFS cost-sharing requirements leads to greater use of services and would temper any savings from policies that raised Medicare's cost sharing.

Policymakers might want to combine increases in Medicare's cost-sharing requirements with catastrophic protection and a ban on first-dollar coverage (CBO 2005a). A catastrophic cap on out-of-pocket spending could limit the financial burden on beneficiaries who need the most care. Restricting the ability of supplemental insurance to provide first-dollar coverage could lead to sizable savings for the Medicare program—large enough to finance some catastrophic protection (MedPAC 2002). As one specific example, CBO estimates that combining a ban on first-dollar medigap coverage with a restructuring of Medicare's benefit for all Parts A and B services could save more than \$130 billion between 2006 and 2015 (CBO 2005a). The proposed Medicare benefit for 2006 would include a combined deductible of \$500, 20 percent coinsurance for all Parts A and B services, and a catastrophic cap of \$4,500. (Proposed amounts would grow over time at the same rate as Medicare costs per capita.)

Although approaches that increase cost sharing could lower Medicare spending, they could also raise state and federal Medicaid spending. For example, beneficiaries who are dually eligible for Medicare and a state's full Medicaid benefit typically pay no Part B premium and low or no cost sharing on a package of medical services broader than Medicare's benefit. Eligibility requirements vary among states, but in general, individuals who qualify as full duals have very low incomes and assets, and they are a vulnerable and costly group of beneficiaries (MedPAC 2004b). Thus, if Medicare were to increase its premium and cost-sharing requirements, the Medicaid program would pay for some of those changes on behalf of dual eligibles.

Higher cost sharing might affect health outcomes. The RAND Health Insurance Experiment, which did not include elderly individuals, found no substantial differences in the health status of people who received free care versus those who faced higher cost sharing (Newhouse 1993).<sup>21</sup> This body of work suggests that although offsetting positive and negative effects, on average, are likely to exist, higher cost sharing might not

adversely affect health outcomes. RAND research also suggests that higher cost sharing discouraged the use of some necessary as well as unnecessary care. More recent literature that focuses on the elderly suggests that higher cost sharing impedes the use of appropriate services, particularly the use of outpatient prescription drugs (Rice and Matsuoka 2004). For certain beneficiaries, higher out-of-pocket costs could undermine patient compliance with recommended care, coordination of services, or the use of preventive services (Robinson 2002).

### **Limiting Medicare's coverage for specific benefits**

Policymakers could set greater limits on the types of services or the share of costs that Medicare would cover. For example, CMS could make national coverage decisions for new technologies to a greater degree than it does today, and the agency could base those decisions on analyses of both clinical and cost effectiveness. A variant of this approach would use information about clinical and cost effectiveness to set Medicare's payment rates and cost-sharing requirements.

An increasing number of countries have public and private agencies that evaluate new technologies (Bodenheimer 2005b). Some explicitly use cost-effectiveness analysis—a methodology in which one quantifies both the health outcomes and the costs of new technologies (MedPAC 2005c). Organizations such as the United Kingdom's National Institute for Clinical Excellence (NICE) measure health outcomes in terms of quality-adjusted life years (QALYs), the arithmetic product of life expectancy and a measure of the quality of the remaining life years. U.K. policymakers use NICE's analyses to help decide which treatments should be funded publicly, based on whether a technology's resulting QALYs are at or below certain ranges of cost effectiveness (Reinhardt et al. 2004). If a new technology has a QALY above certain thresholds, patients in the United Kingdom must use their own funds or private supplemental insurance to pay for treatment.

To support Medicare's national coverage decisions, policymakers have tended to use information from clinical-effectiveness analyses rather than cost-effectiveness or comparative-effectiveness analyses. The Medicare Coverage Advisory Committee evaluates whether an innovation is reasonable and necessary for Medicare beneficiaries, given available clinical evidence. In some cases, Medicare also considers clinical effectiveness when setting payment rates for new services. By focusing on clinical effectiveness, Medicare's process

could lead to coverage of technologies that other countries might not find to be of sufficient value.

Numerous stakeholders have raised concerns about incorporating cost-effectiveness analysis into Medicare's coverage decisions (MedPAC 2005b). For example, inconsistencies in cost-effectiveness methodologies can lead to results that vary from study to study. Some stakeholders question whether, under the Social Security Act that authorizes Medicare, the Secretary of Health and Human Services has authority to consider cost-effectiveness when deciding what to cover. Others fear that cost-effectiveness information would be used solely for cost containment rather than for promoting appropriate care.

Perhaps for similar reasons, private payers in the United States are also reluctant to incorporate cost-effectiveness analysis in their coverage and payment policies. Under these circumstances another useful approach is comparative-effectiveness analysis: evaluating the costs and benefits of alternative treatments for the same condition. Recently, CMS began linking national coverage under Medicare with participation in comparative clinical trials and data registries in order to determine the effectiveness of new services for Medicare beneficiaries. Over time, these measures could provide information that would enable the agency to refine coverage decisions based on evidence of comparative effectiveness.

### **Increasing program financing**

Under the Medicare trustees' projections, the program's need for resources would grow from less than 3 percent of GDP today to about 8 percent by 2036 and nearly 14 percent by 2078. Required resources would be even higher if future growth in health spending is closer to its historical average than the intermediate set of assumptions that the Medicare trustees used for their projections. In order to finance such growth in spending, decision makers face difficult choices.

Addressing how to finance Part A services is particularly important, since Medicare will no longer have authority to pay for claims once the HI trust fund is depleted. Currently, the trustees project that program spending will exhaust the HI trust fund in 2020.

In the short term, growth in spending for the entire Medicare program (Parts A, B, C, and D) could be financed by more borrowing. Under that scenario, the federal government would have to increase spending

to cover larger interest payments on the federal debt. However, given the magnitude of resources required to finance projected Medicare spending, this approach could put significant upward pressure on interest rates as the federal government competes with other borrowers for investment capital. Higher interest rates would, in turn, slow economic growth and fuel inflation.

For the longer term, the Congress could hold federal borrowing to manageable levels by allocating a greater share of resources toward Medicare and away from other federal programs. However, if growth in health care spending does not slow and tax revenues remain at their historic share of GDP, reallocating federal spending alone may not be enough to address the problem.<sup>22</sup> As the baby boom generation retires, the magnitude of resources needed for Medicare, Medicaid, and Social Security will reach unprecedented shares of GDP—even if some financing for those programs is offset with lower spending on other federal programs. Fiscal stability would require a sizable slowdown in growth rates in health spending and may also require a substantial increase in taxes as a share of our nation’s economy (CBO 2005b).

A final financing approach is to raise federal taxes—payroll taxes on active workers or personal and corporate income taxes. Some analysts believe that relying on increases in payroll tax rates to meet at least some of Medicare’s funding shortfall is a desirable policy approach, because the after-tax wages of workers will grow more rapidly than benefits net of taxes and out-of-pocket health costs for Medicare enrollees (Thompson 2000). Others say that the dependence of the elderly on succeeding generations is both undesirable and unsustainable, and that other approaches—such as encouraging individuals to work after age 65 and save a larger portion of their preretirement income for health care costs—may be more equitable (Fuchs 2000). Still other analysts caution that relying on tax increases alone to address Medicare’s unfunded liabilities could lead to substantial job losses and lower growth in personal income and GDP (Foertsch and Antos 2005). The magnitude of tax increases needed depends on what priority policymakers give to financing Medicare relative to other priorities.

### **Increasing efficiency**

The Commission focuses much of its research agenda on identifying ways to improve efficiency. Taking steps to increase the efficiency with which Medicare’s providers deliver health care is extremely important because such measures would lessen the need to limit benefits and raise

taxes. As policymakers carry out changes to increase efficiency, however, they will need to watch that such steps do not lower quality or access. About 84 percent of Medicare beneficiaries are enrolled in traditional Medicare, accounting for the bulk of program spending. For this reason, analysts point out that FFS Medicare needs to become more of a strategic purchaser than a payer of claims. Other researchers have proposed measures to expand the use of private plans to deliver Medicare benefits as a means of achieving greater efficiency.

### **Improving incentives within FFS payment systems**

Ideally, payment systems would give providers incentives to deliver quality care, to coordinate care among themselves and across health care settings, and to use resources judiciously. However, Medicare’s FFS payment systems currently pay the same for lower-quality care as for higher-quality care, do not reward care coordination, and often give higher payments to providers that furnish more services even when those services are not of value.

Some past policies have simply constrained FFS payments to health care providers. Broader changes to Medicare’s payment systems that affect providers’ incentives may be harder to carry out, yet get more directly at the structural issues fueling growth in spending. Although imperfect, the inpatient prospective payment system (IPPS) is one example. By paying hospitals for larger bundles of similar services rather than for each specific input to care, the payment system leaves decisions about how best to produce health care services to providers. The prospective nature of the system puts providers at financial risk, thereby giving them an incentive to deliver care efficiently (with outlier payments to protect sicker beneficiaries from incentives to stint on care). In the case of inpatient care, the combination of these features appears to have lowered spending and reduced lengths of stay without adversely affecting quality of care.

However, reforms to FFS payment systems are not enough to ensure that Medicare does not waste or misdirect resources. Much of the literature on geographic variation in Medicare spending—the central body of work that analysts cite as proof of inefficiency—uses data more recent than the implementation of the IPPS (Fisher et al. 2003). Over time, inaccuracies and lags in timeliness of data that CMS uses to set payment rates can lead to unintended overpayment for certain services at the expense of others (Ginsburg and Grossman 2005). For example, certain diagnosis related groups within the IPPS are relatively more profitable than others and may provide

an incentive for growth in physician-owned specialty hospitals (MedPAC 2005d).

Innovative purchasing strategies emerging in the private sector suggest that FFS Medicare can become a better purchaser of health care (MedPAC 2004b). Last year the Commission recommended that the Secretary measure the resource use of physicians using Medicare FFS claims and report that information back to physicians on a confidential basis. The objective of this policy is to provide physicians an opportunity to assess their practice style relative to their peers and determine if they should make any changes. The need for such a tool is motivated by research on geographic variation in Medicare spending that suggests that the nation could spend less on health care, without sacrificing quality, if physicians whose practice styles are more resource intensive reduced the intensity of their practice. Today, some private payers draw on information about physicians' resource use to help them build networks, set payments under pay-for-performance programs, and design tiered cost sharing in order to steer beneficiaries toward more efficient providers. Last year the Commission also recommended that CMS take steps to improve safety standards for imaging equipment, make coding edits that adjust payment amounts for multiple imaging services, and restrict payment for some imaging services to physicians in certain specialties such as radiology and cardiology. Some private purchasers use such steps to control growth in the volume of imaging services. Another strategy used by private payers is to set payment rates for certain services through a competitive bidding process. CMS has begun to use this approach for purchasing durable medical equipment, prosthetics, and orthotics.

Observers from other industries, economists, and researchers assert that health care providers could use information technology (IT) and systems engineering methods to increase efficiency while improving the safety and quality of their services (Reid et al. 2005). Systems engineering refers to methods for analyzing and improving the performance of complex systems such as hospitals and ambulatory care. These methods often rely on information technology to analyze detailed data on the process and outcomes of care delivery. Industries such as telecommunications, securities trading, retail, and general merchandising invested heavily in IT and systems engineering during the 1990s and reaped continued annual gains in productivity. Some analysts believe that if health care providers used IT-enabled systems engineering methods, including interconnected electronic medical

records, U.S. health care industries might also improve their efficiency (Hillestad et al. 2005). However, current use of systems engineering and health IT is low due to start-up costs, the difficulty of implementing unfamiliar systems, and the lack of return on investment to providers under FFS payment methods (MedPAC 2005c).

### **Using private plans to deliver Medicare benefits**

Some analysts believe that the best way to address high growth in Medicare spending is for competing plans to manage the delivery of benefits while assuming some or all insurance risk for their members. Proponents suggest that private plans could help stimulate price competition as plans compete for members, lead to greater cost-consciousness among enrollees, and improve quality of care. These views led to the Medicare Advantage program and the structure of Medicare's Part D, which relies on competing private plans to deliver outpatient prescription drug benefits.

Without good risk adjustment to payments, competing private plans have an incentive to enroll healthier individuals, avoid sicker ones, and stint on care. Nevertheless, researchers have improved risk adjusters by incorporating diagnosis information from claims data, and Medicare risk adjusts its payments to private plans in the Medicare Advantage and Part D programs (Pope et al. 2004). For competition among private plans to work well, beneficiaries must make informed choices among plans and understand the consequences of the plans' benefits and management tools.

In general, managed care plans may be able to constrain levels of health care spending relative to FFS by negotiating lower payment rates with preferred providers and applying management tools. However, in order to achieve savings relative to FFS, private plans must more than offset their administrative costs and profits (CBO 2004). Certain aspects of managed care proved unpopular in the latter part of the 1990s, such as provider networks and requirements for prior authorization that some members considered too restrictive. Nevertheless, many plans have reintroduced managed care techniques and tailored them toward the services that are most likely to be overused. Some plans have also begun measuring providers' utilization and quality, establishing tiers of providers that are subject to different cost-sharing requirements or payment rates depending on their track record of quality and resource use, and making greater use of disease management programs (Mays et al. 2004a).

A wide variety of Medicare Advantage plans exist today, with varying methods for promoting appropriate care and managing cost growth. Plans run by multi-specialty group practices largely require their members to seek care through their own physicians. Some such plans have been successful at encouraging quality care by fostering consensus among their physicians and developing evidence-based practice guidelines. Other plans negotiate discounts from network providers, monitor provider quality and resource use, and then try to steer members toward preferred providers. Still other types use relatively fewer tools for managing care.

One policy approach that some researchers point to as a way to address Medicare's financial situation is called premium support (Dowd et al. 1992). Under some versions of premium support, Medicare's FFS program would compete more directly with private plans than occurs today. The magnitude of savings achievable under premium support is difficult to predict and would depend on many details about how such competition would be carried out, as well as how plans and beneficiaries would respond (CBO 2005b). The MMA includes a demonstration of one approach to premium support beginning in 2010.

### **Collaborating with other payers**

Although making better use of Medicare's financial resources may be the most desirable strategy to policymakers, accomplishing this goal is far from certain. With many different payers in the U.S. health care system, driving gains in efficiency is difficult for any one payer.

In their attempts to make Medicare more efficient, policymakers will need to use a variety of strategies across different health care sectors. Medicare will also likely need to collaborate with other payers to carry out broader changes among U.S. health care providers. The following three examples use different policy tools to improve efficiency for the Medicare program:

- **Comparative-effectiveness analysis for new technologies**—In collaboration with other public and private payers, Medicare could advance the use of comparative-effectiveness analysis and work to develop consensus about appropriate uses for new medical technologies. The MMA set a precedent for such a federal role when it authorized the Agency for Healthcare Research and Quality to conduct and support research studying the outcomes, comparative

clinical effectiveness, and appropriateness of health care items and services. In a similar way, CMS could help facilitate greater consensus around methodologies and help build capacity for conducting analyses. For such analysis to be accepted and used widely, it would need to be authoritative and unbiased. In past national coverage decisions, CMS relied primarily on information about the clinical effectiveness of new technologies rather than the cost effectiveness. Given the widespread use of new technologies and medical practice patterns, policymakers may begin to incorporate comparative-effectiveness analysis in Medicare's coverage or payment policies if other payers are.

- **Paying differentially among providers based on measures of quality and resource use**—Medicare could collaborate with other payers, providers, and interested parties to agree on measures of quality and resource use for pay-for-performance programs. It is not always clear that a pay-for-performance strategy would lead to budgetary savings—it could even lead to higher spending. Nevertheless, this approach would improve the value that Medicare and other payers receive for their health spending. In its March 2004 and 2005 Reports to the Congress, the Commission recommended policy changes that would differentiate among providers and lead Medicare to pay more for higher quality services (MedPAC 2005c, 2004a). CMS, along with accreditation and provider organizations, has already begun to play a critical role in building the infrastructure to move to pay for performance. The agency has identified and developed quality measures, collected standard data on quality, and published information on the performance of some providers. It has also designed demonstration programs to test various aspects of paying for improved quality and efficiency. In order to ensure that a pay-for-performance strategy is successful for Medicare, CMS must continue to work with other payers and stakeholders so that the measures the agency uses are accepted widely. A common set of measures for quality and resource use across payers would also reduce the reporting burden on providers.
- **Competitive bidding**—Medicare could initiate change on its own in some circumstances. For example, the program is essentially using a competitive bidding approach among private plans for Medicare's new prescription drug benefit. Initial information about

first-year bids suggests that competitive pressure among many entrants kept bids low, but whether bidding will lead to similar results over time remains to be seen.

For many of these policy tools, Medicare would need to collaborate with other payers. Medicare relies on providers who also deliver care for the broader set of payers in the health care system. In some health care sectors, Medicare can and should take the lead in initiating certain changes. In many situations, Medicare must often work in collaboration with other payers to make lasting changes.

The chapters that follow reflect the Commission's efforts to help policymakers get the best value possible for Medicare's beneficiaries and for taxpayers. Chapter 2 describes the Commission's framework for updating Medicare payment rates and analyzes the adequacy of Medicare payments for major FFS sectors. Chapter 3 examines the current process for valuing physician services and makes recommendations to improve that process. Chapter 4 looks at the adequacy of payments for Medicare's post-acute care services. ■

## Endnotes

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- 1 A hold-harmless policy limits each beneficiary's dollar increase in Part B premiums to no more than the dollar increase in their Social Security benefit. However, no hold-harmless provision applies to increases in Part D premiums or to Medicare's cost sharing. If a Part D enrollee receives low-income subsidies, those would mitigate much of the increase in premiums and cost sharing for prescription drugs.
- 2 The Medicare trustees make their projections in three phases. Short-term projections cover a 12-year period and reflect current Medicare policies by type of service as well as recent trends in growth of spending. For years 25 to 75 of the projection period, the trustees apply assumptions about long-term growth rates in health spending to projections of growth in the economy, growth in numbers of beneficiaries and their demographic mix, and the relative cost of demographic groups. For the intermediate period, the trustees gradually smooth the growth rate in per capita health spending between the short- and long-range assumptions (2004 Technical review panel on the Medicare Trustees Report).
- 3 The trustees characterize long-range growth rates in these terms to reflect the effects of technology on health spending. The GDP term reflects an income effect—broader use of technology as our nation's income increases. The 1 percentage point term reflects an increasing trend in the use of technology independent of income (2004 Technical review panel on the Medicare Trustees Report).
- 4 Even as the health status of people age 65 and older has been improving, the prevalence of chronic diseases and rates of disability among younger people has been rising. Researchers found that the combined effects of the changing health status of older and younger cohorts will lead to only modest upward pressure on aggregate health spending. However, the adoption rate of key technologies could affect spending levels more because some innovations are forecast to be very expensive. The 10 technologies considered include intraventricular cardioverter defibrillators, left ventricular assist devices, pacemakers to control atrial fibrillation, telomerase inhibitors, cancer vaccines, anti-angiogenesis, treatment of acute stroke, prevention of Alzheimer's, prevention of diabetes, and compounds that extend life span.
- 5 An implication of calculations made in the late 1990s for Medicare trustees' reports was that medical care services would make up 38 percent of GDP by 2075 (2004 Technical review panel on the Medicare Trustees Report).
- 6 In their most recent report, the Medicare trustees projected that, under intermediate assumptions, the HI trust fund will be exhausted in 2020. Prior to 2020, the trustees project that existing trust fund balances plus interest income will keep Part A in a solvent position.
- 7 Some analysts have criticized the level of 45 percent as arbitrary (Moon 2005). While true, lawmakers included the excessive funding provision in the MMA to spark debate on balancing national priorities between Medicare and other uses for general revenue financing.
- 8 CMS attributes the relatively steep increases in Part B's premium for 2006 to a number of factors, including the projected increase in physician spending, an increase in reserves to make up for past unanticipated updates in the physician fee schedule, and changes to Medicare Advantage payment rates. Medicare will also begin paying a larger share of outpatient costs as the program gradually lowers beneficiary coinsurance for services in hospital outpatient departments (CMS 2005a).
- 9 Social Security recipients received a 4.1 percent increase for 2006.
- 10 For a beneficiary with a total of \$3,000 in drug spending, this \$1,500 out-of-pocket spending calculation is the sum of the \$250 deductible, 25 percent coinsurance on the next \$2,000 in drug spending (\$500), and \$750 of out-of-pocket spending in the standard benefit's coverage gap.
- 11 The same degree of concentration applies for program spending in fee-for-service Medicare (MedPAC 2004b).
- 12 Dollar amounts are adjusted for purchasing power parity—differences in the cost of living across countries—by comparing prices for a fixed basket of goods. OECD's adjustment is a broad-based basket, not one specific to health costs.
- 13 Analysts raise a similar argument about the higher price of acute hospital days in the United States, but inpatients receive more intensive care per bed day than in many other countries (Bodenheimer 2005b).
- 14 According to the National Ambulatory Medical Care Survey, in 2002, nearly 63 percent of all U.S. office-based visits were to physicians categorized as being in primary care specialties. However, unlike the OECD definition of generalists, this statistic includes visits to obstetrician/gynecologists, which accounted for nearly 8 percentage points of the 63 percent. For half of all office visits, regardless of specialty, physicians indicated that they were the patient's primary care provider. Among these visits, 5 percent were to specialists (Woodwell and Cherry 2004).



- 15 In particular, statistics underreport the number of pieces of equipment such as MRI units and CT scanners in the United States—they reflect the number of hospitals reporting at least one of those pieces of equipment rather than the number of units in hospitals and in other locations (OECD 2005).
- 16 Countries of the European Union permit advertising of certain health conditions by pharmaceutical manufacturers, but do not permit advertisement of a specific drug therapy. New Zealand allowed direct-to-consumer advertising for a time but subsequently discontinued that policy.
- 17 Note that values for Medicare include spending for Medicare Advantage, in which private plans negotiate payment rates with providers rather than following payment systems of the traditional fee-for-service program. Offsetting this effect is the fact that other public and private payers use Medicare's payment rates as their own, thereby broadening Medicare's influence.
- 18 National health expenditure data group services by the type of establishment. So, for example, data on hospital spending include all types of services provided at hospitals—inpatient and outpatient care, pharmacy, home health, skilled nursing, services for end-stage renal disease patients, and others.
- 19 Retirees can obtain a reduced level of Social Security benefits beginning at age 62, but only obtain full benefits if they wait until age 65. Under current law, Social Security's normal retirement age is increasing gradually from 65 to 67.
- 20 This study defines the underinsured as those individuals who, given their health status, would have purchased more extensive coverage but had insufficient income to do so. The authors used simulation models to predict the purchase of nongroup health insurance policies among the near elderly based on their health status, then constrained the type of insurance those individuals could purchase to policies that would cost no more than 20 percent of their income.
- 21 One should note that each of the Health Insurance Experiment's insurance alternatives included a cap on out-of-pocket spending, which could have affected behavior.
- 22 Over the past 50 years, federal tax revenues have ranged between 16 percent and 21 percent of GDP, averaging 18 percent (CBO 2005b).

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CHAPTER

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**Assessing payment adequacy  
and updating payments in  
fee-for-service Medicare**

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# R E C O M M E N D A T I O N S

## Section 2A: Hospital inpatient and outpatient services

- 2A** The Congress should increase payment rates for the acute inpatient and outpatient prospective payment systems in 2007 by the projected increase in the hospital market basket index less half of the Commission's expectation for productivity growth.

COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

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## Section 2B: Physician services

- 2B** The Congress should update payments for physician services in 2007 by the projected change in input prices less the Commission's expectation for productivity growth.

COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

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## Section 2C: Outpatient dialysis services

- 2C-1** The Congress should update the composite rate in calendar year 2007 by the projected rate of increase in the end-stage renal disease market basket index less half the Commission's expectation for productivity growth.

COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

.....

- 2C-2** The Congress should direct the Secretary to: eliminate differences in paying for composite rate services between hospital-based and freestanding dialysis facilities; and combine the base composite rate and the add-on adjustment.

COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

# Assessing payment adequacy and updating payments in fee-for-service Medicare

## Chapter summary

The Commission makes payment update recommendations annually for fee-for-service Medicare. An update is the amount (usually expressed as a percentage change) by which the base payment for all providers in a prospective payment system is changed. To determine an update, we first assess the adequacy of Medicare payments for efficient providers in the current year (2006). Next, we assess how those providers' costs are likely to change in the year the update will take effect (the policy year—2007). Finally, we make a judgment as to what, if any, update is needed. When considering whether payments in the current year are adequate, we account for policy changes (other than the update) that are scheduled to take effect in the policy year under current law. This year we make update recommendations in eight sectors: hospital inpatient, hospital outpatient, physician, skilled nursing facility (SNF), home health, outpatient dialysis, inpatient rehabilitation facilities (IRFs), and long-term care hospitals (LTCHs). The analyses of payment adequacy by sector are in the sections that follow and in Chapter 4. ■

## In this chapter

- Are Medicare payments adequate in 2006?
- What cost changes are expected in 2007?
- How should Medicare payments change in 2007?





The goal of Medicare payment policy is to get good value for the program's expenditures. This means maintaining beneficiaries' access to high-quality services while encouraging efficient resource use and preserving equity among both providers and beneficiaries. Necessary steps toward achieving this goal involve:

- setting the base payment rate (that is, the payment for services of average complexity) at the right level;
- developing payment adjustments that accurately reflect cost differences for varying market conditions outside the control of providers and among types of services and patients; and
- annually considering the need for a payment update and other policy changes.

Our general approach to developing payment policy recommendations attempts to do two things: first, make enough funding available in aggregate to cover the costs of efficient providers, and second, distribute payments equitably among services and providers. Together, these steps should maintain Medicare beneficiaries' access to high-quality care while getting the best value for taxpayers' and beneficiaries' resources.

To help us determine the appropriate level of aggregate funding for a given payment system we consider:

- Are payments at least adequate for efficient providers in 2006?
- How will efficient providers' costs change in 2007?
- How should Medicare payments change in 2007?

Efficient providers use fewer inputs to produce quality outputs. In the first part of our adequacy assessment, we judge whether Medicare payments are too high or too low compared with efficient providers' costs in the current year—2006. In the second part, we assess how we expect efficient providers' costs to change in the policy year—2007. Within a level of aggregate funding, we may also consider changes in payment policy that would affect the distribution of payments and improve equity among providers or improve equity and access to care for beneficiaries. We then recommend updates and other policy changes for 2007. This analytic process is illustrated in Figure 2-1.

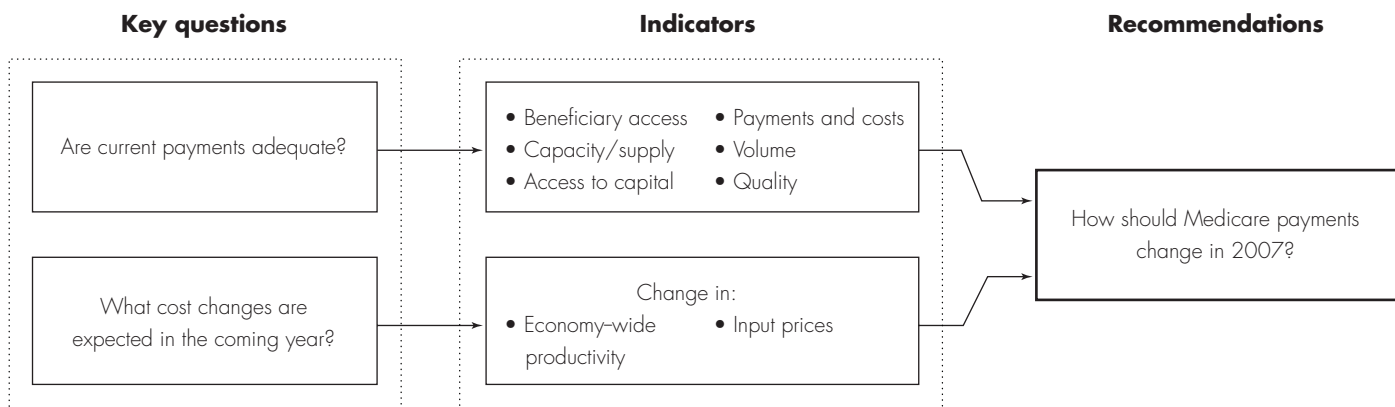
## Are Medicare payments adequate in 2006?

The first part of MedPAC's approach to developing payment updates is to assess the adequacy of current payments. For each sector, we make a judgment of whether current Medicare payments are adequate by examining information about:

- beneficiaries' access to care
- changes in the capacity and supply of providers
- changes in the volume of services
- changes in the quality of care
- providers' access to capital
- Medicare payments and providers' costs for 2006

**FIGURE 2-1**

**Payment adequacy framework**



Some measures focus on beneficiaries (for example, access to care) and some on providers (for example, the relationship of payments and costs in 2006). We consider multiple measures because the direct relevance, availability, and quality of each type of information varies among sectors, and no one measure provides all the information needed for the Commission to judge payment adequacy.

### **Beneficiaries' access to care**

Access to care is an important indicator of the willingness of providers to serve Medicare beneficiaries and the adequacy of Medicare payments. (Poor access could indicate payments are too low, good access could indicate payments are adequate or more than adequate.) However, other factors unrelated to Medicare's payment policies may also affect access to care. These factors include coverage policy, beneficiaries' preferences, supplemental insurance, transportation difficulties, and the extent to which Medicare is the dominant payer for the service.

The measures we use to assess beneficiaries' access to care depend on the availability and relevance of information in each sector. For example, using results from several surveys, we assess physicians' willingness to serve beneficiaries and beneficiaries' opinions about their access to physician care. For home health services, using information on the CMS website and from a national survey, we examine whether communities are served by providers and whether beneficiaries report that they can obtain care.

### **Changes in the capacity of providers**

Rapid growth in the capacity of providers to furnish care may indicate that payments are more than adequate to cover providers' costs. Changes in technology and practice patterns may also affect providers' capacity. For example, less invasive procedures or lower priced equipment could increase capacity to provide certain services.

Substantial increases in the number of providers may suggest that payments are more than adequate and could raise concerns about the value of the services being furnished. For instance, rapid growth in the number of home health agencies could suggest that Medicare's payment rates are at least adequate and potentially more than adequate. If Medicare is not the dominant payer, changes in the number of providers may be influenced more by other payers and their demand for services and thus may be difficult to relate to Medicare payments.

When facilities close, we try to distinguish between closures that have serious implications for access to care in a community and those that may have resulted from excess capacity.

### **Changes in the volume of services**

An increase in the volume of services beyond that expected for the increase in the number of beneficiaries could suggest that Medicare's payment rates are too high. Reductions in the volume of services, on the other hand, may indicate that revenues are inadequate for providers to continue operating or to provide the same level of services. Changes in the volume of services are often difficult to interpret because increases or decreases also could be explained by other factors, such as incentives in the payment system, population changes, changes in disease prevalence among beneficiaries, technology, practice patterns, and beneficiaries' preferences. In particular, changes in the volume of physician services must be interpreted cautiously because some evidence suggests that volume may also go up when payment rates go down—the so-called volume offset. Whether this phenomenon exists in other settings depends on how discretionary the services are and the ability of providers to influence beneficiary demand for the services.

### **Changes in the quality of care**

The relationship between changes in quality and Medicare payment adequacy is not direct. Quality is influenced by many factors, including beneficiaries' preferences and compliance with providers' guidance, and providers' adherence to clinical guidelines. Medicare's payment systems are not generally connected to quality—payment is usually the same, regardless of the quality of care. In fact, undesirable outcomes (such as unnecessary complications) may result in additional payments. The influence of Medicare's payments on quality of care may also be limited when Medicare is not the dominant payer. However, the program's quality improvement activities can influence the quality of care for a sector. Changes in quality are thus a limited indicator of Medicare payment adequacy. In addition, increasing payments through an update for all providers in a sector regardless of their individual quality may not be an appropriate response to quality problems in a sector, particularly if other factors point to adequate payments. The Commission supports linking payment to quality to hold providers accountable for the care they furnish as discussed in our March 2004 and 2005 reports (MedPAC 2004, 2005).

## Providers' access to capital

Access to capital is necessary for providers to maintain and modernize their facilities and capabilities for patient care. An inability to access capital that was widespread throughout a sector might in part reflect on the adequacy of Medicare payments (or in some cases, even on the expectation of changes in the adequacy of Medicare payments). However, access to capital may not be a useful indicator of the adequacy of Medicare payments when the sector has little need for capital, there is a perception of high regulatory risk, or providers derive most of their payments from other payers or other lines of business. For example, the majority of hospital and skilled nursing facility (SNF) revenues come from private sources (such as health insurance) or other government payers (such as Medicaid).

We examine access to capital for both nonprofit and for-profit providers. Changes in bond ratings may indicate that access to needed capital for nonprofit entities has deteriorated or improved, although the data are difficult to interpret because access to capital depends on more than just bond ratings. We also use indirect measures that can demonstrate providers' access to capital, such as the acquisition of facilities by chain providers, spending on construction, and overall volume of borrowing. For publicly owned providers, we can also monitor changes in share prices, debt, and other publicly reported financial information.

## Payments and costs for 2006

For most payment sectors, we estimate aggregate Medicare payments and costs for the year preceding the policy year. In this report, we estimate payments and costs for 2006 to inform our update recommendations for 2007.

For providers that submit cost reports to CMS—acute care hospitals, skilled nursing facilities, home health agencies, outpatient dialysis facilities, inpatient rehabilitation facilities, and long-term care hospitals—we estimate total Medicare-allowable costs and assess the relationship between Medicare's payments and those costs. The relationship between payments and costs is typically expressed as a payment margin. A margin is calculated as payments less costs divided by payments. (Alternatively, the relationship also can be expressed as a ratio of payments to costs.)

To estimate payments, we first apply the annual payment updates specified in law for 2005 and 2006 to our 2004 or 2003 base data. We then model the effects of other policy

changes that will affect the level of payments including those—other than payment updates—that are scheduled to go into effect in the policy year (2007). This method allows us to consider whether current payments would be adequate under all applicable provisions of current law. Our result is an estimate of what payments in 2006 would be if 2007 payment rules were in effect.

To estimate 2006 costs, we generally assume that the cost per unit of output will increase at the rate of input price inflation. As appropriate, we adjust for changes in the product (that is, changes within the service provided—for example, fewer visits in an episode of home health care) and trends in key indicators, such as historical cost growth, productivity, and the distribution of cost growth among providers.

## Using margins

In most cases, we assess Medicare margins for the services furnished in a single sector and covered by a specific payment system (for example, skilled nursing facility or home health services). When a facility provides services that are paid for in multiple payment systems, however, our measures of payments and costs for an individual sector may become distorted because of allocation of overhead costs or cross subsidies among services. In these instances, we assess—to the extent possible—the adequacy of payments for the whole range of Medicare services that the facility furnishes. For example, a hospital might furnish inpatient, outpatient, SNF, home health, psychiatric, and rehabilitation services, each of which is paid under a different Medicare payment system. We would compute an overall hospital margin encompassing Medicare-allowed costs and payments for all of the sectors.

Total margins—which include payments from all payers as well as revenue from nonpatient sources—do not play a direct role in the Commission's update deliberations. Medicare payments should relate to the costs of treating Medicare beneficiaries, and the Commission's recommendations address a sector's Medicare payments, not total payments.

We calculate a sector's aggregate Medicare margin to inform our judgment about whether total Medicare payments cover efficient providers' costs. To assess whether changes are needed in the distribution of payments, we calculate Medicare margins for subgroups of providers that are important in Medicare's payment policies. For example, because location and teaching status enter into the payment formula, we calculate Medicare

margins based on where hospitals are located (in urban or rural areas) and by their teaching status (major teaching, other teaching, or nonteaching).

Multiple factors can contribute to a gap between current payments and costs, including changes in the efficiency of providers, unbundling of the services included in the payment unit, and other changes in the product (such as reduced lengths of stay at inpatient hospitals). Developing information about the extent to which these factors have contributed to the gap may help in deciding whether and how much to change payments.

Finally, the Commission makes a judgment when assessing the adequacy of payments relative to costs—the margin. No single standard governs this relationship. It varies from sector to sector and depends on the degree of financial risk faced by individual providers, which can change over time.

### **Appropriateness of current costs**

Our assessment of providers' costs and the relationship between Medicare's payments and providers' costs is influenced by whether current costs approximate what efficient providers would be expected to spend in furnishing high-quality care to beneficiaries. Measuring appropriateness of costs is particularly difficult in new payment systems because changes in response to the incentives in the new system are to be expected. For example, the number and kinds of visits in a home health episode—the product—changed significantly after the introduction of the home health prospective payment system. In other systems, coding may change. Any kind of rapid change can make measuring costs per unit of product difficult.

To assess whether reported costs provide a reasonable representation of the costs of efficient providers, we examine recent trends in the average cost per unit of output, variation in cost growth, and evidence of change in the product being furnished. Other things being equal, including the product being delivered, we would generally expect average growth in unit costs to be somewhat below the forecasted increase in input prices because of productivity improvements. The federal government should benefit from providers' productivity gains, just as private purchasers of goods in competitive markets benefit from the productivity gains of their suppliers.

Other payers and market conditions also may affect providers' need to be efficient in delivering services. In a sector where Medicare is not dominant, if other payers

do not promote discipline, providers may have higher cost growth than they would have if Medicare were dominant. This phenomenon would be more common in markets where a few providers dominate and have negotiating leverage over the payers. For example, economic literature on the hospital industry and our analysis suggest that providers that are under fiscal pressure generally have managed to slow their cost growth more than those facing less fiscal pressure (Gaskin and Hadley 1997, MedPAC 2005).

Variation in cost growth among providers in a sector can give us insight into the range of performance that facilities are capable of achieving. For example, if some providers have more rapid cost growth than others, we might question whether those increases were appropriate.

Changes in product can significantly affect unit costs. Returning to the example of home health, substantial reductions in the number of visits in home health episodes would be expected to reduce the growth in per episode costs. If costs per episode instead increased at the same time as the number of visits decreased, one would question the appropriateness of the cost growth.

Accurate reporting is important for determining costs. When data are obtained from unaudited cost reports, costs could be understated or overstated. In some instances, some portion of costs has been found to be unallowable after CMS contractors audited facilities' cost reports.

In principle, we would like audits of all sectors' cost reports to ensure the accuracy of the reporting. For most providers, the current audit process reveals little about the accuracy of the Medicare cost information. The frequency of audits varies by sector. When audits are done, they generally focus on a narrow set of cost components that directly affect payment instead of broadly examining the accuracy of costs included in the reports. The Commission is studying possible steps to improve the auditing process.

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### **What cost changes are expected in 2007?**

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The second part of the Commission's approach to developing payment update recommendations is to account for expected cost changes in the next payment year. For each sector, we review evidence about the factors that are expected to affect providers' costs. One major factor is changes in input prices, as measured by

the applicable CMS price index. For most providers, we use the forecasted increase in an industry-specific index of national input prices, called a market basket index. For physician services, we use a similar index—the Medicare Economic Index. Forecasts of these indexes approximate how much providers’ costs would rise in the coming year if the quality and mix of inputs they use to furnish care remained constant. Any errors in the forecast are taken into account in future years while judging payment adequacy.

Several other factors may also affect providers’ costs in the coming year:

- **Scientific and technological advances**—Many improvements in medical science and technology enhance quality and reduce providers’ costs (or leave costs unchanged). No increase in Medicare’s payment rates is needed to accommodate these changes because providers have a financial incentive to adopt them. For medical advances that both improve quality and increase costs, the Commission can include an allowance in our update recommendation. When reaching this judgment, the Commission takes into account the design of the payment system and how Medicare pays for new technology. For example, each year new monies are provided for new technologies used in both hospital inpatient and outpatient care; thus an additional allowance in update recommendations is not needed.
- **Improvements in productivity**—Medicare’s payment systems should encourage providers to reduce the quantity of inputs required to produce a unit of service by at least a modest amount each year while maintaining service quality. Consequently, the Commission has adopted a policy goal to create incentives for efficiency and includes an adjustment for productivity when accounting for providers’ cost changes in the coming year. The Commission’s productivity factor—0.9 percent for our 2007 deliberations—is a 10-year average of the Bureau of Labor Statistics’ estimate of economy-wide, multifactor productivity growth. Our approach links Medicare’s expectations for efficiency to the gains achieved by the firms and workers who pay taxes that fund Medicare. Market competition constantly demands improved productivity and reduced costs from other firms; as a prudent purchaser, Medicare should also require some productivity gains each year. Unless evidence suggests that this goal is unattainable systematically across a sector for reasons

outside the industry’s control, Medicare should expect improvements in productivity consistent with the average realized by the firms and workers who fund the Medicare program.

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## How should Medicare payments change in 2007?

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The Commission’s judgments about payment adequacy and expected cost changes result in an update recommendation for each payment system. Coupled with the update recommendations, we may also make recommendations concerning the distribution of payments among providers. These distributional changes are sometimes, but not always, budget neutral.

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 requires the Commission to consider the budget consequences of our recommendations. We document in this report how spending for each recommendation would compare with expected spending under current law. We develop rough estimates of the impact of recommendations relative to the current budget baseline, placing each recommendation into one of several cost-impact categories. In addition, we assess the impacts of our recommendations on beneficiaries and providers. ■

## References

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Gaskin, D., and J. Hadley. 1997. The impact of HMO penetration on the rate of hospital cost inflation, 1985–1993. *Inquiry* 34, no. 3 (Fall): 205–216.

Medicare Payment Advisory Commission. 2005. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.

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SECTION  
2A

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**Hospital inpatient and  
outpatient services**

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## **R E C O M M E N D A T I O N**

The Congress should increase payment rates for the acute inpatient and outpatient prospective payment systems in 2007 by the projected increase in the hospital market basket index less half of the Commission's expectation for productivity growth.

**COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2**



# SECTION 2A

## Hospital inpatient and outpatient services

### Section summary

Each year, the Medicare Payment Advisory Commission makes payment update recommendations for hospital inpatient and outpatient services for the coming year. We first address whether base payments for the current year (fiscal year 2006) are adequate, considering:

- beneficiaries' access to care and changes in hospital capacity,
- changes in the volume of services,
- changes in the quality of care,
- hospitals' access to capital, and
- Medicare payments and hospitals' costs.

More hospitals have joined Medicare than have left the program in recent years, and the number of facilities ceasing participation in Medicare each year has dropped by half. The share of hospitals offering most specialized services (such as burn care and cardiac catheterization) has increased, while the share offering outpatient services has remained stable.

Both inpatient and outpatient volume are increasing. Medicare's acute inpatient discharges have roughly kept pace with beneficiary enrollment

### In this section

- Are Medicare payments adequate in 2006?
- How should Medicare payments change in 2007?
- Outpatient hold-harmless payments

growth in recent years, while length of stay continues to decline. The growth in outpatient services moderated in 2004, although it remains about 4 percentage points above the rate of growth in Medicare enrollment.

The evidence on the quality of care hospitals provide to Medicare beneficiaries is mixed. Mortality rates have dropped while CMS's indicators of clinical effectiveness and appropriateness of care have improved. But the results for adverse events are mixed—the rates are increasing for some measures and decreasing for others.

Spending on hospital construction has increased substantially in recent years, and more than 85 percent of nonprofit hospitals plan to add capacity over the next two years. The number of upgrades in bond ratings exceeded the number of downgrades in the first half of 2005 for the first time since 1998, and the dollar amount of upgrades far exceeded that of downgrades. While some are concerned about a divergence in access to capital between “haves” and “have nots,” evidence has emerged that the disparity in access to capital has lessened.

The increase in Medicare's inpatient costs per discharge was unusually large in 2002 and 2003, but moderated somewhat in 2004. A measure of per unit costs across all services and all payers shows a similar pattern of high but slowing growth through 2004, and preliminary evidence suggests a further decline in 2005. Outpatient cost growth, however, has been very low—about 1 percent—in each of the last two years.

Several factors affected the rate of hospitals' cost growth in the early 2000s, including rapidly rising malpractice insurance expenses and pressure to increase nursing wages and staffing levels arising from nurse shortages and quality of care concerns. But the increases were also influenced by a lack of fiscal pressure from the private sector. Pressure from private payers has been much lower since 1999 than in the preceding years as hospitals regained the upper hand in price negotiations, and hospitals' costs rose faster than at any time since the late 1980s when private insurers also exerted little pressure.

The overall Medicare margin for hospitals covered by prospective payment fell from -1.4 percent in 2003 to -3.0 percent in 2004; however, we expect the margin to be -2.2 percent in 2006 (reflecting 2007 policy other than payment updates). After responding to evidence that some hospitals abused Medicare's outlier payment system, CMS's projection of the appropriate threshold for determining outlier payments in 2004 resulted in these payments falling below the target of 5.1 percent of inpatient base payments. Our forecast is dependent on CMS returning outliers to the 5.1 percent level, and we urge the agency to review its projection methods to ensure that the threshold needed to reach that level is implemented for 2007.

Several provisions of the Deficit Reduction Act of 2005 affect hospitals. We estimate that in aggregate, these provisions will have a small positive effect on Medicare's payments to hospitals—not enough to change our projection of the 2006 overall Medicare margin.

High-cost hospitals have a significant effect on the industry's financial performance under Medicare. To illustrate this effect, if we omit from the calculation the roughly one-fifth of prospective payment system (PPS) hospitals with consistently high costs (specifically, those in the top one-third highest-cost hospitals in both 2002 and 2004), our margin forecast rises by more than 2 percentage points to about the breakeven point. In addition, we found that the PPS hospitals with consistently negative Medicare margins had above-average costs and cost growth and are not competitive in their own markets as evidenced by having higher costs and lower occupancy than neighboring competitors.

Our indicators of payment adequacy present a mixed picture. Our assessments of beneficiaries' access to care, volume growth, and access to capital are positive, while the results on quality are mixed. The Commission is concerned about the trend in Medicare margins because in the long run hospitals need to generate funds for investing in their infrastructure. However, our general approach is to make enough funding available in aggregate to cover the costs of efficient providers, and our analysis suggests

that more efficient hospitals may not be performing as poorly as the industry's aggregate margin would suggest.

Balancing these considerations, we conclude that an update of market basket minus half of the Commission's expectation for productivity growth (or 0.45 percent) is appropriate for both inpatient and outpatient services. Under the current forecast of the hospital market basket, this will provide updates of about 3 percent. These updates should be combined with a quality incentive payment policy for hospitals, as we recommended last year (MedPAC 2005b). Implementing pay for performance will increase payments to hospitals with better-than-average quality scores and improve the "business case" for hospitals to adopt information technology.

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## Recommendation 2A

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**COMMISSIONER VOTES:**

**YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2**

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*The Congress should increase payment rates for the acute inpatient and outpatient prospective payment systems in 2007 by the projected increase in the hospital market basket index less half of the Commission's expectation for productivity growth.*

Hold-harmless payments for the outpatient services provided by many rural facilities were scheduled to expire at the end of 2005. The effects of this change, however, were substantially reduced by policy changes implemented by CMS in late 2005 and by the Congress in the Deficit Reduction Act of 2005. But these policies do not directly address the underlying reasons for the relatively poor financial performance of rural hospitals under the outpatient PPS. Using regression analysis, we found that outpatient costs per service decrease as hospital volume increases, with rural hospitals comprising most of those with below-average volume. A low-volume adjustment to Medicare's outpatient payment rates for rural hospitals that are important for access to care, as evidenced by their location more than a specified number of miles from another outpatient provider, could target assistance for rural hospitals better than the current payment adjustments. ■

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## Background

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Hospitals provide Medicare beneficiaries with inpatient care for the diagnosis and treatment of acute conditions and manifestations of chronic conditions. They also provide ambulatory care through outpatient departments and emergency rooms. In addition, many hospitals provide home health, skilled nursing facility (SNF), psychiatric, or rehabilitation services. Medicare purchases inpatient and outpatient care, as well as other services, from short-term general and specialty hospitals that meet its conditions of participation and agree to accept the program's payment rates.

### Medicare spending on hospitals

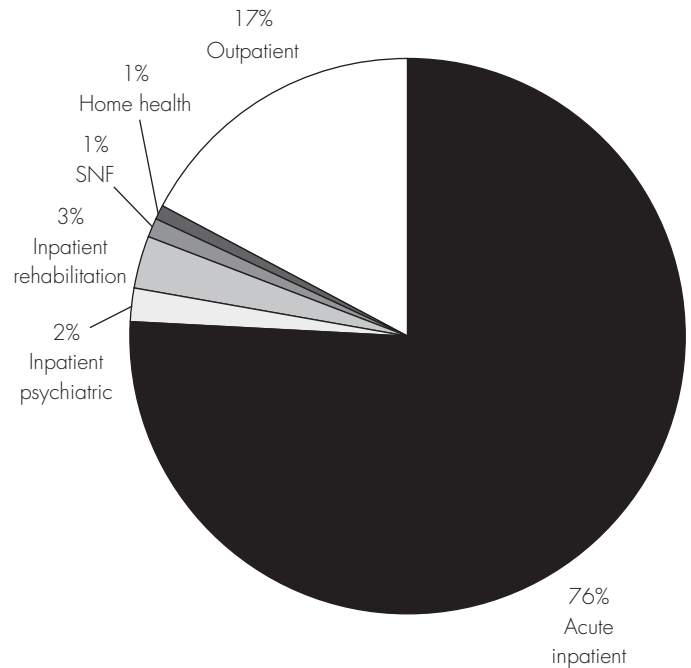
The bulk of Medicare spending on hospitals is for acute inpatient and outpatient care. Payments for acute inpatient care account for about three-quarters of all Medicare payments to hospitals covered by the acute inpatient prospective payment system (PPS), while payments for outpatient care (including services paid for outside the outpatient PPS) make up about 17 percent (Figure 2A-1).<sup>1</sup>

Spending by the Medicare program for all inpatient and outpatient care—encompassing hospitals paid under all of Medicare's PPSs as well as critical access hospitals (CAHs)—increased from about \$84 billion in calendar year 1994 to \$133 billion in 2004 (Figure 2A-2, p. 48). Spending growth averaged 4.8 percent during the decade, but was not uniform. From 1994 to 1997, Medicare hospital program expenditures grew 5.8 percent per year. Expenditures were nearly flat for three years after enactment of the Balanced Budget Act of 1997 (BBA), and then spending growth accelerated to 11 percent per year in 2001 and 2002 before slowing to 5.4 percent in 2003 and 7.8 percent in 2004.

Looking forward, CMS's Office of the Actuary (OACT) projects that hospital payments will increase at an annual rate of 4.0 percent from fiscal year 2005 to 2015 (Office of the Actuary 2005). The Medicare trustees forecast that expenditure growth for the Part A trust fund will slow in calendar years 2006 and 2007 because of expected enrollment increases in Medicare Advantage (MA) plans (Boards of Trustees 2005). This trend will shift payment responsibility from the Medicare program to MA plans but should have little overall effect on the payments hospitals receive for treating Medicare beneficiaries.

**FIGURE 2A-1**

### Acute inpatient services accounted for most of Medicare's payments to hospitals in 2004



Note: SNF (skilled nursing facility). Data are for hospitals covered by the Medicare acute inpatient prospective payment system. Data exclude graduate medical education as well as several services that account for smaller shares of payment, such as hospice and ambulance services.

Source: MedPAC analysis of Medicare Cost Report file from CMS.

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### Medicare's payment system for inpatient and outpatient services

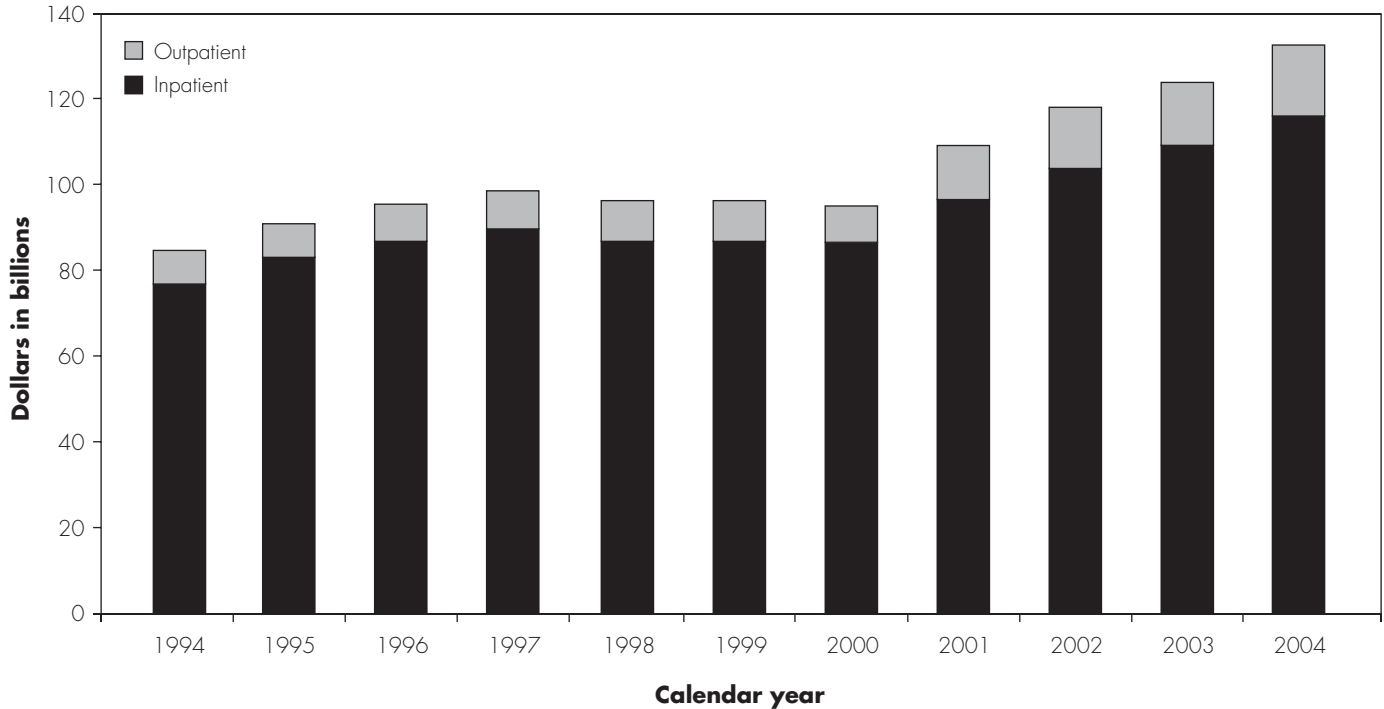
This section provides a brief overview of the inpatient and outpatient PPSs. These payment systems have a similar basic construct (a base rate modified for differences in type of case or service as well as geographic differences in wages) but somewhat different sets of additional payment adjustments. Additional information on these payment systems is available at [www.cms.hhs.gov](http://www.cms.hhs.gov) and at [www.medpac.gov](http://www.medpac.gov).<sup>2</sup>

#### Acute inpatient payment system

Medicare's acute inpatient PPS pays hospitals a predetermined amount per hospital discharge, with separate payments made to cover hospitals' operating and capital expenses. The diagnosis related group (DRG) classification system sorts patients into more than 500 groups, which aggregate cases with related clinical problems and similar costs.

**FIGURE  
2A-2**

**Growth in Medicare payments for hospital inpatient and outpatient services continues**



Note: Includes all Medicare participating hospitals. Includes acute inpatient services covered by the prospective payment system (PPS); critical access hospitals; other inpatient services (psychiatric, cancer, children's, rehabilitation, and long-term care hospitals); outpatient services covered by PPS; and other outpatient services. Payments include program outlays.

Source: 2005 annual report of the Boards of Trustees of the Medicare trust funds.

Each DRG has a relative weight based on how charges for cases in the group compare with the national average of all groups. The base payment rate reflects the average costliness of Medicare inpatient cases nationwide, and the DRG payment rate is the product of this rate and the relative weight of the DRG. The labor portion of the DRG payment rate is further adjusted by the hospital wage index to account for differences in local input prices.

The inpatient PPS makes additional adjustments to payments for certain cases and to hospitals with specific characteristics:

- supplemental outlier payments for cases with unusually high costs relative to the payment rate for the DRG;
- reduced payments for cases with shorter than average stays that are transferred to another hospital or a post-acute care setting;
- add-on payments for the costs of major new technologies used in acute inpatient care;
- an indirect medical education adjustment to account for the higher patient care costs of teaching hospitals;
- a disproportionate share (DSH) adjustment to provide additional payment to hospitals that treat an unusually large share of low-income patients;
- options for higher payments for hospitals (mostly rural) that qualify as sole community providers, referral centers, or small Medicare-dependent hospitals; and
- a low-volume adjustment for rural hospitals treating fewer than 200 admissions per year from all payment sources.

In a 2005 report to the Congress on physician-owned specialty hospitals, the Commission recommended several improvements to the hospital inpatient PPS (MedPAC 2005a). These included:

- refining the current DRGs to capture differences in severity of illness among patients more fully,
- basing the DRG relative weights on the estimated cost of providing care rather than on charges,
- basing the weights on the national average of hospitals' relative values in each DRG, and
- adjusting the weights to account for differences in the prevalence of high cost outlier cases.

Taken together, these policy recommendations would redistribute Medicare payments to more closely reflect the relative cost of care of inpatient cases, while retaining strong incentives for efficiency in the hospital inpatient PPS. Although these changes would not affect aggregate payments across all hospitals, they would reduce the potential for hospitals to specialize in profitable types of patients or select low-cost patients within a DRG.

Since 1997, certain small rural hospitals with 25 or fewer beds can qualify as critical access hospitals. These hospitals are excluded from Medicare's acute inpatient and outpatient PPSs. Instead of predetermined payment rates, they receive cost-based reimbursement (costs plus 1 percent) for both inpatient and outpatient services, and we do not consider them when evaluating the adequacy of Medicare's prospective payments. There were 1,217 CAHs as of January 2006 with 10 to 30 more waiting for approval (Eddinger 2006). More information on CAHs is available at [www.medpac.gov](http://www.medpac.gov).

Beneficiaries are liable for a hospital deductible of \$952 when admitted to a hospital in 2006. The Part A deductible is the beneficiary's only cost for up to 60 days of Medicare-covered inpatient hospital care in a benefit period. Beneficiaries must pay an additional \$238 per day for days 61 through 90, and \$476 per day for hospital stays beyond the 90th day in a benefit period.

### **Hospital outpatient payment system**

The outpatient PPS pays hospitals a predetermined amount per service. CMS assigns each outpatient service to one of approximately 850 ambulatory payment classification (APC) groups. The APCs cover everything from simple X-rays and clinic visits to cataract surgeries and insertion

of pacemakers. Each APC has a relative weight based on its median cost of service compared with the median cost of a mid-level clinic visit, and a conversion factor translates relative weights into dollar payment amounts. The outpatient PPS adjusts the labor portion of payment by the hospital wage index to reflect differences in local input prices. The outpatient PPS includes four special provisions to adjust payments:

- pass-through payments for new technologies when providers use certain drugs, biologicals, and devices;
- outlier payments for individual services or procedures with unusually high costs relative to the payment rate for the APC;
- hold-harmless payments to cancer and children's hospitals if their outpatient PPS payments are lower than they would have been under prior policy; and
- additional payments of 7.1 percent to each service provided by sole community hospitals located in rural areas, except for drugs, biologicals, and pass-through services.

Under the outpatient PPS, beneficiaries must meet the deductible that applies to all Part B services (\$124 in 2006) and also pay a pre-specified coinsurance for each service. In 2004, beneficiary coinsurance accounted for 34 percent of total payments under the outpatient PPS, but the BBA established a system for reducing beneficiaries' coinsurance share over time until it reaches 20 percent.

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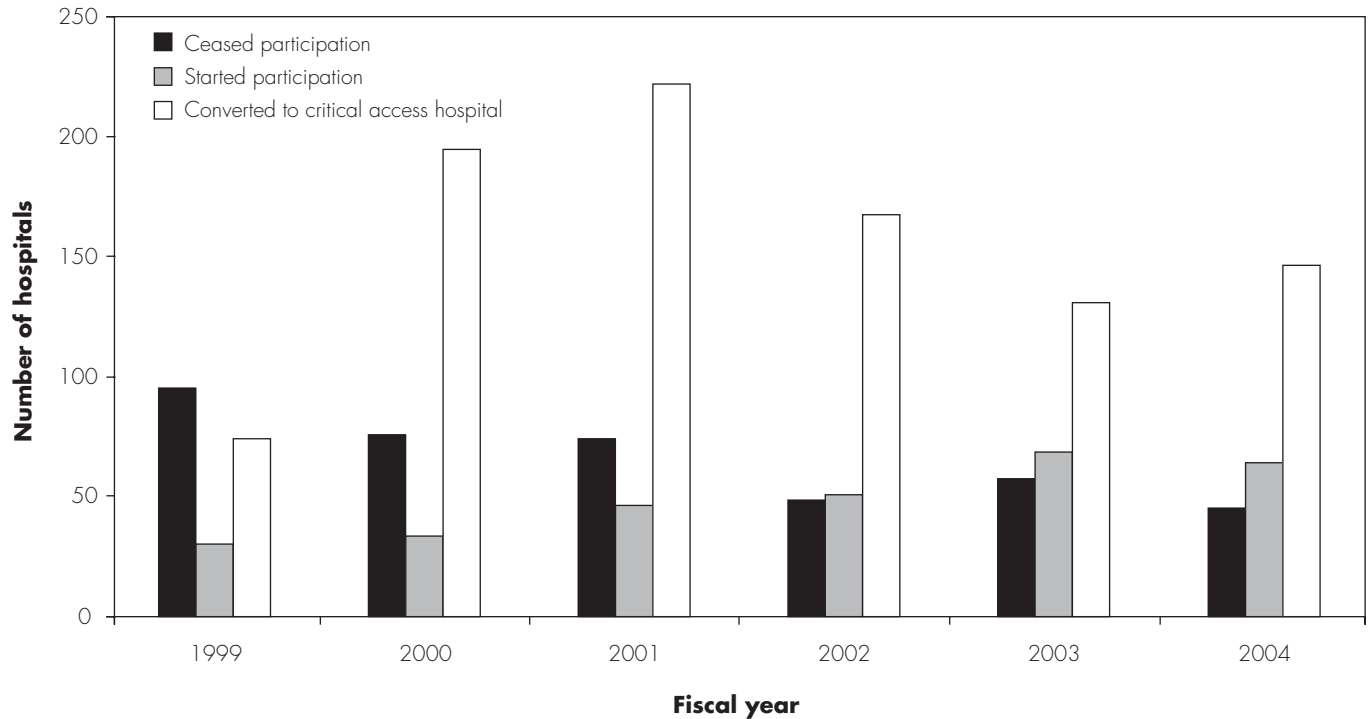
## **Are Medicare payments adequate in 2006?**

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Each year, the Commission makes payment update recommendations for hospital inpatient and outpatient services for the coming year. In our framework we address whether payments for the current year (2006) are adequate to cover the costs incurred by efficient hospitals, and then determine how much efficient providers' costs should change in the coming year (2007). Our determination of payment adequacy considers beneficiaries' access to care, changes in the volume of services, changes in the quality of care, hospitals' access to capital, and the relationship of Medicare's payments and providers' costs. In addition, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) requires that we consider the efficient provision of services in making update recommendations. We therefore consider the

**FIGURE  
2A-3**

**More hospitals have begun than ceased participation since 2001,  
while many have become critical access hospitals**



Source: MedPAC analysis of Provider of Services file from CMS.

appropriateness of hospitals' costs in assessing payment adequacy—that is, whether actual costs provide a reasonable representation of efficient hospitals' costs.

### **Beneficiaries' access to care and supply of providers**

We assess beneficiaries' access to care through measures of the number of hospitals participating in the Medicare program, including critical access hospitals in rural areas, and the proportion of hospitals offering certain specialty and outpatient services. We found no indication of significant change in hospitals' capacity to provide services to Medicare beneficiaries.

In each year since 2002, more hospitals have joined the Medicare program than have ceased participation. In 2004, 61 hospitals joined the Medicare program and 44 dropped out, for a net gain of 17 (Figure 2A-3). One-third of the new participants identified themselves by name as a specialty hospital (surgical, heart, orthopedic, or women's hospital). The annual number of facilities ceasing

participation in the Medicare program dropped from 93 in 1999 to 44 in 2004.

Eight hospitals dropping out of Medicare in 2004 were located in rural areas and 36 in urban areas. On average, the closing facilities operated at only 38 percent occupancy in their last year of operation and were located only 11 miles from the nearest other hospital covered by the acute inpatient PPS. Thus, closures likely did not have serious implications for beneficiaries' access to care in surrounding communities.

In addition to those leaving Medicare altogether, nearly a thousand rural hospitals converted to CAH status between 1998 and 2004. These hospitals are no longer paid under the acute inpatient and outpatient PPSs but are still available to provide care to beneficiaries. In 2004, 145 facilities became CAHs.

We examined a set of 11 specialized services and found that the share of hospitals offering all but one increased from 1998 to 2003 (Table 2A-1). The proportion offering trauma center services (level 1, 2, or 3) grew from



**TABLE  
2A-1**

**The share of hospitals offering most specialized services has grown**

Service	1998	2000	2003
Neonatal intensive care	19%	19%	21%
Burn care	3	3	5
Transplant services	6	9	8
Open heart surgery	20	22	22
Trauma center (level 1-3)	26	33	33
Cardiac catheterization	37	38	38
Angioplasty	24	26	28
Hemodialysis	N/A	22	29
Psychiatric services	50	49	46
Radiation therapy	26	28	27
MRI	50	55	58

Note: N/A (not available). Includes services provided directly by community hospitals.

Source: American Hospital Association annual survey of hospitals.

26 percent to 33 percent, and the proportion offering burn care increased from 3 percent to 5 percent, even though trauma center and burn care services are often considered unprofitable for hospitals. The largest change was in magnetic resonance imaging (MRI) services, which increased from 50 percent to 58 percent. The only specialized service to decline in proportion over this period was psychiatric services, falling from 50 percent to 46 percent of acute care hospitals.

The percentage of hospitals offering outpatient and emergency services has been fairly stable (Table 2A-2). A small increase in the share of hospitals providing outpatient care followed the introduction of the outpatient PPS in August 2000. The only notable change since 2001

**TABLE  
2A-2**

**The share of hospitals offering outpatient services has remained stable**

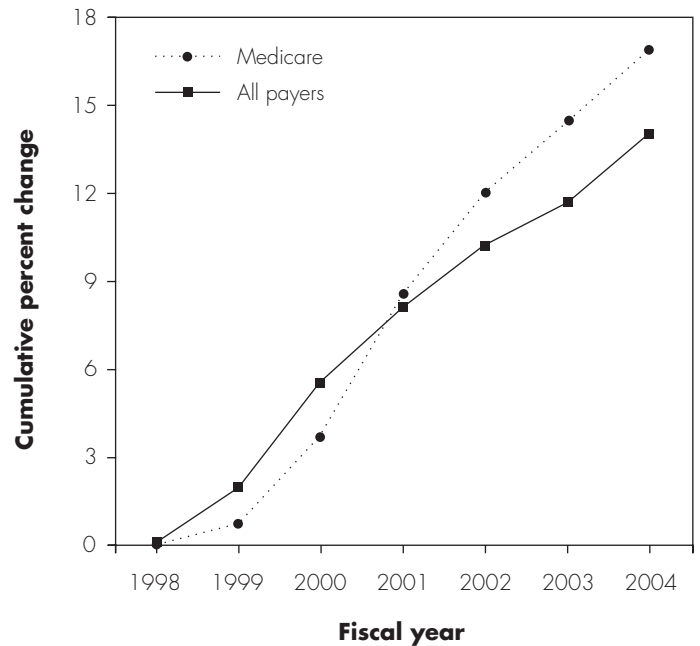
Service	1997	2001	2002	2003
Outpatient services	93%	94%	94%	94%
Outpatient surgery	81	84	86	86
Emergency services	92	93	93	92

Note: Includes services provided or arranged by short-term hospitals, excluding critical access hospitals.

Source: Provider of Services file from CMS.

**FIGURE  
2A-4**

**Hospital discharges continued to grow through 2004**



Note: Data are for hospitals covered by the Medicare acute inpatient prospective payment system.

Source: Medicare Cost Report file from CMS.

was a small increase in the percentage of hospitals offering outpatient surgery.

### Changes in volume of services

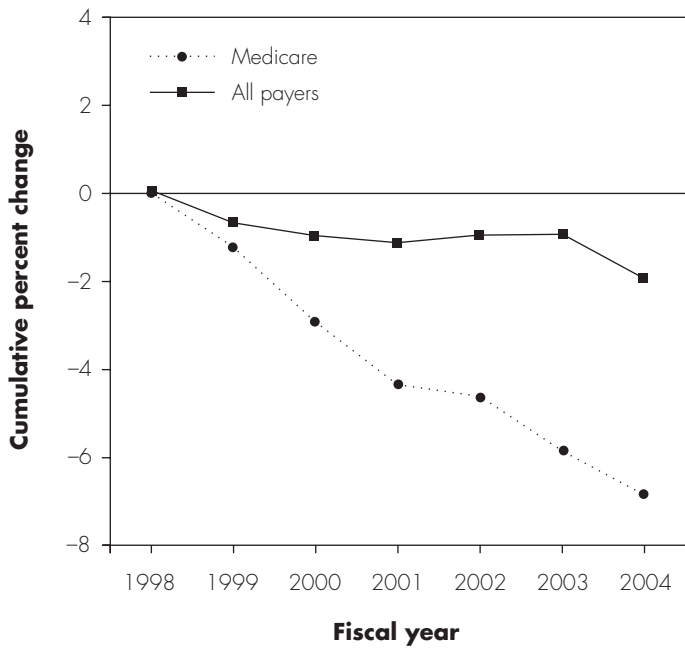
Both inpatient and outpatient volume have increased in recent years, with particularly strong growth on the outpatient side. We use number of discharges and average length of stay as indicators of inpatient volume, while we measure outpatient volume by number of services.

#### Inpatient volume

The number of discharges, whether calculated for Medicare or all payers (which includes Medicare), increased every year from 1998 through 2004 (Figure 2A-4). Medicare discharges grew more rapidly than fee-for-service enrollment from 1999 to 2002, and since then have roughly kept pace with enrollment growth. In 2001 and 2002, a substantial portion of the measured increase in fee-for-service discharges resulted from beneficiaries' decisions to leave Medicare+Choice plans and return to traditional Medicare. From 2000 to 2003, the average annual growth rates for Medicare discharges exceeded

**FIGURE  
2A-5**

**Hospital length of stay continued  
to decline through 2004**



Note: Data are for hospitals covered by the Medicare acute inpatient prospective payment system.

Source: Medicare Cost Report file from CMS.

those for all payers, but the two measures showed identical growth of 2.1 percent in 2004. Results from a quarterly hospital survey of approximately 580 hospitals indicate that both all payer and Medicare discharges continued to increase in the four quarters ending in March 2005.<sup>3</sup>

The average length of stay for Medicare patients fell more than 30 percent during the 1990s, with annual declines exceeding 5 percent from 1993 through 1996. The rate of decline then slowed to 1.1 percent in 2004 (Figure 2A-5). The drop in length of stay has been greater for Medicare than for all payers in every year since 1999, but in 2004 the gap in rate of decline narrowed to only a tenth of one percent.

The case-mix index (CMI) for Medicare inpatient services provided by acute care hospitals decreased slightly from 1998 through 2001, in part due to changes in hospital coding (MedPAC 2001). Since then, the CMI has registered increases of 1.0 percent in 2002, 0.6 percent in 2003, and 0.4 percent in 2004. In Medicare's per case payment system, case-mix increases result in proportionate increases in payment.

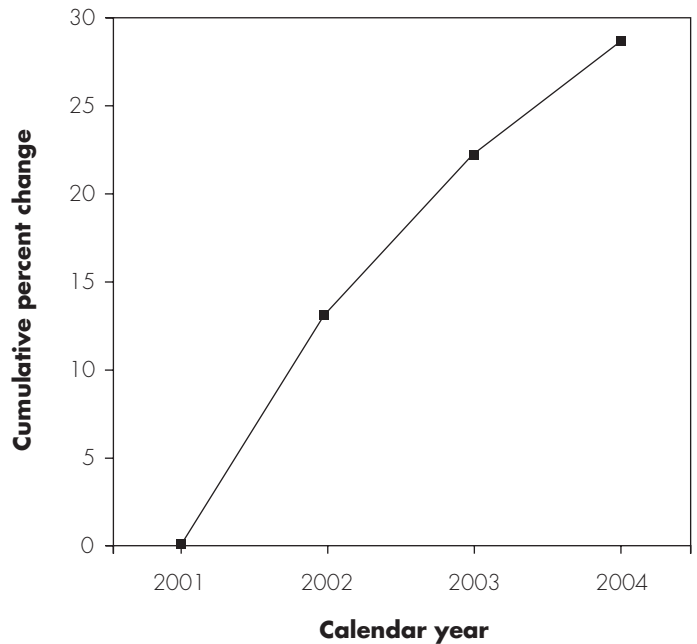
**Outpatient volume**

We measure the volume of outpatient care as the number of services provided because the outpatient PPS generally pays for individual services.<sup>4</sup> Volume has grown rapidly since 2001—the first full year of the PPS—but the rate of increase has slowed (Figure 2A-6). Analysis of claims data indicates that volume increased by 12.7 percent in 2002, 8.3 percent in 2003, and 5.3 percent in 2004. Our analysis excludes separately paid drugs and pass-through devices.<sup>5</sup>

Much of the volume growth in 2003 and 2004 resulted from increases in the number of services per beneficiary receiving services, rather than increases in the number of beneficiaries served. Volume per beneficiary accounted for 64 percent of the growth in 2003 and 73 percent of the growth in 2004. In both years, the remaining volume growth was consistent with enrollment growth in fee-for-service Medicare. Very little growth was due to a greater percentage of beneficiaries receiving any outpatient service.

**FIGURE  
2A-6**

**Annual growth in the number of  
Medicare outpatient services  
has slowed, but is still strong**



Note: Data are for hospitals covered by the Medicare outpatient prospective payment system.

Source: Hospital outpatient claims data from CMS.

**TABLE  
2A-3****Procedures contributing most to the increase in service-mix index, 2002-2004**

APC	Title	Relative weight	Percent change in volume
0339	Observation	6.7	205.9%
0108	Insertion/replacement/repair of cardioverter-defibrillator leads	452.7	77.5
0107	Insertion of cardioverter-defibrillator	337.1	74.6
0337	MRI/MRA without contrast material followed with contrast	9.2	35.5
0162	Level III cystourethroscopy and other genitourinary procedures	21.9	41.4
0229	Transcatheter placement of intravascular shunts	62.0	38.6
0032	Insertion of central venous/arterial catheter	11.5	69.1
0283	CT with contrast material	4.7	18.2
0612	High-level emergency visits	4.1	26.8
	Overall average	2.8	14.1

Note: APC (ambulatory payment classification), MRI (magnetic resonance imaging), MRA (magnetic resonance angiography), CT (computed tomography).

Source: MedPAC analysis of outpatient claims files from CMS.

While the rate of volume growth has been declining, the annual change in the service-mix index—the average of the relative weights of the services provided—has been fairly stable. The service-mix index increased by 1.3 percent in 2002, 1.7 percent in 2003, and 1.5 percent in 2004.

The services that contributed most to the increase in the service-mix index had high relative weights (which measure the resources necessary to furnish the service relative to the national average) and large increases in volume (Table 2A-3).

Growth in the volume of observation services was especially strong, increasing by 206 percent from 2002 to 2004. This rapid growth may be due to at least two factors. First, observation services became a separately payable service category in the outpatient PPS in 2002. Hospitals had to record the following information on each bill in order to receive separate payment for observation services: indication of an emergency department visit or clinic visit, specific diagnostic tests, and specific conditions. The volume of observation services may have increased as hospitals improved their understanding of which patients qualify for separately payable observation services and became more proficient at recording the appropriate information. Second, in 2003 CMS began allowing for admission to separately payable observation service after a physician office visit without an emergency department or clinic visit, provided the hospital codes the appropriate reason for admission.

## Changes in quality of care

Trends in the quality of care hospitals provide to Medicare beneficiaries show a mixed picture. Mortality rates have dropped and CMS's indicators of clinical effectiveness and appropriateness of care show improvement. But the rates of adverse events have generally increased. We discuss each of these indicators below.

Our measures of mortality and adverse events were developed by the Agency for Healthcare Research and Quality (AHRQ). To assess safety in hospitals, we examined in-hospital mortality and mortality 30 days after admission to the hospital, as well as the incidence of potentially preventable adverse events resulting from inpatient care. AHRQ chose these indicators after an extensive literature review, discussions with clinical and measurement experts, and empirical testing to explore the frequency and variation of the indicators and their potential biases.

We calculated the mortality and patient safety indicators from Medicare administrative data. We examined all Medicare inpatient claims with specified conditions or procedures using CMS's MedPAR file, and risk adjusted the data sets using an AHRQ methodology.

Both in-hospital and 30-day mortality declined from 1998 to 2004 for each of the eight conditions or procedures we measured. In-hospital mortality rates for coronary artery bypass graft, congestive heart failure, gastrointestinal hemorrhage, acute myocardial infarction, and pneumonia

**TABLE  
2A-4****Patient safety indicators show mixed changes from 1998 to 2004**

Indicator	Change in rate 1998 to 2004	Events 2004
Decubitus ulcer	+	157,000
Failure to rescue	-	67,100
Postoperative PE or DVT	+	42,100
Puncture/laceration	+	38,300
Infection due to care	+	32,400
Postoperative respiratory failure	+	10,900
Postoperative sepsis	+	8,600
Postoperative hemorrhage	-	7,400

Note: PE (pulmonary embolism), DVT (deep vein thrombosis). Measures are risk-adjusted rates per eligible discharge. A minus sign means rates decreased, indicating an improvement. A plus sign means rates increased.

Source: MedPAC analysis of CMS data using an Agency for Healthcare Research and Quality risk-adjustment method.

all fell by more than 20 percent. The 30-day rate is somewhat more difficult to interpret because it reflects care experienced in post-acute and outpatient settings along with the in-hospital experience.

Adverse events reflect another dimension of quality: patient safety. The rate of adverse events increased for 9 of the 13 measures analyzed from 1998 to 2004; we show results for the 8 most common measures (Table 2A-4). Although these events are rare, often with rates under 100 per 10,000 eligible discharges, collectively they affected approximately 386,000 cases in 2004. The most common adverse event is decubitus ulcer (bed sores), for which the rate increased over the period. The second most common is failure to rescue, which results in death. The rate for this measure decreased over the period, which is consistent with the decline in mortality rates.

Data from the Quality Improvement Organization (QIO) Program on the clinical effectiveness and appropriateness of care in hospitals show improvement for 22 of 25 measures from 2002 to 2004. Two indicators show deterioration, but one of those is inconclusive because of a change in the recommended therapy during that time period. Data limitations prevent comparison for one indicator.

Despite the widespread improvement in these indicators, many beneficiaries still are not receiving clinically indicated services. For example, prophylactic antibiotics are discontinued within 24 hours after surgery less than

half the time and patients with acute myocardial infarction receive thrombolytic agents within 30 minutes of hospital arrival less than a third of the time.

Although many measures show improvement, we are concerned about the trend for some measures, particularly the patient safety indicators. None of these measures in and of themselves provide compelling evidence that payments are, or are not, adequate. Instead, the gap between actual and recommended care reflected in the QIO measures for some hospitals and the increase in adverse events indicate that further efforts to improve quality are needed, including linking payment to quality performance. As we discussed in our March 2005 report, the Commission recommends that the Congress establish a quality incentive payment policy for hospitals that participate in Medicare (MedPAC 2005b).

### Hospitals' access to capital

Access to capital allows hospitals to maintain and modernize their facilities and capabilities for patient care. If hospitals are unable to access capital, it might in part reflect problems with the adequacy of Medicare payments, as Medicare represents about a third of hospital revenues. Payments from other payers, changes in uncompensated care, management actions concerning the hospital and related businesses, and investors' perception of the regulatory environment (including potential changes in federal and state hospital payment policies) also influence access to capital.

### Indicators suggest that access to capital is good

The trend in hospital construction spending suggests that access to capital for the overall sector is good. Hospital construction spending has increased steadily, doubling from 1998 to 2005 (Census Bureau 2005) (Figure 2A-7). Spending on medical office building construction has also increased strongly over this period. Medical office buildings are often located on hospital campuses and if the hospital financed them, rents from the buildings represent future revenue streams for the hospitals. In some cases, a third-party developer finances, builds, and manages the office building. In that case no capital is needed from the hospital, which frees up capital (or borrowing capacity) for acute care needs (Cain Brothers 2005).

The three major bond rating agencies report that the capital spending ratio—the ratio of capital spending to depreciation and amortization—was 1.3 or more in 2004, implying that hospitals may be going beyond merely

replacing worn-out plant and equipment (Moody's Investor Service 2005a, FitchRatings 2005, Standard & Poor's 2005a, b). Tax-exempt municipal bond issuances for hospitals continue to increase from the 2000 level of under \$15 billion to more than \$25 billion in 2004 and more than \$26 billion through October 2005 (Thomson Financial 2005).

Overall, bond ratings in this sector have improved from the previous year. In the Standard & Poor's (S&P) ratings, for example, more credits were upgraded than downgraded in the first half of 2005 for the first time since 1998. The report states: "Many not-for-profit providers are doing exceptionally well, with some matching or exceeding peak levels of performance last seen in the mid-to-late 1990s" (S&P 2005c). Similarly, FitchRatings reports that in the first half of 2005 the amount of upgrades (\$3.7 billion) far exceeded that of downgrades (\$317 million) (FitchRatings 2005).

This improvement occurs at the same time that hospitals have been making larger capital investments and borrowing more money. Few ratings have been lowered, implying that hospitals' operating results and the increase in the market value of investments have been sufficient to offset higher debt and preserve key measures the ratings industry uses, such as debt service coverage ratios and days cash on hand. Moody's reports: "Our analysis of 2004 audited performance shows an across-the-board improvement in all key financial ratios, including profitability, debt service coverage, liquidity, and leverage" (Moody's Investor Service 2005a).

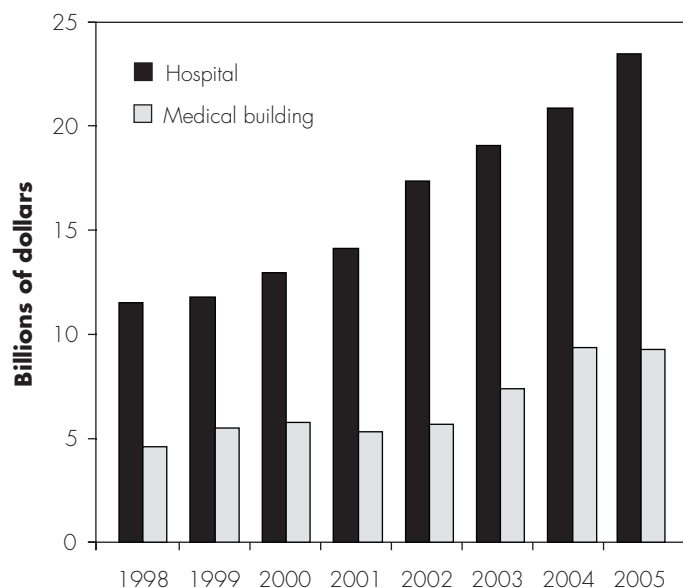
### Hospitals expect access to capital to remain good

Hospitals plan to continue to add capacity and increase capital spending, implying that they expect to have continued access to capital. A recent survey of nonprofit hospitals found the following (Banc of America 2005):

- Nearly 85 percent of hospitals plan to add capacity over the next two years. Some 60 percent said they intend to add inpatient capacity.
- The mean forecasted increase in 2005 capital spending over the previous year is 14 percent.
- Nearly 93 percent of hospitals reported that access to capital markets is either the same as or better than it was five years ago. Among rural hospitals, 94 percent reported access to be the same or better.

**FIGURE 2A-7**

### Spending on hospital construction has grown substantially



Note: Data for 1998 through 2004 are revised. 2005 data are estimated based on seasonally adjusted monthly data through July.

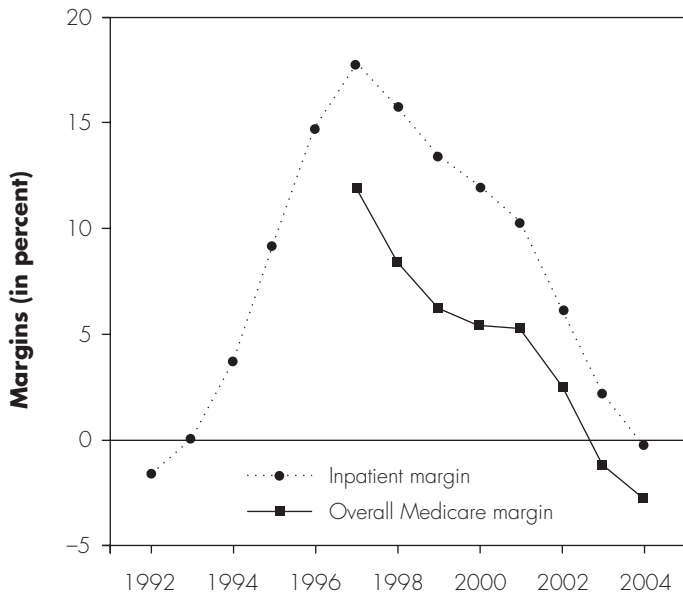
Source: Census Bureau. <http://census.gov/C30/private.xls>. Accessed September 2005.

Access to capital for nonprofit hospitals is important because these facilities continue to make up the majority of hospitals in Medicare and account for the majority of discharges. About 60 percent of hospitals are nonprofit, and they account for more than 70 percent of Medicare discharges. For-profit and government hospitals make up the remaining 40 percent of hospitals and 30 percent of discharges in roughly equal proportions.

Some believe this substantial increase in building and capacity could result in higher costs for the health care system. The Center for Studying Health System Change (HSC), for example, has reported an ongoing building boom and expansion of both inpatient and outpatient capacity in the 12 health care markets it tracks (HSC 2005). However, much of the added capacity is located in suburban areas and in particular specialties, raising the possibility that health care costs will increase without significantly improving access to services in lower income areas.

**FIGURE  
2A-8**

**Overall Medicare and Medicare inpatient margin**



Note: A margin is calculated as payments minus costs, divided by payments; margins are based on Medicare-allowable costs. Analysis excludes critical access hospitals. Medicare inpatient margin includes services covered by the acute inpatient prospective payment system. Overall Medicare margin covers acute inpatient, outpatient, hospital-based skilled nursing facility and home health, and inpatient psychiatric and rehabilitation services, plus graduate medical education.

Source: MedPAC analysis of Medicare Cost Report file from CMS.

**Improvements may be closing the credit gap**

Some in the industry are concerned about a divergence in access to capital between “haves” and “have-nots” and fear that hospitals with weaker credit will languish. However, one agency reports that hospitals throughout the ratings categories had increased access to the capital markets, another states that the disparity in operating performance has declined over the past four years, and a third reports that the credit gap is stabilizing (FitchRatings 2005, Moody’s Investor Service 2005a, S&P 2005c). Analysts also point out that hospitals that cannot put money into capital spending may merge or be acquired by a stronger hospital or health system. Although mergers might affect competition within market areas, they would not necessarily imply a decline in access to hospital care for Medicare beneficiaries.

Among the “have-nots” may be those hospitals that are not rated, because hospitals that do not expect a favorable rating might not approach the public tax-exempt market at all. However, those hospitals may have alternative sources

of financing—for example, loans from commercial lenders such as banks and private placement of tax-exempt bonds. Hospitals may also lease equipment as an alternative to using capital to purchase equipment outright.

**Is access to capital good for for-profit hospitals?**

For-profit hospital chains have the advantage of being able to access capital through the equity markets as well as the debt market. Stock prices for the seven largest for-profit chains have all increased over the past year, and the increase for the S&P Health Care Facilities Index is up 20 percent (as of September 2005). One analyst expects investor capital to flow to the sector. HCA, the largest for-profit hospital firm, announced a \$2.5 billion stock buyback in October 2005, to be partially financed by debt. This action demonstrates the firm’s continued ability to access capital in the debt markets.

Investors in this sector have some of the same concerns as those in the nonprofit sector about bad debt, charity care, and the ability or willingness of payers, particularly Medicaid, to continue to increase payments over the longer term. However, near term they cite Medicare and managed care reimbursement rate increases as revenue growth drivers and increased stability in labor and supply costs. Several rural for-profit chains expect to be making acquisitions, indicating that those chains have good access to capital.

**Payments and costs for 2006**

In assessing payment adequacy, the Commission considers the estimated relationship between Medicare payments and hospitals’ costs in the current year, fiscal year 2006. We assess the adequacy of Medicare payments for

**TABLE  
2A-5**

**Hospital Medicare margin, 2001-2004**

Measure	2001	2002	2003	2004
Overall Medicare	5.2%	2.2%	-1.4%	-3.0%
Inpatient	10.1	6.1	2.0	-0.3
Outpatient	-7.3	-8.6	-11.7	-10.9

Note: Data are for all hospitals covered by Medicare acute inpatient prospective payment system in 2004. A margin is calculated as payments minus costs, divided by payments; margins are based on Medicare-allowable costs. Overall Medicare margin covers acute inpatient, outpatient, hospital-based skilled nursing facility and home health, and inpatient psychiatric and rehabilitation services, plus graduate medical education.

Source: MedPAC analysis of Medicare Cost Report file from CMS.

**TABLE  
2A-6****Overall Medicare margin by hospital group, 2001–2004 and estimated 2006**

Hospital group	2001	2002	2003	2004	2006*
All hospitals	5.2%	2.2%	-1.4%	-3.0%	-2.2%
Urban	6.0	2.9	-0.9	-2.7	-2.0
Rural	-0.5	-2.9	-5.4	-4.6	-4.5
Major teaching	13.7	11.5	7.1	6.0	6.1
Other teaching	4.7	1.7	-1.8	-3.5	-2.4
Nonteaching	0.9	-2.5	-5.8	-7.5	-7.4

Note: Data are for all hospitals covered by the Medicare acute inpatient prospective payment system in 2004. A margin is calculated as payments minus costs, divided by payments; margins are based on Medicare-allowable costs. Overall Medicare margin covers acute inpatient, outpatient, hospital-based skilled nursing facility and home health, and inpatient psychiatric and rehabilitation services, plus graduate medical education.  
\* 2006 margins are projections that reflect the effects of policy changes (other than updates) to be implemented in 2007. This projection does not reflect the effects of the Deficit Reduction Act of 2005.

Source: MedPAC analysis of Medicare Cost Report file, MedPAR, and impact file from CMS.

the hospital as a whole, and thus our indicator of the relationship between payments and costs is the overall Medicare margin. This margin includes payments and costs for the six largest services that hospitals provide to Medicare patients, plus graduate medical education.<sup>6</sup> We take this approach because hospitals have large amounts of overhead that they allocate across service lines, and particularly between inpatient and outpatient care. Only by combining data for all major services can we estimate Medicare costs without the influence of how overhead costs are allocated.

This section begins by presenting the trend in the overall Medicare margin, including our projection of the margin in fiscal year 2006. Then we delineate the numerous policy changes and recent rate of cost growth that have combined to produce the expected 2006 margin. Next we discuss some of the factors affecting hospitals' cost growth. Finally, we explore the relationship between hospitals' costs and their Medicare financial performance, finding that hospitals with consistently negative Medicare margins have above-average costs and that hospitals with consistently high costs have a substantial negative effect on the industry-wide Medicare margin.

### Trend in Medicare margins

The overall Medicare margin has trended downward since 2000, falling to -3.0 percent in 2004 (Figure 2A-8). The decrease has been much larger for acute inpatient services than for outpatient services, primarily because inpatient costs per discharge have risen faster than outpatient costs

per service (Table 2A-5). In 2004, a drop in inpatient outlier payments as CMS responded to evidence of previous abuse of the outlier payment system also contributed to the larger decline in the inpatient margin.

We estimate that the overall Medicare margin in 2006—reflecting 2007 payment policies other than updates—will be -2.2 percent (Table 2A-6).<sup>7</sup> A number of policy changes are expected to affect payments for inpatient, outpatient, and hospital-based post-acute services between 2004 and 2007, with some increasing and some decreasing payments. The key factors explaining the modest rise in margin for 2006 are preliminary evidence that the rate of cost growth moderated in 2005 and an expectation that outlier payments will increase. Changes in outlier payments, along with other policy changes affecting hospital payments in recent years, and trends in hospitals' costs are discussed in more detail in the next two subsections.

Several provisions of the Deficit Reduction Act of 2005 affect hospital payments, including those for acute inpatient and outpatient services as well as hospital-based post-acute care. We estimate that in aggregate, these provisions will have a small positive effect on Medicare's payments to hospitals—not enough to change our projection of the 2006 margin. However, two provisions targeting rural hospitals—additional inpatient payments for Medicare-dependent hospitals and extension of outpatient hold-harmless payments for select rural

**TABLE  
2A-7**

**High growth in Medicare inpatient costs per discharge in 2002 moderated somewhat in 2003 and 2004**

Hospital group	2002	2003	2004
All hospitals	7.4%	5.7%	5.7%
Urban	7.3	5.9	5.7
Rural	7.4	4.3	5.8
Major teaching	4.9	5.7	6.0
Other teaching	7.5	6.4	5.1
Nonteaching	8.2	5.3	6.0

Note: The results are adjusted to account for changes in hospitals' case mix (complexity of services provided) as measured by diagnosis related groups. Analysis excludes critical access hospitals.

Source: MedPAC analysis of Medicare Cost Report and claims files from CMS.

facilities—will raise the overall Medicare margin for rural hospitals by 0.7 percentage points.

**Policy changes increased some payments and decreased others** A number of payment policy changes, including some that are scheduled to be implemented in 2007, affect our projection of the 2006 margin. These changes affect Medicare's payments for inpatient, outpatient, home health, SNF, and rehabilitation services.

Several policy changes increase projected payments. First, the acute inpatient PPS makes extra payments—known as outlier payments—for unusually high cost cases, and changes in the administration of this program are expected to increase payments for 2006. CMS sets a loss threshold prospectively each year designed to make outlier payments equal 5.1 percent of base payments. After implementing reforms in response to evidence that some hospitals abused Medicare's outlier payment system, CMS estimated that inpatient outlier payments fell from 7.8 percent of base payments in 2002 to 3.5 percent in 2004. Our payment projection for 2006 reflects an expectation that CMS will return the outlier share to 5.1 percent in 2006, thus increasing inpatient payments compared with those in 2004. We urge CMS to review its projection methods to ensure that the threshold needed to reach this level is implemented for 2007.

Until the middle of fiscal year 2003, the acute inpatient PPS used separate base rates for hospitals in large urban areas and those in other urban and rural areas. All

hospitals have since been paid using a single base rate. The single base rate increased total payments because it raised payments to hospitals in rural and small urban areas without reducing payments to those in large urban areas. Changes to the disproportionate share hospital payment adjustment enacted in the MMA increased inpatient payments to many rural hospitals starting in the middle of 2004.

In certain circumstances, hospitals can qualify for reclassification to a different labor market for purposes of the wage index used to adjust PPS payments for geographic differences in input prices. In addition to the regular process, eligible hospitals were given an opportunity for a one-time reclassification from mid-2004 to mid-2007. This reclassification increases payments for some hospitals, and because the program was not budget neutral, it raises aggregate hospital payments.

Changes in home health outlier policy raised payments beginning in calendar year 2005, and case-mix refinements will increase payments to hospital-based SNFs beginning in fiscal year 2006.

Partially offsetting these payment increases are several policies that decrease payments. Payments for acute inpatient services were reduced by several incremental changes to the indirect medical education adjustment paid to teaching hospitals and by expansion of the post-acute transfer policy in 2006.

Aggregate outpatient payments were expected to decline at the end of 2005 with the expiration of hold-harmless payments, which apply to rural sole community hospitals (SCHs) and other rural hospitals with 100 or fewer beds. The Deficit Reduction Act of 2005, however, will phase in this reduction in payments over three years. The hold-harmless provision pays hospitals the maximum of outpatient PPS payments or the payments they would have received under the system that preceded the outpatient PPS. In addition, outpatient payments were reduced in 2004 by the expiration of transitional corridor payments.

Outpatient payments were initially increased by extra payments for specified covered outpatient drugs (SCODs). The MMA gave these drugs special status and required that they be paid on the basis of average wholesale price in 2004 and 2005, which usually increased the payment rate. Moreover, these additional payments were not subject to budget neutrality, which raised aggregate payments in the outpatient PPS. In 2006, however, the basis of payment for SCODs will be changed to average sales price and



budget neutrality will be reimposed, which will decrease payments.

Elimination of home health payment add-ons in 2005 and SNF add-ons in 2006 reduced payments. Finally, phased implementation of the 75 percent rule, which more clearly defines the types of patients who can be treated in an inpatient rehabilitation setting, had the effect of reducing admissions to hospital-based rehabilitation units beginning in fiscal year 2004 (see Chapter 4D). The Deficit Reduction Act of 2005 will delay the phasing in of the 75 percent rule.

**Cost growth has been high for inpatient services and low for outpatient services** In addition to changes in payment policy, the other major factor affecting hospitals' overall Medicare margins is change in the growth rates of their unit costs. Medicare costs per discharge for acute inpatient services (adjusted for case-mix change) rose 7.4 percent in 2002, 5.7 percent in 2003, and 5.7 percent in 2004 (Table 2A-7). These rates of increase are all higher than the hospital market basket, which increased an average of 3.9 percent from 2002 through 2004.

In contrast to rapid inpatient cost growth, Medicare outpatient costs per service (adjusted for reported service-mix change) grew by only 0.7 percent in 2003 and 1.0 percent in 2004. At least three reasons could explain why outpatient costs grew more slowly than inpatient costs.

First, outpatient service volume for Medicare patients has increased substantially—over 5 percent in 2004—allowing hospitals to spread fixed costs over more services. Most of this growth is due to a 2.8 percent increase in the number of services patients received on each day they visited the hospital outpatient department. As patients receive more services per trip to the outpatient department, the cost per service should decline. For example, providing a patient with computed tomography (CT) scans of both the pelvis and the abdomen would be expected to cost less than providing that patient a CT of the pelvis during one visit and a CT of the abdomen during a second visit. Because the outpatient unit of analysis is the service and not the hospital visit, providing more units of service per visit reduces costs per unit of service.<sup>8</sup>

Second, hospitals' outpatient service mix for Medicare patients is gradually shifting toward more complex and highly paid services. MedPAC's and CMS's research indicate, however, that outpatient costs may not rise proportionately with the service-mix index (that is, as complexity increases, the average payment per service

rises faster than the average cost per service). Third, hospitals may face some pressure to contain outpatient costs due to competition with ambulatory surgery centers, physician offices, and freestanding imaging centers.

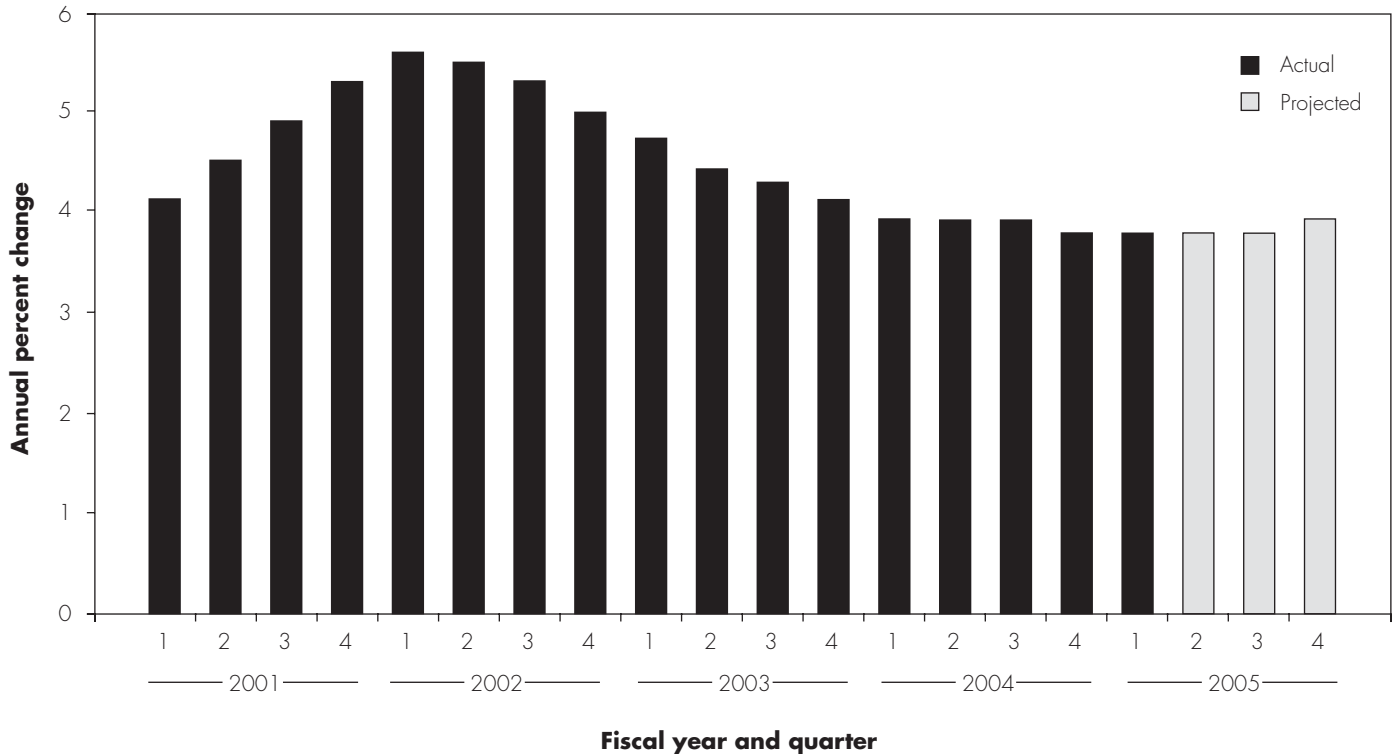
If we combine outpatient, inpatient, and hospital-based post-acute services to look at the overall rate of cost growth, we still see cost growth exceeding the increase in the hospital market basket index. Unfortunately, we do not have an all-service measure of costs for Medicare patients alone, but the increase in cost per unit of output across all hospital services and *across all payment sources* was 5.8 percent in 2002, 5.0 percent in 2003, and 4.5 percent in 2004.<sup>9</sup>

Looking forward to 2005, we examined three sources of cost-growth information. First, a survey of roughly 580 hospitals (sponsored by CMS and MedPAC) indicates that cost per adjusted discharge grew by approximately 4 percent in the year ending June 2005 compared with the same 12-month period a year earlier. Second, the Bureau of Labor Statistics has projected that hospital wages will rise by roughly 4 percent in 2005, continuing the growth rate observed in 2004 (Figure 2A-9, p. 60). Third, a review of financial reports from three large publicly traded hospital systems shows annualized cost growth averaging about 5 percent through the three quarters ending September 2005.

The text box on page 61 discusses changes in the composition of cost growth by cost component over the 2002 to 2004 period.

**Factors influencing cost growth** In recent years, hospitals have faced pressure to increase expenditures on registered nurses, malpractice insurance, and ancillary services. At the same time, hospitals have not faced significant financial pressure from private payers to constrain cost growth. As a result of these two factors, most hospitals' unit costs have risen rapidly.

In 2001 and 2002, nursing wages rose substantially, which can be attributed to a shortage of registered nurses and pressure on hospital administrators to increase nurse-to-patient staffing ratios (HSC 2003, Needleman et al. 2002). The increases in malpractice premiums were unusually large in 2002 and 2003, and hospitals have also experienced large increases recently in ancillary costs per discharge. Higher ancillary costs could partially reflect orders from physicians for more sophisticated diagnostic testing of patients. These three forces put pressure on hospitals to increase expenditures.

**FIGURE  
2A-9****The rate of increase in hospital employee compensation has fallen from its 2002 peak**

Note: Values are four-quarter averages ending in the quarter shown, including wages and benefits.

Source: Global Insights, third quarter 2005 baseline.

As we discussed in our March 2005 Report to Congress, hospital costs appear to be influenced by cycles in private sector profitability. During the first cycle (1986 through 1992), most insurers still paid hospitals on the basis of their charges, and they engaged in little price negotiation or selective contracting. With limited pressure from private payers, hospital margins on private-payer business increased rapidly (Figure 2A-10, p. 62). In the mid-1990s, HMOs and other private insurers began to negotiate much harder with hospitals, and the majority of insurers switched to paying for inpatient services on the basis of DRGs or flat per diems for broad types of services. The payment-to-cost ratio for private payers declined by 2.2 percentage points annually from 1993 through 1999. By 2000 hospitals had regained the upper hand in price negotiations due to hospital consolidations and consumer backlash against managed care.<sup>12</sup> Private payer payment rates rose rapidly and the payment-to-cost ratio for private payers rose by 11 percentage points from 2000 to 2004.

When we examine cost growth during these same three periods, we see that the rate of increase tended to follow trends in private-payer profitability. In the last four years (2001 to 2004), increases in private-payer profitability were accompanied by hospital costs rising at a rate faster than the market basket (Figure 2A-11, p. 62).

The private sector is not the only potential source of financial pressure on hospitals; Medicare payment rates can also influence cost growth (Gaskin and Hadley 1997). In recent years, Medicare inpatient payments have increased at a rate higher than the hospital market basket (reflecting updates equal to the market basket plus a small additional increase due to case-mix change), but payments have not risen fast enough to fully accommodate the rapid increase in hospital costs. By not fully accommodating hospital cost growth, Medicare can place some pressure on hospitals to constrain costs.

## Growth in many cost components has slowed

In 2003, hospitals experienced broad-based cost growth, with most components rising faster than the hospital market basket. In 2004, however, cost growth slowed for many of these cost components.<sup>10</sup> A substantial increase in adjusted discharge volume in 2004 of 3.1 percent may have contributed to the slowing in cost growth.

Cost growth slowed in 2004 for many components that experienced rapid growth in 2002 and 2003. The biggest change was for malpractice insurance, which grew only 2.2 percent per adjusted discharge in 2004, down from a 27 percent rate of increase in 2003. Growth in administrative and general costs (excluding malpractice expenses) also fell by more than half, from a 6.8 percent growth rate in 2003 to 3.2 percent in 2004. Cost growth for general routine costs for inpatient care fell from 5.7 percent in 2003 to 3.8 percent in 2004. Cost growth for special care units, which include intensive, cardiac, and burn care, slowed from 5.3 percent in 2003 to 3.1 percent in 2004.

Cost growth for ancillary services, which account for 32 percent of hospitals' costs, also slowed in 2004, but ancillary costs continued to outpace the hospital market basket. In 2004, total ancillary service costs grew 5.0 percent per adjusted discharge compared with 5.8 percent in 2003. The growth in ancillary costs continued to vary by department. For example, costs related to the surgical suite—operating room, anesthesia, and recovery room—increased 5.3 percent per adjusted discharge in 2004, down from 5.9 percent in 2003. Medical supply costs, which account for 5 percent of hospital expenses, grew at 8.2 percent in 2004 compared with 10.6 percent in 2003. The continued rapid growth in medical supply costs may be fueled by growth in the number of devices used per patient and greater use of high cost devices that recently came onto the market, such as drug-eluting

stents and implantable cardiac defibrillators. Spending on pharmaceuticals increased 5.7 percent in 2004, the same as in 2003.

Some ancillary departments experienced even more rapid growth in spending. Electrocardiology (EKG) (13 percent) and electroencephalography (15 percent) were the fastest growing departments, with both growing more rapidly in 2004 than in 2003. This increase may reflect more frequent use of these services as intermediate products in delivering inpatient care, in addition to increases in their unit costs (e.g., EKG costs per exam).

Salaries and benefits paid by hospitals account for 52 percent of expenses and grew by 4.0 percent per adjusted discharge in 2004, down from a 5.2 percent increase in 2003. This growth rate was close to the average for all services and also close to the overall rise in the hospital market basket index. Benefit costs alone, however, continue to increase much faster than other hospital costs, rising by 8.8 percent in 2004. Growth in salary costs alone decreased from 4.3 percent in 2003 to 3.1 percent in 2004. The lower increase may partially reflect an easing of nursing and other employee shortages experienced by hospitals at the beginning of the decade.

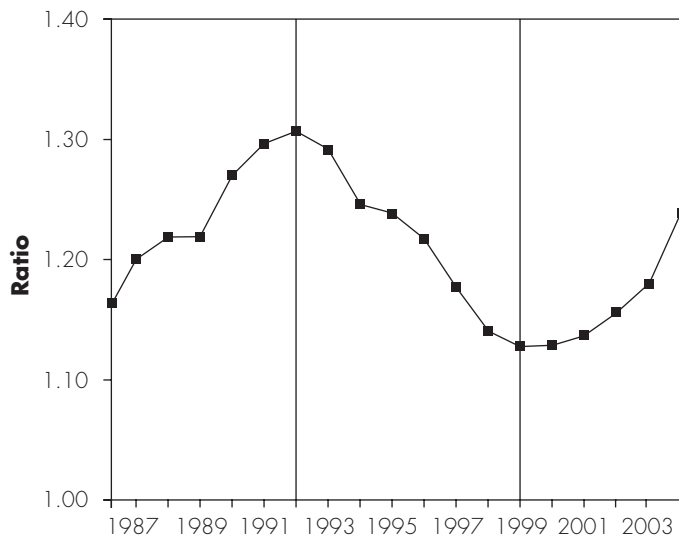
Capital costs account for about 8 percent of hospital expenses and grew 0.7 percent per adjusted discharge in 2004, roughly the same rate as the capital market basket.<sup>11</sup> Capital costs tend to change more slowly than other components because of the long time horizon for depreciation of plant and equipment (typically 40 years for plant). The full acquisition costs of capital assets are spread over many years and are not reflected immediately in hospital capital expenses. Lower growth in 2004 is also likely due to hospitals taking advantage of historically low interest rates to finance debt. ■

**Hospitals' financial performance and cost growth vary** Hospitals' Medicare margins and their rates of cost growth both vary considerably. In this section, we explore the characteristics of hospitals with consistently negative Medicare margins, showing that their poor

financial performance is linked to factors over which their managements have considerable influence. Then we show that hospitals with consistently high costs pull down the aggregate Medicare margin for the industry.

**FIGURE 2A-10**

**Three distinct periods in the private payer payment-to-cost ratio**



Note: Data include all inpatient, outpatient, and post-acute hospital services.

Source: American Hospital Association annual survey of hospitals.

**Hospitals with consistently negative Medicare margins have high costs**

Hospital financial performance can vary substantially from one year to the next due to a combination of factors affecting hospitals' costs and payment rates. These factors include the types of services offered, changes in the mix and volume of patients seen, and payment policy changes. Because of this variation, a single year margin may not best represent an individual hospital's performance. In this analysis, therefore, we compare the performance of hospitals that have had consistently good or poor financial performance under Medicare over a four-year period, 2001 to 2004. The analysis focuses on the role various cost factors play in explaining provider financial performance.<sup>13</sup>

Between 2001 and 2004, about 34 percent of hospitals had consistently negative overall Medicare margins, while 28 percent had consistently positive margins (Table 2A-8). A small subset of hospitals—less than 3 percent—had both negative Medicare and negative total (all payers) margins (not shown in table).

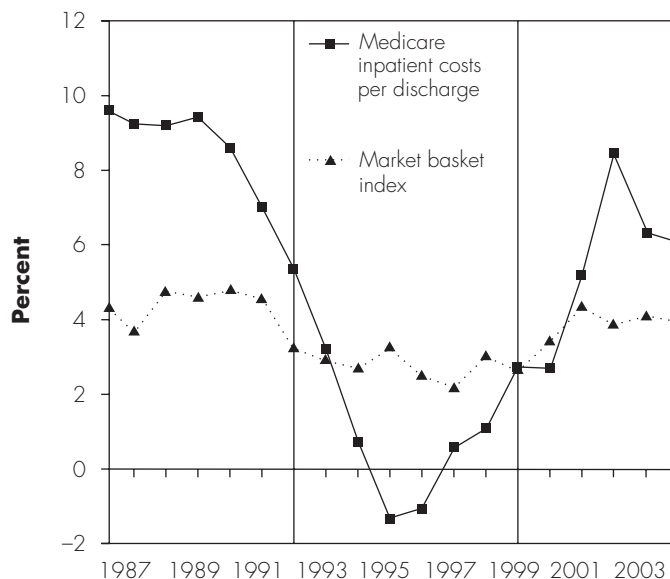
Hospitals with consistently negative Medicare margins tended to show poorer performance on growth in cost per case as well as two key cost-influencing factors—occupancy rate and length of stay—compared with

hospitals that consistently perform well under Medicare. The negative margin group had lower occupancy, which should translate into higher unit costs because fixed costs (such as plant and equipment) are spread over fewer units of output. In addition, inpatient length of stay for both Medicare and all payers fell less for the negative margin group compared with the positive margin group over the past decade. The bigger decline in length of stay for the positive margin group should result in slower growth in costs per discharge, as the drop in days of care reduces variable costs like nursing hours and meals.

In addition to examining specific factors that affect costliness, we also compared the costs of hospitals with consistently negative and positive Medicare margins directly, using a measure of Medicare costs per discharge that standardizes for case mix, input prices, and other factors thought to be beyond hospitals' control.<sup>14</sup> Hospitals with negative margins were found to have above-average costs, while those with positive margins had below-average costs. Specifically, the median cost per discharge of the negative margin group was 7 percent above the national median and 19 percent above the median of the positive margin group.

**FIGURE 2A-11**

**Costs have risen faster than the market basket in recent years**



Source: MedPAC analysis of Medicare Cost Report file from CMS and CMS's rules for the acute inpatient prospective payment system.

**TABLE  
2A-8****Hospitals with consistently negative overall Medicare margins tend to have above-average costs**

Hospital characteristic	Negative Medicare margin hospitals	Positive Medicare margin hospitals	All hospitals
Hospitals in group	986	828	2,923
Share of total	34%	28%	100%
Occupancy rate	52	58	55
Annual change in length of stay (1994–2004)			
Medicare	-2.4	-2.9	-2.6
All payers	-1.2	-1.5	-1.3
Medicare costs per discharge*	\$5,428	\$4,578	\$5,053
Annual change in Medicare costs per discharge (2001–2004)	6.6%	5.6%	6.4%

Note: Values shown are medians for all hospitals with positive or negative margins for four consecutive years, 2001–2004. Data are for 2004 unless otherwise noted.

\* Standardized for differences in case mix and severity of illness (using all patient refined diagnosis related groups), outlier cases, wage index, teaching intensity, and disproportionate share of low-income patients.

Source: MedPAC analysis of impact file, MedPAR, and Medicare Cost Report file from CMS.

In addition to higher costs in the absolute, hospitals with consistently negative Medicare margins had larger average annual increases in costs per case—1 percentage point per year more than hospitals with consistently positive Medicare margins—causing the difference in performance between the two groups to grow.

However, the poorer performance of these negative margin hospitals under Medicare has not translated into poorer financial performance when considering all payers and all sources of revenue. Total (all payers) margins for the negative Medicare margin group in 2004 were a full percentage point higher than for the positive margin hospitals. The hospitals with consistently negative Medicare margins may therefore be under less financial pressure to reduce their costs than their Medicare performance alone would suggest.

We also compared hospitals with consistently negative or positive margins with their competitors, defined as hospitals covered by Medicare’s acute inpatient PPS that are located within 15 miles. The majority of the hospitals studied had such competitors. The typical positive margin hospital had three PPS competitors, the closest of which was about four miles away, while the typical negative margin hospital had one PPS competitor about nine miles away. Many negative margin hospitals are located in rural areas, and also have critical access hospitals (which are not included in the analysis) within their service areas. If we examine the small group with both negative Medicare margins and negative total margins—which account for less than 3 percent of all hospitals—we find that the typical hospital in this group had three competitors, with the closest about six miles away.

Facilities with negative Medicare and total margins had even lower occupancy rates than those with negative Medicare margins alone (44 percent compared with 52 percent) (Table 2A-9). Standardized costs were lower for this group, however, than for those with only negative Medicare margins (\$5,276 compared with \$5,428). The lower standardized costs may partially be the result of lower cost growth for this group (a median of 5.3 percent

**TABLE  
2A-9****Hospitals with consistently negative Medicare margins have poorer competitive positions in their markets**

Group of hospitals	Occupancy rate 2004	Cost per discharge* 2004
Hospitals with consistently negative Medicare and total margins	44%	\$5,276
Competitors within 15 miles	60	5,088
Hospitals with consistently negative Medicare margins only	52	5,428
Competitors within 15 miles	59	5,220
Hospitals with consistently positive Medicare margins	58	4,578
Competitors within 15 miles	60	4,908

Note: Hospitals with mixed performance are excluded from this table. Values shown are medians for all hospitals with consistently positive or negative margins for four consecutive years, 2001–2004.

\* Costs per discharge are Medicare costs, standardized for differences in case mix and severity of illness (using all patient refined diagnosis related groups), outlier cases, wage index, teaching intensity, and disproportionate share of low-income patients.

Source: MedPAC analysis of impact file, MedPAR, and Medicare Cost Report file from CMS.

per year compared with 6.4 percent for all hospitals), which suggests that these hospitals may be responding to the added financial pressure of having both negative total and negative Medicare margins.

Both negative margin groups have considerably lower occupancy and higher costs than neighboring facilities, leaving them in a poor competitive position in their market. The groups' standardized costs per case, for instance, are about 4 percent higher relative to their competition. The positive margin hospitals, on the other hand, had close to the same occupancy rates as their competitors, and their costs were about 7 percent lower.

Financial performance under Medicare is influenced by both costs and payments. Higher costs and cost growth are major contributors to differences in financial performance. Of course, various features of the payment system, such as the indirect medical education and Medicare-dependent hospital adjustments, also play a role, but our analysis implies that hospitals have substantial influence over their own financial performance under Medicare.

We also conclude that hospitals with consistently negative Medicare margins generally have a poor competitive stance in their market areas. They are not attracting as many patients, which contributes to higher unit costs and ultimately to lower Medicare margins. However, a negative Medicare margin usually does not mean a negative total margin; in fact, Medicare margins have little relation to total margins (MedPAC 2004). The small subset of hospitals that has both a negative Medicare margin and a negative total margin exhibits the same market problems as those with only negative Medicare margins, but to a greater extent. In the end, they are even less competitive in their market areas.

**Hospitals with higher occupancy rates have higher margins** Hospital occupancy rates appear to be related to hospitals' financial performance, under Medicare and in total. In general, the higher the occupancy rate, the higher the margin. For example, in 2004 the aggregate overall Medicare margin for hospitals in the bottom quartile of occupancy rate was -7.0 percent compared with 0.0 percent for hospitals in the top quartile. Similarly, the aggregate total (all payers) margin stood at 2.4 percent for hospitals in the bottom quartile of occupancy compared with 4.8 percent for hospitals in the top quartile. This relationship between occupancy and financial performance, however, is only seen clearly for urban hospitals. The picture is mixed for rural hospitals, possibly

because of the greater role that outpatient and post-acute care services play in the operation of rural facilities.

Hospitals' occupancy rates have edged upward in recent years, growing from 55 percent in 1997 to 62 percent in 2004. Occupancy in aggregate is higher for urban hospitals (64 percent) than for rural hospitals (48 percent), and also has grown 7 percentage points for urban hospitals compared with 4 percentage points for rural hospitals.<sup>15</sup>

#### **Hospitals with high costs drive down the average margin**

Hospitals exhibit a wide range of costs per discharge, even after controlling for factors that are largely outside the control of hospital managements. In 2004, for example, the 90th percentile value of standardized Medicare costs per discharge was 46 percent higher than the 10th percentile value.<sup>16</sup> In this analysis, we explore the effect of the level of hospitals' costs on financial performance by comparing the overall Medicare margins of hospitals with consistently high and low standardized costs per discharge.

We defined a hospital as high cost in two ways—by its falling into either the highest quarter or the highest third of all hospitals on our standardized cost per discharge measure in both 2002 and 2004. Focusing on those with high costs in two different years guards against the possibility that either a data problem or some special circumstance (such as being hit by a hurricane) explains the hospital's high costs. These kinds of problems would be unlikely to occur twice, two years apart.

Only 14 percent of hospitals remained in the high-cost quarter of all hospitals in both 2002 and 2004 (Table 2A-10). A substantial share of the high-cost hospitals in 2002—about 40 percent—managed to turn their performance around by 2004. Similarly, 21 percent of hospitals remained in the high-cost third of hospitals in both years. But those whose costs per discharge were at the high end of the distribution in 2002 and in 2004—the consistently high-cost hospitals—had above-average cost increases in the intervening years, such that their ranking in the industry generally worsened.

We found that rural and nonteaching hospitals were more likely than their urban and teaching counterparts to be among the consistently high-cost hospitals. Rural hospitals constitute 32 percent of all hospitals but 39 percent of those in the high-cost quarter in both 2002 and 2004. However, much of this difference is driven by a single subgroup—sole community hospitals—which make up about a third of rural facilities. For acute inpatient services, these hospitals are paid the greater of the prospective

payment rate or their own costs in a base year trended forward. The higher payment that many sole community hospitals have consequently received may have supported higher costs relative to other similar-sized rural facilities.

Hospitals with consistently high costs have a substantial impact on the industry's financial performance under Medicare. Hospitals in the high-cost quarter in 2002 and 2004 had an aggregate overall Medicare margin of -16.6 percent, substantially below the industry-wide figure of -3.0 percent. Those in the low-cost quarter in both years, in contrast, had an aggregate margin of 12.3 percent. As an illustration of the effect of high-cost hospitals, if the 14 percent of hospitals in the high-cost quarter in 2002 and 2004 were omitted from our 2006 forecast of the Medicare margin, the estimate would be more than a percentage point higher, -0.9 percent instead of -2.2 percent. And if the roughly one-fifth of hospitals in the high-cost third in 2002 and 2004 were omitted, the estimate would have been more than 2 percentage points higher, at -0.1 percent. The consistently high-cost hospitals play a major role in the low industry-wide margin, even though they make up less than half of the facilities with negative margins.

## How should Medicare payments change in 2007?

When we consider whether Medicare's aggregate payments are adequate, we look at the six largest hospital service lines—inpatient, outpatient, rehabilitation, home health, psychiatric, and SNF. In this section, we make update recommendations for services covered by Medicare's inpatient operating PPS and for those covered by the outpatient PPS.<sup>17</sup>

For the inpatient PPS, the update in current law for fiscal year 2007 is the forecasted increase in the hospital market basket index. For 2005 to 2007, current law requires CMS to reduce inpatient PPS payments by 0.4 percent for hospitals that fail to provide data to CMS on specified quality indicators. For the outpatient PPS, current law provides an update equal to the forecasted increase in the market basket for calendar year 2007.

### Changes in input prices

CMS measures price inflation for the goods and services that hospitals use in producing inpatient and outpatient services with the hospital operating market basket index. CMS's latest forecast of this index for fiscal year 2007 is

**TABLE  
2A-10**

## Consistently high-cost hospitals have Medicare margins that are far below average

Cost ranking in both 2002 and 2004	Percent of hospitals	2002 to 2004 annual cost growth	2004 overall Medicare margin
High quarter	14%	6.6%	-16.6%
High third	21	6.7	-15.2
All hospitals	100	6.1	-3.0
Low third	21	5.5	9.7
Low quarter	15	5.7	12.3

Note: Values shown are aggregates for all hospitals that were in the highest or lowest quarter or third of all hospitals, ranked by standardized Medicare costs per discharge, in both 2002 and 2004. Costs were standardized for differences in case mix and patient severity (using all patient refined diagnosis related groups), outlier cases, wage index, teaching intensity, and disproportionate share of low-income patients.

Source: MedPAC analysis of impact file, MedPAR, and Medicare cost report file from CMS.

3.4 percent, but it will update the forecast twice before using it to update payments in 2007.

## Technology

Technological advances may lower or raise the costs hospitals incur in providing care to Medicare beneficiaries. Hospitals facing fixed payment rates have a strong financial incentive to adopt new technologies that lower costs while maintaining or improving the quality of care. Adopting these technologies should improve productivity. By the same reasoning, providers have a financial disincentive to adopt new technologies that increase costs even if they improve quality—although competitive pressures may lessen that disincentive, as would a quality pay-for-performance program. Mechanisms in the inpatient and outpatient payment systems for making additional payments for new technologies also offset the disincentive.

### Inpatient technology payments

Since fiscal year 2003, new technology pass-through payments have supplemented the base DRG payment rates in the acute inpatient PPS. In 2003 and 2004, these payments were made on a budget-neutral basis, but the MMA removed the budget-neutrality constraint starting in 2005. The revised mechanism provides a direct funding source for cost-increasing technologies—one

that improves hospitals' accountability by providing extra funds only when a new technology is in place and actually used in treating patients. Consequently, we do not include a technology allowance in the update for the acute inpatient PPS.

While new technology add-on payments address new technologies in patient care, they do not provide funding for investment in information technology (IT). Many hospitals are already investing in clinical IT. Moody's estimates that investments in clinical and other IT account for from 15 percent to 20 percent of hospitals' capital expenditures, and the share is growing (Moody's Investor Service 2005b). Moreover, clinical information systems are the top-ranked capital spending priority for nonprofit hospitals, according to a recent survey (Banc of America 2005).

Information technology has the potential to improve quality of patient care, and we have recommended that the Congress direct CMS to include measures of functions supported by the use of IT in pay-for-performance measures (MedPAC 2005b). Pay for performance will help give providers the business case to adopt IT and reap rewards from payments for the quality improvements that flow from better clinical information. Paying through a pay-for-performance program rather than an update will also more precisely target any additional payments to hospitals that install quality-improving IT systems.

### **Outpatient technology payments**

The Commission does not adjust the outpatient payment update for cost-increasing, quality-enhancing new technology because the outpatient PPS has two mechanisms to account for new technology directly.

One mechanism is new technology ambulatory payment classifications, which cover completely new services for which CMS does not yet have adequate data to establish payment rates. CMS places such services in new technology APCs on the basis of their expected costs. The services covered under new technology APCs generate payments for each service rendered, resulting in an increase in total Medicare expenditures for outpatient care. Consequently, the costs of new technology APCs are reflected in the payment system and do not need to be factored into the update. New technology APCs accounted for about 1.1 percent of outpatient PPS spending—about \$260 million—in 2004.

The second mechanism is pass-through payments for new inputs to a service, such as drugs or medical devices. Pass-through payments are added to the base APC payment for the applicable service; these payments are budget neutral.

### **Productivity**

One of the Commission's key policy principles is that Medicare's payment systems should encourage efficiency. Hospitals and other health care providers should be able to reduce the quantity of inputs required to produce a unit of service by at least a modest amount each year while maintaining service quality.

The Commission includes a productivity improvement target in its framework for updating payments to provide a mechanism for encouraging efficiency. Payment rates for health care providers should be set so that the federal government benefits from providers' productivity gains, just as private purchasers of goods in competitive markets benefit from the productivity gains of their suppliers. Market competition constantly demands improved productivity and reduced costs from other firms; as a prudent purchaser Medicare should also require some productivity gains each year from its providers.

The Commission's approach links the target for efficiency improvement to the gains achieved by firms and workers who pay the taxes and premiums that fund Medicare benefits. Our target is set equal to the Bureau of Labor Statistics' estimate of the 10-year average growth rate of multifactor productivity in the general economy, which is currently 0.9 percent. When included in our update recommendation, the 0.9 percent is a policy objective, not an empirical estimate. To the extent that hospitals fail to achieve our productivity target in a given year, the causes and consequences are considered in our analysis of payment adequacy in following years.

### **Pay for performance**

The Commission has concluded that Medicare should take the lead in developing incentives for high-quality care. To that end, our March 2005 report recommended that the Congress establish a quality incentive payment policy under Medicare for hospitals (MedPAC 2005b). A number of accepted quality measures are available—including process measures, measures of safe practices, and mortality measures. These measures would enable CMS to implement the program fairly quickly and then to enhance and expand the set of measures in future years.



Pay for performance would result in a larger share of payments going to hospitals that achieve high quality scores or improve their quality substantially from one year to the next. We suggest that the pool of money to support hospital pay for performance be set initially at 1 to 2 percent of aggregate payments. Medicare would be providing many high-quality hospitals with a net increase in payment higher than the update alone, providing a strong incentive to improve quality. Our recommended update and the pay-for-performance program would replace the provision in current law that reduces a hospital's payments by 0.4 percent if it fails to report required quality data to CMS.

**Update recommendations**

This section presents our update recommendation covering acute inpatient and outpatient payments, along with a summary of our rationale and the implications of the recommendation.

**RECOMMENDATION 2A**

**The Congress should increase payment rates for the acute inpatient and outpatient prospective payment systems in 2007 by the projected increase in the hospital market basket index less half of the Commission's expectation for productivity growth.**

**RATIONALE 2A**

Our assessments of beneficiaries' access to care, service volume growth, and access to capital are positive, while the results on quality are mixed. However, hospitals' average margins under Medicare have fallen. A key factor in the decline in margins through 2004 was unusually rapid cost growth. To some extent, this growth reflects unusual cost pressures, but the lack of financial pressure to constrain costs also contributed. In addition, hospitals with consistently high costs helped pull down the industry-wide margin—those hospitals may not be efficient providers. Balancing these considerations, we conclude that an update of market basket minus half of expected productivity growth (or 0.45 percent) is appropriate for both inpatient and outpatient services. The inpatient update would apply to fiscal year 2007 and the outpatient update to calendar year 2007.

**Spending**

- This recommendation would decrease federal program spending relative to current law. Inpatient payments would decline by \$200 million to \$600 million in the first year and by \$1 billion to \$5 billion over five years. Outpatient payments would fall by \$50 million to \$200 million the first year and by less than \$1 billion over five years.

**Beneficiary and provider**

- This recommendation should have no impact on beneficiary access to care and is not expected to affect providers' willingness and ability to provide care to Medicare beneficiaries.

**Outpatient hold-harmless payments**

The discrepancy in financial performance between urban and rural hospitals in hospital outpatient departments has been fairly small since the outpatient PPS began in August 2000. In general, rural hospitals have performed a little worse than urban hospitals. The gap between urban and rural providers has been reduced by "hold-harmless" payments.

Hold-harmless payments target sole community hospitals located in rural areas and other rural hospitals with fewer than 100 beds (small, rural non-SCHs). To determine a hospital's hold-harmless payments, CMS first estimates for a given year the amount it would have paid a hospital under the payment system that preceded the outpatient PPS. This amount is the product of the hospital's costs incurred from furnishing outpatient services and a payment-to-cost ratio from 1996. Qualifying hospitals receive the greater of the estimated payments from the previous system or the actual outpatient PPS payments.

We projected that in the absence of hold-harmless payments, the financial performance of rural hospitals would decline substantially relative to urban hospitals (MedPAC 2005b). The problem that had been facing rural hospitals is that hold-harmless payments expired at the end of 2005. Among rural beneficiaries, this could adversely affect access to services furnished in hospital outpatient departments.

However, CMS and the Congress have both developed policy changes that will strongly mitigate the effect that

## Estimating the relation between outpatient cost per service and volume of services

We used regression analysis to estimate the relationship between hospital cost per service under the outpatient prospective payment system (PPS) and total volume of outpatient services. In theory, cost per service should decline as the number of services increases.

The unit of observation in our regression is the hospital. The dependent variable is hospitals' costs per outpatient PPS service, adjusted for geographic differences in the cost of inputs.<sup>18</sup> We measured input costs with the hospital wage indexes that CMS uses to adjust outpatient PPS payments for geographic differences. The explanatory variables include volume of outpatient services furnished to all patients (not just Medicare beneficiaries),<sup>19</sup> a service-mix index that measures the complexity of services provided by hospitals, and a number of 0/1 variables that reflect hospital characteristics that could affect costs in the outpatient department.<sup>20</sup> We used natural logarithms of the dependent variable, volume of outpatient services, and the service-mix index. All data in our analysis are from 2003 claims, Cost Report, or Provider of Services files.<sup>21</sup>

Graphical analysis shows that the relation between cost per outpatient service and volume of services is nonlinear. Cost per outpatient service decreases at a faster rate at low-volume levels than at high-volume levels. Natural log transformations often create a linear relationship when the relation between untransformed variables is nonlinear. We examined natural log versions of cost per service and volume and found the relation is still nonlinear. In response, we used a spline function on the log-transformed variables. The spline function groups hospitals by volume of services and estimates a distinct relation between cost per service and volume for each group. We chose the spline function because it fits the data reasonably well and is easier to apply as a payment policy tool than alternatives such as a quadratic function. Our spline function collects hospitals into these three groups:

- fewer than 50,000 outpatient services;
- at least 50,000 services but fewer than 150,000 services; and
- at least 150,000 services.

**TABLE 2A-11** Cost per outpatient service declines as outpatient volume increases

Variable	Coefficient	t-statistic
Constant	6.026	29.57
Volume (<50k)	-.162*	-8.23
Volume (50k-150k)	-.106*	-6.54
Volume (>150k)	-.003	-0.28
Service mix	.835*	54.75
OP Surgery in hospital	.024	1.56
Government hospital	.002	0.18
For-profit hospital	-.082*	-5.37
Residents per discharge equivalent		
Second quintile	.025	0.98
Third quintile	.125*	4.84
Fourth quintile	.078*	3.68
Fifth quintile	.056*	2.37
Occupancy rate		
Second quintile	-.019	-1.24
Third quintile	-.003	-0.20
Fourth quintile	-.014	-0.83
Fifth quintile	-.006	-0.33
Percent of OP services in ER		
Second quintile	.019	1.38
Third quintile	.009	0.59
Fourth quintile	.007	0.38
Fifth quintile	-.046*	-2.24
Market share		
Second quintile	-.008	-0.57
Third quintile	.011	0.77
Fourth quintile	.016	1.10
Fifth quintile	.010	0.63
Percent of inpatient days that are Medicaid		
Second quintile	.002	0.16
Third quintile	-.012	-0.93
Fourth quintile	-.006	-0.45
Fifth quintile	-.010	-0.64

Note: OP (outpatient), ER (emergency room). R-squared=.68. N=3,013. The dependent variable is costs per service under the outpatient prospective payment system, adjusted for geographic differences in cost of inputs. The dependent variable, volume, and service mix are natural logarithms. All other variables are 0/1 dummy variables. Discharge equivalent = Discharges + (outpatient charges) / ((inpatient charges)/discharges)). For residents per discharge equivalent, occupancy rate, percent of outpatient services that are ER services, market share, and percent of inpatient days that are Medicaid beneficiaries, we divided hospitals into quintiles. For each of these variables, we used the first quintile as the point of comparison. \*Indicates significant at 5 percent level.

Source: MedPAC analysis of data from 2002 and 2003 outpatient claims, 2003 Medicare Cost Report file, and 2003 Provider of Services file from CMS.

## Estimating the relation between outpatient cost per service and volume of services

*(continued from previous page)*

For each group, we estimated the relation between volume and cost per service.

Results from our regression analysis verify our graphical analysis: Cost per service declines at a faster rate among low-volume hospitals than among high-volume hospitals (Table 2A-11). Among hospitals that provide fewer than 50,000 services, a 10 percent

increase in volume results in a 1.6 percent decrease in cost per service. Among hospitals that provide at least 50,000 services but fewer than 150,000 services, a 10 percent increase in volume results in a 1.1 percent decrease in cost per service. Finally, among hospitals that provide at least 150,000 services, the decrease in cost per service caused by increases in volume is not statistically different from zero. ■

losing hold-harmless payments has on the financial performance of rural hospitals under the outpatient PPS. In response to a mandate in the MMA, CMS developed a policy that will increase by 7.1 percent the payment for each outpatient PPS service furnished by rural SCHs, excluding separately paid drugs (CMS 2005). CMS began using this policy at the start of 2006. In addition, the Deficit Reduction Act of 2005 provides for rural hospitals (other than SCHs) that have 100 or fewer beds to receive nearly full hold-harmless payments from 2006 through 2008. These hospitals will receive 95 percent of their full hold-harmless payments in 2006, 90 percent in 2007, and 85 percent in 2008.

An issue to consider about these policy changes is that neither the rural SCH adjustment nor hold-harmless payments were developed with attention to the factors underlying the poor performance of rural hospitals under the outpatient PPS. Consequently, these policies may not always target the appropriate hospitals—such as those facing difficult financial circumstances due to factors beyond their control.

To develop a targeted policy for addressing the relatively poor financial performance of rural hospitals, we need to identify the factors underlying the poor performance. We should consider each factor individually to determine whether it is appropriate to address it through a change in the Medicare program and what the policy change should be. For example, if hospitals have poor financial performance because of poor management, no additional payments through the Medicare program are warranted. In contrast, if hospitals have poor financial performance because of a factor beyond their control, additional Medicare payments may be appropriate.

Also, additional Medicare payments should be targeted to hospitals that are important to ensuring beneficiaries' access to hospital outpatient services. Targeting these hospitals helps prevent excess capacity and prevents making additional payments to hospitals that are in difficult circumstances because of poor performance in relation to nearby hospitals. A straightforward method for identifying hospitals that are important to beneficiaries' access to outpatient services is requiring a hospital to be at least a minimum distance from any other hospital in order to qualify for assistance.

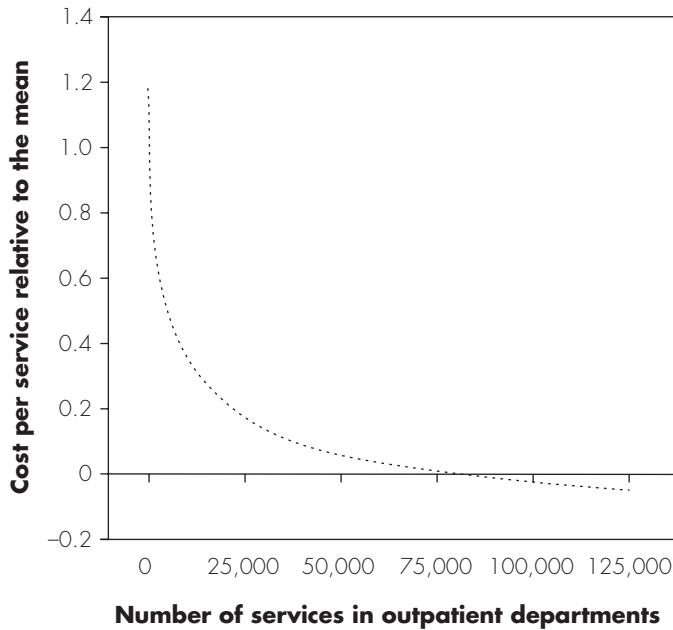
Our data analysis identifies two factors that contribute to the poor outpatient performance of rural hospitals in the absence of special payment provisions. One factor is high costs per service caused by low outpatient volume. Economic theory asserts that low-volume hospitals will have high costs per service because they cannot take advantage of economies of scale. As costs per service increase, financial performance generally declines. We have two findings that suggest that the financial performance of rural hospitals is adversely affected by low volume:

- Cost per service tends to be higher among low-volume hospitals, where volume is measured by number of services provided.
- Rural hospitals are much more likely to be low volume than urban hospitals.

The second factor that may affect the financial performance of rural hospitals is that they tend to have a different mix of services than urban hospitals; on average they provide more basic services that require fewer resources. Results from analyses by MedPAC (Table 2A-11) and CMS (CMS 2005) suggest that under

**FIGURE  
2A-12**

**Cost per service in outpatient departments declines as volume of services increases**



Note: Number of services reflects services provided to all patients, not just Medicare beneficiaries.

Source: MedPAC analysis of 2002 and 2003 outpatient claims files, 2003 Medicare Cost Report file, and 2003 Provider of Services file from CMS.

the outpatient PPS, the payment-to-cost ratio is lower for low-resource services than for more complex ones. However, these results are not definitive proof that rural hospitals are disadvantaged because we do not know if the payment-to-cost ratio is low for the specific services that rural hospitals provide. To be certain, we must compare the payments and costs of individual services.

In the sections below, we discuss these issues—the effect of low volume on costs per service and the difference in service mix between urban and rural hospitals—in more detail. In addition, we discuss possible changes to the outpatient PPS for addressing them.

**Rural hospitals may be high cost because of low volume**

We found that rural hospitals, on average, have higher cost per service, after adjusting costs for differences in input prices and service mix. In 2003, adjusted cost per service averaged \$62 for all hospitals, \$66 for rural hospitals, and \$60 for urban hospitals. In this section, we explore the possibility that low service volume contributes to the high costs among rural hospitals.

We used regression analysis to determine the correlation between a hospital’s volume and cost per service under the outpatient PPS (the text box on page 68 provides details on the method). Our regression results confirm that cost per service declines as hospital volume increases. Also, the rate of decrease is greater at low-volume levels than at high-volume levels.

We used our results to illustrate how cost per service declines as volume increases (Figure 2A-12). Hospitals with the lowest volume have cost per service much higher than the mean, which occurs at about 78,000 services per year. Hospitals providing more than 78,000 services have cost per service below the mean. In 2003, 32 percent of hospitals provided fewer than 78,000 services. We refer to these as “low-volume hospitals.”

Rural hospitals represent a disproportionate share of low-volume hospitals. In 2003, they comprised 64 percent of the hospitals below the 78,000-service threshold, but they were only 37 percent of all hospitals. Also, 55 percent of rural hospitals were low volume, compared with 32 percent of all hospitals.

**A low-volume adjustment as a policy alternative**

The outpatient PPS does not adjust payments on the basis of hospital volume, placing low-volume hospitals at greater financial risk. To the extent that low-volume hospitals are geographically isolated, they play an important role in maintaining beneficiaries’ access to hospital outpatient care such as emergency room services, outpatient procedures, imaging services, and diagnostic tests. Therefore, adjusting the outpatient PPS to address the greater financial risk faced by isolated, low-volume hospitals may be important.

We believe the most targeted policy for addressing this issue is a low-volume adjustment that augments outpatient PPS payments to reflect the higher costs per service among low-volume hospitals. If Medicare were to use a low-volume adjustment, it should include a distance requirement so that hospitals qualify only if they are at least a minimum number of miles from any other hospital that offers hospital outpatient services. This would target hospitals that are important to beneficiaries’ access to hospital outpatient services. It would help prevent making additional payments to hospitals that have low service volumes because patients find them unattractive and help prevent excess capacity (see text box for an illustrative example of a low-volume adjustment).

## Effects of a low-volume adjustment with a distance requirement

**W**e used results from our regression analysis in a strictly illustrative example to examine the financial effects of a policy that would increase payments for low-volume hospitals that qualify under a 15-mile distance requirement.<sup>22</sup> Outpatient prospective payment system (PPS) payments increase by 67 percent for a hospital that furnishes about 1,400 services, the smallest hospital in our sample that meets the distance requirement. The rates of increase become smaller as outpatient volume increases, until reaching zero for hospitals that provide more than 78,000 services.<sup>23</sup>

The low-volume adjustment used in this illustration would increase total outpatient PPS spending by about 0.2 percent and would increase outpatient PPS payments by 6.7 percent for the low-volume hospitals that qualify. On average, rural hospitals would benefit much more than urban hospitals.

Forty-one percent of rural hospitals would qualify for an adjustment, and outpatient PPS spending among rural hospitals would increase by 1.1 percent. In contrast, only 4 percent of urban hospitals would qualify, and outpatient PPS payments among urban hospitals would increase by 0.4 percent. ■

In addition to a distance requirement, a low-volume adjustment should have two other features. First, the service volume used as the basis for adjustment should be the average number of services a hospital provides over several years. Using several years of data avoids problems of annual variation in volume. Second, the adjustment should be based on the volume of services provided to all patients—not just Medicare beneficiaries—because a hospital's cost per service in the outpatient PPS is affected by the volume of services provided to all patients.

The magnitude of the distance requirement can have a substantial effect on the number of hospitals that qualify for a low-volume adjustment and on outpatient PPS spending. The distance requirement should not be so high that it is overly restrictive, excluding hospitals that are vital to beneficiaries' access to hospital outpatient services. Conversely, it should not be so lenient that additional payments are directed to hospitals that are not essential for maintaining access to care.

We examined two possible distance requirement thresholds—15 and 25 miles—to illustrate the effect of different distance requirements on the number of hospitals that would qualify for a low-volume adjustment. Fifty-two percent of low-volume hospitals would qualify under a 15-mile distance requirement, and 15 percent would qualify under a 25-mile requirement.<sup>24</sup>

A final issue is whether alternative ambulatory care settings should be included in the context of the distance

requirement. For example, if the distance requirement is 15 miles, should other types of ambulatory providers, as well as other hospitals, be considered within that radius? An argument for including other types of providers is that they will furnish many of the same services offered in hospital outpatient departments, and they may be better suited to handling some case types. However, we should ensure reasonable access to emergency care in all areas.

### **Rural hospitals have a different service mix**

In addition to being different from urban hospitals in terms of volume, rural hospitals tend to provide a different service mix. Our analysis indicates that rural hospitals provide a less resource-intensive—and generally less complex—service mix.

If the payment-to-cost ratio is stable across services, then any difference in service mix between rural and urban hospitals should not contribute to the relatively poor financial performance of rural hospitals under the outpatient PPS. But, if the payment-to-cost ratio is lower for the services more heavily provided by rural hospitals, they would be at a competitive disadvantage.

Regression analyses by MedPAC and CMS (CMS 2005) indicate that the payment-to-cost ratio may be lower for less resource-intensive services (Table 2A-11, p. 68). These regression results coupled with our finding that rural hospitals tend to furnish less resource-intensive services suggest that rural hospitals may be disadvantaged.

They also suggest that the outpatient PPS may need to be recalibrated so that payments more accurately match costs of individual services. However, these results are not definitive proof of a problem. We need to understand which services have lower payment-to-cost ratios in relation to other services.

We have begun work that will allow us to compare the payments and costs for individual services in the outpatient PPS. We are using claims data as the basis for our analysis and have consulted with representatives from CMS to improve our analysis. ■

## Endnotes

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- 1 Hospitals covered by the acute inpatient PPS now account for about 3,500 of the approximately 5,000 short-term hospitals. They do not include 1,217 critical access hospitals and others paid under other prospective payment systems.  
  
Most services provided in hospital outpatient departments are now covered by the outpatient PPS, including clinic and emergency room visits, procedures, imaging, and most ancillary services. Outpatient services not covered by the PPS include: (1) those paid on a separate fee schedule (such as clinical laboratory, ambulance, rehabilitation and other therapies, and durable medical equipment), and (2) those reimbursed on a cost basis (such as organ acquisition and, beginning in 2003, some vaccines). In 2004, spending under the outpatient PPS represented 91 percent of all outpatient spending, excluding clinical laboratory services. We exclude clinical laboratory services in this calculation because the laboratory claims data include non-hospital-based as well as hospital-based services.
- 2 The Commission has prepared a description of each of Medicare's 16 prospective payment systems, known as "Medicare payment basics." These briefs, including descriptions of the acute inpatient, outpatient, and critical access hospital payment systems, can be found on our website ([www.medpac.gov](http://www.medpac.gov)) under "Research Areas."
- 3 This survey is cosponsored by CMS and MedPAC, and is conducted under contract by the American Hospital Association and The Lewin Group.
- 4 A service in our volume measure is identified by a Healthcare Common Procedure Coding System (HCPCS) code that is payable under the outpatient PPS. HCPCS definitions can change over time, which can have some effect on annual volume changes.
- 5 We exclude separately paid drugs because their definition versus those that CMS packages with a primary service has been unstable over our period of analysis. We exclude pass-through devices because the list of devices that have pass-through status has changed substantially throughout our period of analysis.
- 6 A margin is calculated as the difference between payments and costs divided by payments. The services included in the overall Medicare margin are acute inpatient, outpatient, skilled nursing facility, home health care, inpatient psychiatric, and inpatient rehabilitation.
- 7 Our forecast is for 2006, but we considered the policy environment hospitals will be operating under in 2007 as we deliberated the appropriate update for that year. Therefore, the forecast reflects what payments would have been in 2006 if 2007 policy (other than the 2007 update) had been in effect at the time.
- 8 This contrasts with the case of inpatient care, where the unit of service is the admission. In that case, providing more services to the patient will result in an increase in the costs per unit of service.
- 9 This measure is known as costs per adjusted discharge. Adjusted discharges are calculated as number of discharges times the ratio of total charges to inpatient charges. The data for this analysis are from Medicare cost reports.
- 10 Although this analysis uses a cost measure encompassing all payers, cost elements and services that would not be reimbursable under Medicare payment principles (such as research, gift shops, and medical office buildings) are excluded from the measure. Adjusted discharge is an output measure encompassing inpatient as well as outpatient and post-acute services.
- 11 In addition to depreciation and interest, capital expenses include lease and rental expenses for facilities and equipment, as well as taxes, insurance, license, and royalty fees on depreciable assets.
- 12 Some argue that low hospital occupancy rates made it easier for private payers to negotiate lower payment rates during the 1990s, and that somewhat higher occupancy rates since 2000 have made it more difficult for payers to apply pressure. See the discussion of hospital occupancy later in the chapter.
- 13 The analysis examines hospital margins data from 2001 through 2004, using Medicare cost reports. Hospitals included in the analysis had complete Medicare and total (all payer) margin data in all four years and had not converted to CAH status as of August 30, 2005. More than 80 percent of inpatient PPS hospitals are included in the analysis. In order to be identified as consistently negative (or positive), a hospital had to have negative (or positive) margins in all four years of the analysis.
- 14 The analysis standardizes costs for case mix and severity of illness (using all patient refined diagnosis related groups, or APR-DRGs), outlier cases, the area wage index, teaching intensity, and disproportionate share of low-income patients. The standardization factors used for all of these components except case mix are based on the results of a regression analysis.

- 15 We generally would expect hospitals with fewer beds to have lower occupancy rates in order to maintain similar waiting times for bed availability and to handle surge capacity.
- 16 This analysis standardizes costs for the same factors as in our analysis of negative margin hospitals. In addition, hospitals' interest expense was removed from the measure of costs.
- 17 The Congress sets the updates for payment rates under the inpatient operating PPS and the outpatient PPS. The update for the inpatient capital PPS is not specified by law; rather, it is set annually by CMS.
- 18 We estimated hospital costs per outpatient PPS service as the costs hospitals incur in furnishing outpatient PPS services divided by the number of outpatient PPS services. We obtained the costs from hospital cost reports and the number of services from outpatient claims files.
- 19 We estimated volume of services furnished to all patients using Medicare outpatient volume from the 2003 claims files and outpatient charges for Medicare and all patients from the 2003 Medicare cost report file. The formula is: (total outpatient volume) = (Medicare outpatient volume) \* (total outpatient charges)/(Medicare outpatient charges).
- 20 Hospital characteristics include whether the hospital provides outpatient surgery, whether it is a government or for-profit hospital, the number of residents per discharge, the occupancy rate, the percentage of services that are emergency room visits, the percentage of discharges that are Medicaid patients, and the hospital's market share.
- 21 We also considered the effect that hospital volume for inpatient services could have on outpatient costs per service because inpatient and outpatient services often use the same inputs. We attempted to use "discharge equivalents" to capture the inpatient effect, which is defined as (inpatient discharges) + (total outpatient charges)/((total inpatient charges)/(inpatient discharges)). However, we found a strong correlation between outpatient volume and discharge equivalents, which affected our regression results. Therefore, we excluded discharge equivalents from our final regression model.
- 22 A low-volume adjustment for the outpatient PPS should have little effect on hospitals' incentive to become more efficient through economies of scale because Medicare accounts for only about 20 percent of hospitals' outpatient business. Even under a low-volume adjustment that fully accounts for the effects that volume differences have on hospital costs, hospitals that expand their volume would still gain about 80 percent of the benefit from scale economies.
- 23 We arrived at these adjustment percentages using the following method. Hospitals with more than 78,000 services get no adjustment. For hospitals with fewer than 78,000 services but more than 50,000 services, the adjustment increases by 1.1 percentage points for each 10 percent decrease in service volume. For hospitals with fewer than 50,000 services, the adjustment increases by 1.6 percentage points for each 10 percent decrease in service volume.
- 24 In general, our analysis excluded critical access hospitals (CAHs) because those hospitals are exempt from the outpatient PPS. However, we included CAHs when we considered whether a low-volume hospital qualified under a distance requirement. For example, if a low-volume hospital has one hospital within 15 miles and that other hospital is a CAH, the low-volume hospital would not qualify for a low-volume adjustment under a 15-mile distance requirement. We included CAHs in this context because most CAHs (95 percent) furnish outpatient services, so we view them as viable options for hospital outpatient care.



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SECTION  
2B

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**Physician services**

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## R E C O M M E N D A T I O N

The Congress should update payments for physician services in 2007 by the projected change in input prices less the Commission's expectation for productivity growth.

**COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2**

# SECTION 2B

## Physician services

### Section summary

Our analysis of beneficiary access to physician care, physician supply, Medicare-to-private fee level comparisons, service volume, and ambulatory care quality finds that most of these indicators are stable and the large majority of beneficiaries are able to obtain physician care. The volume of services used per beneficiary continues to grow significantly. In consideration of expected input costs for physician services and our payment adequacy analysis, the Commission recommends that the Congress update payments in 2007 for physician services by the projected change in input prices less the Commission's expectation for productivity growth.

In contrast to this recommendation, current law calls for substantial negative updates from 2007 to at least 2011, under the sustainable growth rate (SGR) formula. The Commission does not support these impending fee cuts. We are concerned that such consecutive annual cuts would threaten beneficiary access to physician services over time, particularly those provided by primary care physicians. Reimbursement cuts may disproportionately affect primary care providers who average

### In this section

- Are current Medicare payments for physician services adequate?
- How should Medicare payments for physician services change in 2007?

lower volume growth in their practices than procedure-based specialists. Because many Medicare beneficiaries rely on primary care providers for important health care management, payment policies that may discourage medical students and residents from becoming primary care physicians raise particular concern for the Commission.

The Commission has discussed several problems associated with the SGR in Congressional testimonies and Reports to the Congress. The Commission considers the SGR formula a flawed, inequitable mechanism for volume control and plans to examine alternative approaches to it in the coming year.

Our approach for recommending updates for 2007 first considers payment adequacy from the most currently available data and then assesses the factors that will affect efficient providers' costs in the coming year. Below is a summary of our findings from this analysis for physician services.

***Beneficiary access***—Results from several surveys conducted between 2003 and 2005 show that beneficiary access to physicians is generally good with few statistically significant changes in recent years. Most beneficiaries are able to find new doctors and schedule medical appointments in an amount of time they find acceptable, but small subsets of beneficiaries report problems. Further analysis is needed to understand these problems. Researchers have found that other factors, such as local health system developments, may influence beneficiary access as much or more than Medicare payment levels (Trude and Ginsburg 2005, Lake et al. 2005).

***Physician supply***—Our analysis of Medicare fee-for-service claims data shows that the number of physicians providing services to Medicare beneficiaries has more than kept pace with growth in the beneficiary population in recent years. National physician survey data also show that the large majority of physicians in the United States are willing to accept new Medicare beneficiaries. This share remains steady compared to previous years' survey results. The Commission notes, however, that the future supply of primary care providers may be important to monitor.

**Private insurer rates compared to Medicare**—Averaged across all services and areas, Medicare fees for physician services were 83 percent of private fees in 2004. This share is slightly higher than in 2003 (81 percent), indicating that, in 2004, Medicare rates increased a little more than private rates, on average, as extrapolated from Medicare claims and two large, national private insurers (Hogan 2005b). Within a market area and for a given service, the difference between Medicare and private fees may vary substantially.

**Volume growth**—Per capita service volume continued to grow in 2004. Across all services, volume (as a function of both service units and intensity) grew 6.2 percent per beneficiary. This growth is higher than the average annual volume growth seen in previous years. Among broad categories of services—evaluation and management, major procedures, other procedures, imaging, and tests—volume growth rates varied, but all were positive. As we have seen before, per capita volume for imaging, tests, and nonmajor procedures grew the most. From 2003 to 2004, the imaging volume growth rate, per beneficiary, was 11.0 percent. For the first time, the volume of nonmajor procedures (categorized as “other procedures”) grew nominally faster than the volume of tests; other procedures grew 9.3 percent per beneficiary in 2004 and tests grew 8.9 percent.

In recent years, the volume of physician services has grown rapidly, resulting in substantial increases in Part B spending. In 2004 alone, CMS found that spending on physician services increased by 11.5 percent (Office of the Actuary 2006). This spending increase was driven in part by increases in per capita service use and intensity (McClellan 2005). CMS has noted that although some of these volume increases are related to improvements in health care quality, much of the increase cannot easily be explained by changes in treatments based on new medical evidence and valuable new technologies. Others note, however, that more complete data analysis is needed for this kind of assessment.

**Ambulatory care quality**—Our claims analysis shows small improvements and overall stability in the quality of ambulatory care. We see increases in the share of beneficiaries receiving necessary ambulatory care and averting potentially avoidable hospitalizations. Further, for some medical conditions, we see improvements on outcome measures concurrent with improvements on process measures. Few measures indicated a worsening of care. However, in nearly half of the measures, less than two-thirds of beneficiaries received the indicated services.

**Input costs**—The Medicare Economic Index (MEI) forecasts that input prices for physician services will increase by 3.7 percent in 2007. (Because the MEI is revised quarterly, this estimate may change.) Although professional liability insurance (PLI) continues to be the fastest growing input cost, PLI premium increases have slowed in the past few years. ■

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## Recommendation 2B

COMMISSIONER VOTES:

YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

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*The Congress should update payments for physician services in 2007 by the projected change in input prices less the Commission's expectation for productivity growth.*



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## Background

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Physician services include office visits, surgical procedures, and a broad range of other diagnostic and therapeutic services. These services are furnished in all settings, including physician offices, hospitals, ambulatory surgical centers, skilled nursing facilities and other post-acute care settings, hospices, outpatient dialysis facilities, clinical laboratories, and beneficiary homes. Physician services are billed to Medicare Part B. Payments for these services (about \$54 billion in 2004) account for about 17 percent of total Medicare spending.

Medicare pays for physician services according to a fee schedule that lists services and their associated payment rates. The fee schedule assigns each service a set of three relative weights intended to reflect the resources needed to provide the service. These weights are adjusted for geographic differences in practice costs and multiplied by a dollar amount—the conversion factor—to determine payments. In general, Medicare updates payments for physician services by increasing or decreasing the conversion factor.

By law, these updates are subject to a formula called the sustainable growth rate (SGR). This formula ties physician payment updates to a number of factors, including growth in input costs, growth in fee-for-service (FFS) enrollment, and growth in the volume of physician services relative to growth in the national economy. Over the last several years, physician fees were slated to decrease according to the SGR. However, recent Acts of Congress overrode these cuts. The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) explicitly increased payments for all physician services through a 1.5 percent update to the conversion factor, additional fee increases, and bonus payments to certain physicians, particularly those in rural areas.<sup>1</sup>

The Deficit Reduction Act of 2005 again overrides the SGR by averting a cut to the 2006 conversion factor. This Act did not increase payment rates; rather, it held them at 2005 levels. The SGR continues to call for substantial negative updates for 2007—the year for which we are making our recommendation—through at least 2011. The Commission does not support these impending fee cuts. We are concerned that such consecutive annual cuts would threaten beneficiary access to physician services over time, particularly those provided by primary care physicians. Also, the Commission has discussed several problems

associated with the SGR in Congressional testimonies (Hackbarth 2005a, Hackbarth 2005b) and Reports to the Congress (MedPAC 2005, MedPAC 2002). We consider the SGR formula a flawed, inequitable mechanism for volume control and plan to examine alternative approaches to it in the coming year.

In recommending an update for Medicare's payment for physician services in 2007, the Commission follows its usual two-step approach. We first analyze payment adequacy from the most currently available data and then assess the factors that will affect efficient providers' costs in the coming year.

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## Are current Medicare payments for physician services adequate?

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The Commission's framework for assessing payment adequacy for physician services relies on several indicators. We cannot look at financial performance directly because physicians are not required to report their costs to Medicare, as are other providers like hospitals. Instead, we consider other available indicators. We analyze information on beneficiary access to physician care, including beneficiary and physician survey information and physician supply data. We also compare Medicare's reimbursement levels with those of the private sector and examine changes in the volume of physician services. For the first time in our physician payment analysis, we examine changes in ambulatory care quality.

For the purposes of this analysis, we examine payments for physician services in the aggregate to determine general payment adequacy and update recommendations. Chapter 3 of this report analyzes the process for reviewing the relative value units (RVUs) assigned to services for physician work. This chapter considers ways to improve the review process so that it might better identify and correct misvalued physician services. In future work, the Commission intends to focus more closely on a number of other specific physician payment issues. For example, we plan to analyze the process for assigning practice expense values for fee schedule services. We will also be examining differences in practice costs among geographic areas to assess CMS's designated payment locality boundaries. Finally, as mentioned previously, our research agenda also includes an exploration of alternatives to the SGR formula.

## **Beneficiary access to physician services**

Physicians are often the most important link between Medicare beneficiaries and health care. Some 80 percent of noninstitutionalized beneficiaries report that a doctor's office or a doctor's clinic is their usual source of care (CMS 2003). Beneficiary access to physicians, therefore, is an important indicator of access to health care as well as payment adequacy.

To assess beneficiary access to physician services, this section examines results from surveys of beneficiaries and reviews data on physician supply and physician willingness to serve Medicare patients. By design, many of the surveys' questions rely on respondents' own views. For example, respondents use their own judgment when determining if they are able to schedule timely appointments. Subjective responses can be useful measures for tracking beneficiary experience and perceptions, particularly over time, but perceptions of concepts such as timeliness may vary across individuals and subpopulations.

Additionally, we have difficulty determining what the adequate level of access should be. Beneficiary judgment on access to physicians is made in an environment where the majority of beneficiaries have supplemental insurance against out-of-pocket liability. This coverage effectively lowers beneficiary costs for physician visits, thereby diminishing the ability for cost to temper demand. Some economists might argue that a payment policy goal of beneficiaries reporting little to no access problems is inefficient or unattainable. Even so, monitoring for changes in access, particularly among underserved populations, is crucially important for the Medicare program.

We find access measures most useful, therefore, when looking for trends across years. They help us observe changes in beneficiaries' access to physicians over time and supplement our analysis of payment adequacy. However, our access measures do not necessarily inform us on the quality or content of physician-patient encounters. Although we begin to examine some quality measures in this chapter through claims analyses, we need further research to evaluate beneficiary experiences during physician visits.

### **Beneficiary surveys on access to physicians**

Results from several surveys conducted from 2003 to 2005 show that beneficiary access to physicians appears to be steady, with the majority of beneficiaries reporting little

to no access problems. Most are able to schedule timely medical appointments and find new doctors, but small subsets of beneficiaries report access problems.

To obtain the most current access measures possible, the Commission sponsors a telephone survey. This survey was piloted in 2003. In our last two rounds—2004 and 2005—we surveyed both Medicare and privately insured individuals (age 50 to 64) to assess the extent to which any access problems, such as appointment scheduling, are unique to the Medicare population. (We were unable to distinguish FFS Medicare enrollees from those in Medicare Advantage in this survey.) As in the pilot year, the results from this telephone survey are weighted to be nationally representative with respect to basic demographic variables. We did not survey Medicare beneficiaries younger than age 65 due to sample-size limitations.

Most Medicare beneficiaries have one or more doctor appointments in a given year. Therefore, one access indicator we examine is beneficiaries' ability to schedule timely appointments. The 2005 survey found that most Medicare beneficiaries and privately insured people age 50 to 64 did not have to delay getting an appointment due to scheduling issues (Table 2B-1). Rates across the survey years have remained steady, with Medicare beneficiaries enjoying lower rates of scheduling delays. In 2005, among those who tried to schedule a routine-care appointment, 74 percent of Medicare beneficiaries and 67 percent of privately insured individuals reported that they never experienced delays. Two percent of Medicare beneficiaries and 3 percent of privately insured individuals reported always experiencing delays. As expected, for illness or injury, timely appointments were more common. Among those who scheduled an appointment for an illness or injury, 83 percent of Medicare beneficiaries and 75 percent of privately insured individuals said they never experienced a delay. Low shares of both groups reported frequent delays in getting an appointment for illness or injury.

Our survey also monitors beneficiaries' ability to find a new physician. Compared with the number who schedule doctor appointments, a considerably smaller number of beneficiaries look for a new physician during the year. Therefore, survey questions about problems finding a new doctor apply only to a small share of respondents (10 percent to 20 percent). With this small subset, the differences we see among years and between privately insured and Medicare respondents are not statistically

**TABLE  
2B-1**

**Access to physicians is similar for Medicare beneficiaries and privately insured people**

Survey question	Medicare (Age 65 and older)			Private insurance (Age 50-64)	
	2003	2004	2005	2004	2005
<b>Unwanted delay in getting an appointment:</b>					
Among those who had an appointment, "How often did you have to wait longer than you wanted, to get a doctor's appointment?"					
<b>For routine care</b>					
Never	71%	73%*	74%*	66%*	67%*
Sometimes	21	21*	21	26*	25
Usually	3	4	3	5	5
Always	5	2	2	3	3
Standard error	(3.3)	(2.6)	(2.4)	(2.3)	(2.3)
<b>For illness or injury</b>					
Never	80%	83%*	83%*	77%*	75%*
Sometimes	16	13*	15	19*	19
Usually	3	2	1	3	3
Always	1	2	1	2	2
Standard error	(3.5)	(2.7)	(2.6)	(2.4)	(2.5)
<b>Getting a new physician:</b>					
Among those who tried to get an appointment with a new primary care physician or a specialist, "How much of a problem was it finding a primary care doctor/specialist who would treat you? Was it..."					
<b>Primary care physician</b>					
No problem	75%	77%	75%	73%	75%
Small problem	18	11	12	15	16
Big problem	7	11	13	13	9
Standard error	(11.2)	(8.5)	(8.6)	(6.9)	(7.4)
<b>Specialist</b>					
No problem	85%	89%	89%	83%	86%
Small problem	8	5	6	8	7
Big problem	5	5	5	8	6
Standard error	(7.7)	(7.0)	(5.8)	(5.1)	(4.8)
<b>Not accessing a doctor for medical reasons:</b>					
"In the past year, do you think you should have seen a doctor for a medical problem, but did not?"					
	7%	6%*	7%*	11%*	12%*
Standard error	(3.0)	(2.2)	(2.2)	(2.2)	(2.2)

Note: Numbers may not sum to 100 percent due to rounding. Missing responses are not presented. For the 2003 survey, n=1,040 Medicare beneficiaries; for the 2004 survey, n=4,122 (2,087 Medicare, 2,035 privately insured); for the 2005 survey, n=4,021 (2,012 Medicare, 2,009 privately insured). For each survey question, the difference between 2003, 2004, or 2005 is not statistically significant among the same sample population, at a 95% confidence level.

\*Indicates a statistically significant difference between the Medicare and privately insured populations in the same study year, at a 95% confidence level.

Source: MedPAC-sponsored telephone surveys, conducted September–October 2003, August–September 2004, and August–September 2005.

significant. Table 2B-1 (p. 85) lists standard errors to provide more statistical information on the sample response rates for each question. (A standard error of 3.0, for example, indicates that the sample response rates could differ from the true response rate by +/- 3 percent at a 95 percent confidence interval.)

In our sample, 75 percent of people—both Medicare beneficiaries and privately insured individuals—who were looking for a new primary care physician reported that they experienced no problems. Although access appears good for most, some concerns are worth noting. Among the subset of people who reported any problems, Medicare beneficiaries were somewhat more likely, in our 2005 sample, to characterize their problem as big (versus small) than their privately insured counterparts. Also, the share of Medicare beneficiaries indicating that they experienced big problems accessing a primary care physician grew in both the 2004 and 2005 samples. These trends in our samples, however, may not generalize to the actual population because of data limitations in the small share of people looking for new doctors and the even smaller share reporting problems.<sup>2</sup> Nevertheless, these trends are important to monitor. Some subpopulations of beneficiaries may be experiencing more difficulty accessing primary care physicians in recent years, and to a greater degree than privately insured individuals. Additional data are needed, however, to draw this conclusion.

We found that access to new specialists in our sample was generally better than access to new primary care physicians; 95 percent of Medicare beneficiaries and 93 percent of privately insured individuals looking for a new specialist reported either no problem or only a small problem accessing specialists. Statistically, this difference in our sample between Medicare beneficiaries and privately insured people is not large enough to be considered significant.

Our survey asked a follow-up question to those beneficiaries who indicated that they had a problem (big or small) finding a new physician (specialist or primary care physician or both). This question asked if anyone from the doctor's office told them that their problem finding a doctor was because they were covered by Medicare. Roughly one-quarter of these beneficiaries stated "yes" to this question in 2005. Although this share amounts to less than 1 percent of the entire Medicare sample, the Commission will continue to track this question closely

in future surveys, and perhaps develop additional survey questions to gain more insights.

Another measure of access to physicians examines reasons respondents give for not seeing a physician for their medical problems. Similar to previous years, Medicare beneficiaries report better access than privately insured people on this measure, and the difference between the two is statistically significant. The 2005 survey found that 7 percent of Medicare beneficiaries and 12 percent of privately insured individuals said they think they should have seen a doctor for a medical problem in the past year, but did not. Within this small subset, physician availability issues (appointment time, finding a doctor) were listed as the problem by just 11 percent of the Medicare beneficiaries and 8 percent of the privately insured people. The remaining reasons given by individuals in this subset included cost, procrastination, and low perceived seriousness of the problem (at the time of the illness).

The Center for Studying Health System Change (HSC) also compares access to physician services for Medicare beneficiaries and privately insured people age 50 to 64. Their survey is somewhat larger, but their most recent results are from 2003 (Trude and Ginsburg 2005). Comparing 2001 to 2003, their survey showed parallel trends on access measures for Medicare beneficiaries and privately insured individuals. Approximately 10 percent of Medicare beneficiaries and 17 percent of privately insured individuals reported delaying or not getting care in 2003. Compared to 2001, both rates improved in 2003. Regarding delays in scheduling appointments, both Medicare and privately insured people waited a little longer to get appointments in 2003 than in 2001. Also, in both years, fewer Medicare beneficiaries reported dissatisfaction with their choice of physician, compared with the privately insured sample, but the differences were not large and the rates were fairly stable for both. The parallel movement of these indicators suggests that other factors, such as local health system developments, may influence beneficiary access as much or more than Medicare payment levels.

An even larger beneficiary survey, the Consumer Assessment of Health Plans Survey for Medicare fee-for-service (CAHPS-FFS), includes two questions related to beneficiary access to physicians: one on access to specialists and the other on appointment scheduling for routine care. Sponsored by CMS, the CAHPS-FFS survey is conducted annually, primarily by mail. It samples between 100,000 and 120,000 beneficiaries, including

**TABLE  
2B-2**

**Most beneficiaries report little to no problem accessing specialty and routine care**

Survey question	2000	2001	2002	2003	2004
<b>Within the past 6 months...</b>					
If you or your doctor thought you needed to see a specialist, how much of a problem, if any, was it to see the specialist?					
No problem or small problem	93.6%	94.8%	94.3%	94.5%	95.2%*
Big problem	6.4	5.2	5.7	5.5	4.8*
If you made an appointment for regular or routine care, how often did you get an appointment as soon as you wanted?					
Always or usually	92.5	92.1	90.3	91.5	91.4*
Sometimes	6.4	6.7	7.9	6.8	7.0*
Never	1.2	1.2	1.8	1.6	1.7*

Note: Numbers may not sum to 100 percent due to rounding. n>100,000.

\*Indicates a statistically significant change between 2003 and 2004, at a 95% confidence level.

Source: MedPAC analysis of 2000–2004 Consumer Assessment of Health Plans Survey (CAHPS) data for fee-for-service Medicare from CMS.

community-dwelling, institutionalized, and disabled individuals. It asks an assortment of questions related to health care services FFS beneficiaries receive. The data from this survey go up to 2004 and are not as recent as the data we have from the MedPAC-sponsored telephone survey discussed earlier.

Results from the CAHPS–FFS survey also show that the large majority of Medicare beneficiaries report good access to physicians—consistent with responses from the MedPAC-sponsored telephone survey. Specifically, nearly 95 percent of beneficiaries reported either no problem or small problems accessing a specialist (Table 2B-2). Also, the majority of beneficiaries reported being able to schedule timely appointments for routine care either always or usually. These rates have remained stable over the last several years. Further analysis of the CAHPS–FFS reveals that older beneficiaries (age 85 and older) were least likely to report big problems finding a specialist or getting an appointment. These patients may be more likely than younger patients to have long-established physician-patient relationships.

CMS has sponsored another survey—the Targeted Beneficiary Survey (TBS)—devoted specifically to beneficiary access to physicians in 11 market areas suspected of access problems (Lake et al. 2005). This survey was conducted in 2003 and 2004. These 11 selected areas were chosen based on relatively high rates of physician access problems reported on the 2001 CAHPS–

FFS and in other CMS monitoring activities on physician access.<sup>3</sup>

The TBS found that even in these selected areas, only a small percentage of beneficiaries had access problems attributed to physicians not taking new Medicare patients. The rates of access problems did not change between 2003 and 2004. In both years, the study showed that certain subgroups in these markets were more likely to experience access problems.

Specifically, the TBS found that in both 2003 and 2004, more than 90 percent of beneficiaries within these 11 markets reported either no problem or a small problem “getting a personal doctor they were happy with since joining Medicare.” Similarly, among those needing a specialist, more than 90 percent reported either no problem or a small problem seeing one in the past six months. Among beneficiaries seeking routine care appointments in 2004, 79 percent reported that they always got an appointment as soon as they wanted (a slightly higher percentage than in 2003), and another 14 percent said they usually got an appointment as soon as they wanted. Among those seeking urgent care in the 2004 survey, 84 percent reported that they always received care as soon as they wanted, and another 9 percent said they usually received care as soon as they wanted. (Note that this urgent-care measure does not distinguish site of care, such as a doctor’s office or a hospital emergency room.)

**TABLE  
2B-3****Number of physicians billing Medicare is increasing steadily, 1999–2004**

	Number of Medicare patients in caseload			
	≥15	≥50	≥100	≥200
<b>Number of physicians</b>				
1999	432,355	386,720	338,344	261,218
2000	444,187	398,905	351,012	274,059
2001	457,292	411,424	364,023	286,862
2002	466,299	419,269	370,144	291,593
2003	470,213	424,684	374,721	292,183
2004	483,945	440,462	393,730	315,398
Percent growth, 1999–2004	11.9%	13.9%	16.4%	20.7%
<b>Physicians per 1,000 beneficiaries</b>				
1999	11.7	10.4	9.1	7.1
2000	11.9	10.7	9.4	7.3
2001	12.1	10.9	9.7	7.6
2002	12.3	11.0	9.8	7.7
2003	12.3	11.1	9.8	7.6
2004	12.5	11.3	10.1	8.1

Note: Calculations include physicians (allopathic and osteopathic). Nurse practitioners, physician assistants, psychologists, and other health care professionals are not included in these calculations. To calculate the ratios, Part B enrollment is used, which includes beneficiaries in fee-for-service Medicare and Medicare Advantage, on the assumption that physicians are providing services to both types of beneficiaries. To calculate physicians' Medicare caseload size, only fee-for-service beneficiaries are included.

Source: MedPAC analysis of Health Care Information System, 1999–2004, from CMS.

Transitioning beneficiaries—those new to a market area, new to Medicare, or recently disenrolled from a Medicare Advantage plan—had slightly higher rates of reported problems seeing a specialist and “getting a personal doctor they were happy with since joining Medicare.” The rates of reported difficulty getting timely routine appointments or urgent care were similar to those of the other Medicare FFS beneficiaries in the survey.

In both 2003 and 2004, 93 percent of beneficiaries surveyed on the TBS said the ease of seeing a doctor in the past year had either stayed the same or gotten easier. Among those who reported problems accessing physicians, 4 percent or fewer said that the problems they experienced were due to physicians not taking Medicare patients or not taking assignment. Other reasons beneficiaries gave for access problems included: the doctor was not taking any new patients, they did not like the doctor, and transportation issues.

Previous research on access to physician services in 2002 and 2003 assesses changes in access related to the 5.4 percent fee reduction in 2002 (Trude and Ginsburg 2005, MedPAC 2003). Most survey data show little to no change in access to care in 2002 and 2003, but the cut was in place for only one year.<sup>4</sup> The prospect of multiple years of fee cuts in current law makes comparison with 2002 difficult. Beneficiary access to physician services would likely be negatively affected by multiple consecutive years of payment cuts.

### Changes in the supply of physicians

Our analysis of Medicare FFS claims data shows that the number of physicians providing services to Medicare beneficiaries has more than kept pace with growth in the beneficiary population in recent years. To analyze physician supply, we examined Medicare claims data, physician survey results, and other published articles and information on physician supply.

Comparing growth in the number of physicians with growth in the Medicare population, we see that from 1999 to 2004, the number of physicians who billed Medicare grew faster than Medicare Part B enrollment. During this time, Part B enrollment grew 4.8 percent. In comparison, the number of physicians with at least 15 Medicare patients grew 11.9 percent (Table 2B-3).<sup>5</sup> The number of physicians with 200 or more Medicare patients grew even faster at 20.7 percent. Therefore, the ratio of physicians per 1,000 beneficiaries grew more rapidly for physicians with higher Medicare caseloads. This growth has contributed to the growing share of physicians seeing more Medicare patients. In 2004, a little more than half of all physicians billing Medicare saw at least 200 different Medicare patients.

Our claims analysis also shows that a large share of the 2004 physicians (80 percent) stayed active in the Medicare market during all five of the study years (1999 through 2004). Despite the overall increase in physicians who regularly saw Medicare FFS beneficiaries, the supply of physicians was still somewhat dynamic, with small shares of physicians either starting or stopping their regular Medicare practice. These changes affect existing patient-physician relationships and could contribute to the small, but persistent, share of beneficiary complaints about access problems.

**Physician surveys on willingness to accept new beneficiaries** A key indicator in examining physician supply is the degree to which physicians are accepting new Medicare patients. The most recent data indicate that the large majority of physicians in the United States are willing to accept new Medicare beneficiaries, and this share remains steady.

The Center for Studying Health System Change, as part of its broader Community Tracking Study Physician Survey, asks physicians about acceptance of new patients. This phone survey is designed to be nationally representative of physicians involved in direct patient care. Conducted four times in the last decade, this survey provides useful information on trends in physician acceptance of new patients over time (Cunningham et al. 2006).

In the most recent survey, only 3 percent of physicians with practices open to private patients completely closed their practice to new Medicare patients (Table 2B-4). In contrast, 73 percent of physicians with practices open to private patients reported that they accepted all new Medicare patients, 13 percent said they accepted most

**TABLE 2B-4**

**Physician acceptance of new Medicare patients has stabilized**

**Percentage of physicians accepting new patients**

<b>Patients</b>	<b>1996-1997</b>	<b>2001-2002</b>	<b>2004-2005</b>
<b>New Medicare</b>			
All	75%	71%*	73%
Most	13	15*	14
Some	10	10	10
None	3	4*	3
<b>New privately insured</b>			
All	71	68*	72**
Most	16	17	15
Some	10	10	9
None	4	5*	4

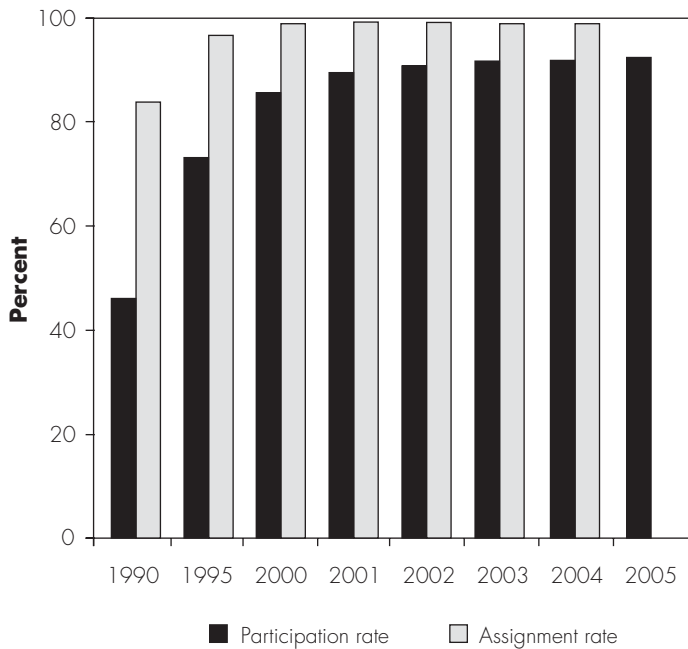
Note: Medicare rates exclude pediatricians, pediatric specialists, nephrologists, and physicians accepting no new privately insured patients.  
\*Change from 1996-1997 is statistically significant at p<.05.  
\*\*Change from 2000-2001 is statistically significant at p<.05.

Source: Center for Studying Health System Change (Cunningham et al. 2006).

new Medicare patients, and 10 percent said they accepted some new Medicare patients. Cunningham and colleagues suggest that while there was a dip in acceptance of Medicare patients between 1996-1997 and 2000-2001, some increases occurred in the most recent survey (2004-2005), which suggests stabilization. Indeed, rates in this past survey are statistically unchanged from the previous one (2000-2001).

Another key finding from this physician survey indicates that physician acceptance of new Medicare patients follows a similar trend as acceptance of new privately insured patients. The study authors suggest, therefore, that overall health system dynamics have played a larger role in physician decisions about accepting Medicare patients than have Medicare payment policies. For example, compared to 2000, physician capacity constraints may have eased somewhat, decreasing physician pressures to limit the number of new patients—of any type—in their practices.

This study shows that acceptance of new Medicare patients continues to be lower for primary care physicians than it is for both medical and surgical specialists. In the

**FIGURE  
2B-1****Participation and assignment rates  
remain at high levels, 1990-2005**

Note: Participation rate is the percentage of physicians and nonphysician providers signing Medicare participation agreements. Assignment rate is the percentage of allowed charges paid on assignment. The assignment rate for 2005 is not shown; it requires calculations from claims not yet available.

Source: Ways and Means Greenbook 2004, unpublished CMS data, and MedPAC analysis of Medicare claims for a 5 percent random sample of Medicare beneficiaries.

most recent survey round, however, the study found a statistical increase in the share of primary care physicians accepting new Medicare patients. Rates for the specialists in the most recent survey were statistically unchanged from the previous survey round.

Among the 3 percent of physicians who reported that they did not accept new Medicare patients, the top reasons were: inadequate reimbursement, billing and paperwork, high clinical burden, and practice too full. This study did not explore reasons physicians gave for not accepting private patients, which occurred at a similar rate.

Another physician survey, the National Ambulatory Medical Care Survey (NAMCS), conducted annually by the National Center for Health Statistics, also shows that the large majority of physicians accept some or all new Medicare patients. For 2004, this survey found that among physicians with at least 10 percent of their practice revenue

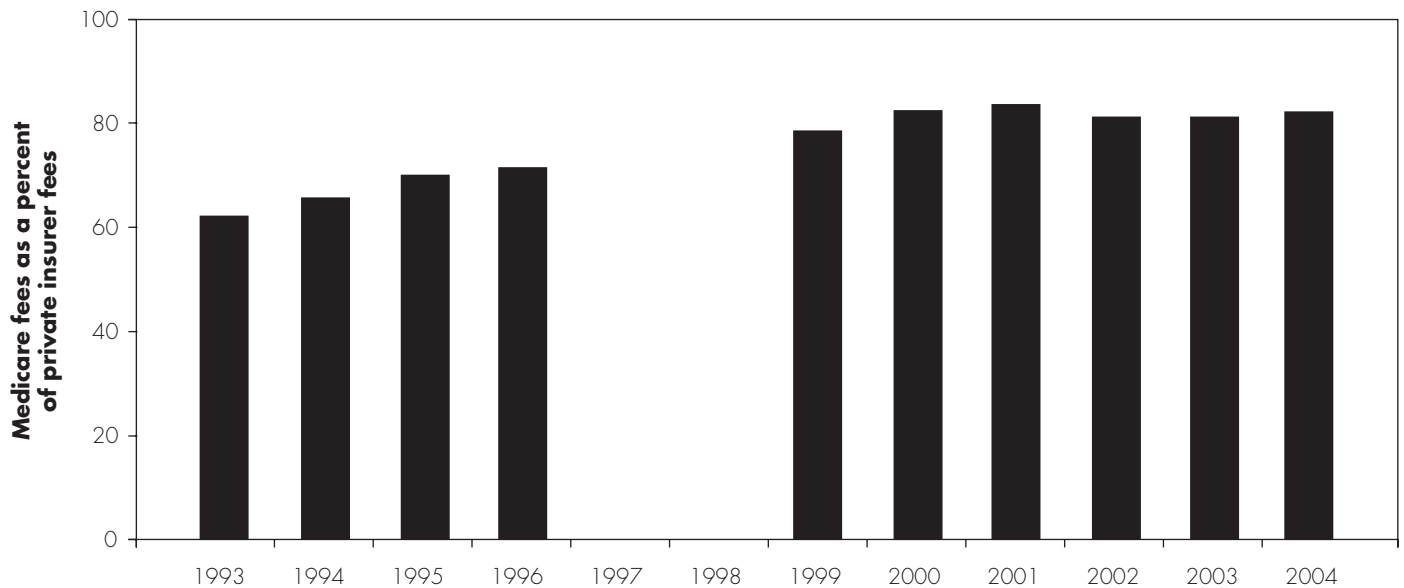
coming from Medicare, 94 percent accepted new Medicare patients (Cherry 2005). In comparison, 96 percent of physicians reported that they had open practices, and thus were accepting some or all new patients. This survey also found that more physicians accepted new Medicare patients than privately insured patients in capitated and noncapitated health plans. Importantly, both the overall patient acceptance rate and the Medicare acceptance rate remained steady compared to results from the 2003 NAMCS.<sup>6</sup>

The small share of physicians who leave the Medicare market, or who report reluctance to serve Medicare beneficiaries, may be responding to a variety of factors other than, or in addition to, payment adequacy. These other factors may relate to local conditions such as physician supply, demand for physician services, and insurance market conditions. Also factoring into physicians' decisions to accept Medicare patients may be their dependence on referrals, the size of their Medicare patient caseload, the amount of time they are willing to devote to patient care, and their personal retirement decisions. Disentangling these other factors from Medicare payment adequacy is difficult. To some extent, comparing physicians' willingness to accept Medicare patients with their willingness to accept all patients helps to control for non-Medicare factors.

**Assignment and participation rates** To supplement our data on the supply of physicians treating Medicare patients and patients' access to physician care, we examine assignment rates (the share of allowed charges for which physicians accept assignment) and physician participation rates (the share of physicians signing Medicare participation agreements). Claims data show that 99 percent of allowed charges for physician services were assigned in 2004 (Figure 2B-1). That is, for almost all allowed services, physicians agreed to accept the Medicare fee schedule charge as the service's full charge.

The number of participating physicians as well as the participation rate increased in 2004 and 2005. Participating physicians agree to accept assignment on all allowed claims in exchange for a 5 percent higher payment on allowed charges. Participating physicians receive other valuable benefits, including having their name and contact information listed on Medicare's website and the ability to verify a patient's Medicare eligibility and medigap status. Medicare's physician participation



**FIGURE  
2B-2****Ratio of Medicare to private reimbursement rates for physician services is stable**

Note: Data are not available for 1997 and 1998.

Source: Direct Research, LLC, for MedPAC.

agreement does not require physicians to take Medicare patients.

While 96 percent of allowed charges were for services provided by participating physicians, 3 percent were for services provided by nonparticipating physicians who decided to accept assignment. Only 0.9 percent of allowed charges were for services provided by nonparticipating physicians who did not accept assignment. For this small amount of nonassigned charges, physicians likely billed higher amounts, making the beneficiary liable for added coinsurance.

This practice is called balanced billing. Medicare limits the amount physicians may balance bill a patient. The total nonassigned charges for a service may not exceed the fee schedule amount by more than 9.25 percent. (This amount is equal to 115 percent of the nonparticipating physicians' allowed charge, which is 95 percent of the fee schedule amount.) In general, physicians do not consider the additional payment from balance billing to be worth forgoing the nonmonetary benefits associated with accepting assignment. A chief nonmonetary benefit, for example, is that when physicians accept assignment, they can receive payments directly from Medicare (less

the beneficiary cost-sharing portion) rather than collecting from the beneficiary. This arrangement is a major convenience for many physicians. In future analyses, the Commission may examine policy options related to the current balance billing limits.

The high rate of assigned charges also reflects the fact that the majority of physicians and nonphysician providers who bill Medicare agree to participate in Medicare—92 percent in 2005 (Figure 2B-1).

**Private payer payment rates for physician services**

We compare trends in Medicare's physician fees with those of private insurers as another measure of payment adequacy. Historically, Medicare payment rates for physician services have been below private insurer rates, but the difference between the two narrowed by the late 1990s and has remained relatively steady in recent years (Figure 2B-2). Averaged across all services and areas, 2004 Medicare rates were 83 percent of extrapolated private rates. This share is slightly higher than it was in 2003 (81 percent), indicating that, in 2004, Medicare rates increased a little more than private rates, on average (Hogan 2005b).

To analyze trends in Medicare rates for physician services relative to private rates, our contractor, Direct Research, LLC, used private claims databases from two large, national insurers (Hogan 2005b).<sup>7</sup> In addition to physician fee comparisons, this analysis estimates average annual fees based on private enrollment trends for different types of plans, such as health maintenance organizations (HMOs), preferred provider organizations (PPOs), and traditional indemnity insurance. This research finds that the difference between Medicare and private payment rates has narrowed considerably since the mid-1990s, when Medicare rates were about 66 percent of private payment rates. Enrollment shifts in the private market from higher-paying indemnity plans to lower-paying HMOs accounted for much of the narrowing between Medicare and private insurance rates from the mid-1990s to 2001.

Medicare's average fee for physician services grew by about 2 percent in 2004. This increase stems from several provisions in the Medicare Prescription Drug, Improvement, and Modernization Act of 2003. In addition to a 1.5 percent increase in the conversion factor, the law also imposed a floor on the geographic practice cost index (GPCI) for physician work—the component of the fee schedule that accounts for geographic variation in costs for physicians' salaries and fringe benefits. This provision effectively raised payments, through 2006, for services furnished in all areas with below-average physician work GPCIs. The MMA also increased fees in Alaska, through 2005, and provided bonus payments, through 2007, for services provided by physicians in newly established physician scarcity areas (determined separately for primary care physicians and specialists).<sup>8</sup>

In contrast, we found that private insurer payment rates in our databases increased, on average, less than 1 percent in 2004. In addition to steady fees, the mix of private enrollment by type of plan (preferred provider, point-of-service, health maintenance organization, and traditional indemnity insurance) remained steady between 2003 and 2004 (Gabel et al. 2004). Thus, enrollment mix did not affect the change in average private fees.

Relative to private insurer fees, the net effect of Medicare's payment increases resulted in a 2-percentage-point narrowing of the Medicare-to-private fee ratio in 2004. Consequently, across all areas and services, Medicare fees averaged 83 percent of private insurer rates in 2004, up from 81 percent in 2003.<sup>9</sup> Within a market area and for a given service, the difference between Medicare and private fees may vary substantially.

While our research averages payments across all areas, some research by HSC has examined access rates by geographic area, with particular attention to the difference between Medicare and private insurer fees in each area (Trude and Ginsburg 2005). This research has found that despite differences in Medicare and commercial payment rates across markets, the proportion of Medicare beneficiaries reporting access to care problems in markets with the widest payment rate gap did not vary significantly from the proportion reporting problems in markets with more comparable payment rates. In addition, privately insured people age 50 to 64 did not appear to gain better access to care relative to Medicare beneficiaries in markets with higher commercial payment rates. These findings suggest that local and national health system developments may be more important influences on both Medicare beneficiary access and privately insured access. Indeed, these conditions may affect beneficiary access as much as or more than Medicare payment levels.

### **Changes in the volume of physician services used**

Changes in the volume and intensity of services may be another indicator of the adequacy of Medicare's payments for services. Using claims data from 1999 through 2004, we calculated per capita growth in the units of services beneficiaries used. We then weighted the units of services used by each service's relative value units from the physician fee schedule. The result is a measure of growth—or volume—that accounts for changes in both the number of services and the complexity, or intensity, of those services (Table 2B-5). We thus distinguish growth in volume from growth in units of service: Volume growth includes an adjustment for change in intensity; unit-of-service growth does not. Compared to an analysis of spending growth, looking at RVU growth removes the effects of price inflation.

Per capita volume continued to grow in 2004. Across all services, volume grew 6.2 percent per beneficiary. This growth is higher than the average annual volume growth seen in recent previous years. Among broad categories of services—evaluation and management, major procedures, other procedures, imaging, and tests—volume growth rates varied, but all were positive. As we have seen before, per capita volume for imaging grew the most. From 2003 to 2004, the imaging volume growth rate was 11.0 percent. For the first time, the volume of other procedures (which includes nonmajor procedures and outpatient therapies) grew more than the volume of tests but these were similar; other procedures grew 9.4 percent per beneficiary in 2004 and tests grew 8.9 percent.

**TABLE  
2B-5****Use of physician services per beneficiary in fee-for-service Medicare, for selected services, 1999-2004**

Type of service	Average annual percent change in units of service per beneficiary		Average annual percent change in volume per beneficiary*		Percent of total volume*
	1999-2003	2003-2004	1999-2003	2003-2004	
<b>All services</b>	<b>4.2%</b>	<b>4.5%</b>	<b>5.4%</b>	<b>6.2%</b>	<b>100.0%</b>
<b>Evaluation and management</b>	<b>2.4</b>	<b>1.4</b>	<b>3.6</b>	<b>3.3</b>	<b>41.1</b>
Office visit—established patient	2.5	1.3	3.4	3.2	17.7
Hospital visit—subsequent	2.1	0.5	3.0	1.9	8.0
Consultation	4.3	3.7	5.7	5.2	5.8
Emergency room visit	3.3	1.4	6.4	3.9	2.7
Hospital visit—initial	0.8	0.1	1.2	0.7	2.0
Office visit—new patient	0.1	1.8	0.1	2.0	1.9
Nursing home visit	0.4	2.1	2.1	3.5	1.7
<b>Imaging</b>	<b>5.2</b>	<b>5.8</b>	<b>9.9</b>	<b>11.0</b>	<b>15.7</b>
Standard—nuclear medicine	12.7	10.5	16.8	14.3	2.3
Echography—heart	8.7	7.3	10.8	10.0	2.2
Advanced—CT: other	13.7	13.0	16.3	16.2	2.0
Advanced—MRI: other	17.7	17.1	19.3	18.2	1.8
Standard—musculoskeletal	3.4	4.2	5.1	4.5	1.2
Advanced—MRI: brain	14.0	9.6	13.3	11.6	1.1
Standard—chest	0.5	-0.6	-0.2	-1.3	0.7
Standard—breast	7.2	13.0	-5.3	4.5	0.7
Echography—other	9.7	8.1	11.6	12.0	0.6
Procedure—other	8.6	18.2	8.3	16.1	0.5
<b>Major procedures</b>	<b>2.9</b>	<b>0.2</b>	<b>3.8</b>	<b>3.4</b>	<b>9.0</b>
Cardiovascular—other	2.5	-6.2	4.0	-3.1	2.0
Orthopedic—other	7.3	8.3	7.5	8.9	1.1
Coronary artery bypass graft	-2.5	-4.0	-3.6	-4.5	0.7
Knee replacement	10.2	14.4	9.7	14.6	0.7
Coronary angioplasty	7.9	6.1	7.3	6.7	0.5
Hip fracture repair	-1.1	-0.1	-0.4	0.9	0.4
Hip replacement	6.4	6.3	6.4	6.4	0.4
<b>Other procedures</b>	<b>8.6</b>	<b>6.3</b>	<b>7.0</b>	<b>9.4</b>	<b>21.7</b>
Minor—other, including outpatient rehab	16.0	23.7	14.7	21.3	4.4
Ambulatory—skin	5.3	4.2	4.6	5.8	2.1
Cataract removal/lens insertion	0.8	2.0	1.0	2.2	1.8
Colonoscopy	9.2	1.9	9.3	1.4	1.1
Upper gastrointestinal endoscopy	3.8	4.2	3.4	4.0	0.6
Cystoscopy	2.0	3.0	2.2	3.4	0.5
<b>Tests</b>	<b>4.3</b>	<b>10.8</b>	<b>7.0</b>	<b>8.9</b>	<b>5.1</b>
Other tests	6.1	26.7	11.0	16.8	2.0
Lab test—other (physician fee schedule)	5.4	1.7	5.2	2.7	1.5
Electrocardiogram	1.5	2.1	1.7	2.7	0.7
Cardiovascular stress test	8.0	8.3	10.2	10.2	0.6

Note: CT (computed tomography). To put service use in each year on a common scale, we used the relative weights for 2004. For billing codes not used in 2004, we imputed relative weights based on the average change in weights for each type of service. Some low-volume categories and services are not shown on the table, but are included in the summary calculations.

\*Volume is measured as units of service multiplied by each service's relative weight (relative value units) from the physician fee schedule.

Source: MedPAC analysis of claims data for 100 percent of Medicare beneficiaries from all 12 months of each year.

These estimates include only services paid for under the physician fee schedule. The estimates would be higher if they included the volume of other services in CMS's broader definition of physician services, such as Medicare Part B drugs and laboratory services. The Commission has found, for example, that volume of chemotherapy drugs increased 12 percent from 2003 to 2004 and erythropoietin (for patients without end-stage renal disease) grew 36 percent (Hogan 2005a).

The imaging category includes several services with double-digit volume increases in 2004, including specified magnetic resonance imaging, computerized tomography, and nuclear medicine. Chapter 3 of MedPAC's March 2005 report discusses volume increases in imaging and explores a variety of policy options and recommendations to address volume growth in imaging services.

The other procedures category includes the subcategory with the highest volume growth in 2004—minor procedures. This subcategory, which grew 21.3 percent per beneficiary, includes drug administration and outpatient rehabilitation, such as physical therapy. Although much of the growth is attributable to physical therapy services, we also find growth in drug administration, some of which may be due to payment changes included in the MMA.<sup>10</sup>

Increases in volume translate directly to growth in Part B spending. Indeed, CMS reports that total physician-related Part B services experienced an 11.5 percent increase in spending in 2004, driven in part by increases in the volume and intensity of services on a per beneficiary basis (Office of the Actuary 2006). Several years of sustained rapid volume growth has increased Medicare spending and is, in large part, responsible for the negative updates required by the SGR formula. In fact, the SGR target provides an allowance for growth in three factors:

- inflation in physicians' practice costs,
- changes in enrollment in fee-for-service Medicare, and
- changes in spending due to law and regulation.

It then allows for growth above those factors based on growth in real gross domestic product (GDP) per capita. GDP, the measure of goods and services produced in the United States, is used as a benchmark of how much growth in spending the United States can afford. The spending target in the SGR combines all these factors. The basic SGR mechanism lowers the update when cumulative

actual spending exceeds target spending. For 2004, for example, the cumulative impact of actual spending was about \$17.4 billion higher than the SGR target for that year (Office of the Actuary 2005). The disparity in actual spending relative to the target has grown because of several factors including volume and legislated fee increases.

Using information supplied by the American Medical Association (AMA), CMS assessed potential reasons for recent volume growth. In its assessment, CMS noted that although some of these increases are related to improvements in health care quality, much of the increase cannot easily be explained by changes in treatments based on new medical evidence and valuable new technologies. The AMA has stated that CMS's conclusion is based on incomplete data analyses. CMS reports that it is continuing to analyze which changes in utilization are likely to be associated with important health improvements and which ones may have more questionable value.

Consistently, the categories with the lowest volume increases include major procedures and evaluation and management (E&M) services. Inherent volume constraints on these services may explain their relatively lower volume growth. That is, major surgical procedures are considerably less discretionary and may, in some cases, be substituted by medical treatments or other procedures (as illustrated in the paragraph below). Also, volume growth for E&M services may be constrained by their greater dependence on actual physician time than many imaging and procedure-based services, which may achieve greater volume increases with the aid of technology and nonphysician practitioners.

Although all broad categories of service increased in volume in 2004, some individual services decreased. The largest decrease (4.5 percent) was for coronary artery bypass graft (CABG). This decrease likely represents substitution of less invasive services. Specifically, CABG volume is decreasing while the volumes of two newer procedures for treating coronary artery disease are increasing—namely, coronary angioplasty and coronary artery stent insertion (NCHS 2004).

Our analysis of volume growth shows that per capita service use is increasing for the vast majority of services, suggesting that beneficiaries are able to access Medicare-covered services. Data on growth in the volume of physician services must be interpreted cautiously; there is evidence that volume goes up for some services when

payment rates go down, the so-called volume offset (Codespote et al. 1998). Such a volume offset makes it difficult to interpret volume increases as a payment adequacy indicator.

### Changes in quality of ambulatory care

This year’s payment adequacy analysis begins to examine the quality of ambulatory care through Medicare claims data. We developed a set of indicators—the Medicare Ambulatory Care Indicators for the Elderly (MACIEs)—to track the provision of necessary care and rates of potentially avoidable hospitalizations over time. (The text box on p. 96 describes the development of the MACIEs in more detail.)

Our analysis finds that most of the indicators we measured were steady or showed small improvements from 2002 to 2004 (Table 2B-6). Specifically, among 38 measures, 20 showed improvement and 15 did not change statistically. This finding suggests that in 2004, beneficiaries with selected conditions were a little more likely to receive certain minimally necessary services for their condition and avert potentially avoidable hospitalizations related to their condition. Further, we see some improvements on outcome measures concurrent with improvements on process measures for the same conditions.

We only found a decline in quality as defined by our measures in 3 out of 38 measures. All three of these measures were related to breast cancer. We found small declines in general mammography screenings for females and clinically indicated imaging for women with a history or new diagnosis of breast cancer. Recent findings from the National Committee for Quality Assurance (NCQA) also show slight declines in breast cancer screening for beneficiaries in Medicare Advantage plans as well as people in other commercial plans (NCQA 2005). NCQA notes that some public debate on the effectiveness of mammography may contribute to confusion about how often—and whether—women should be screened for breast cancer.

Among the 38 indicators, 6 measured occurrence of potentially avoidable hospitalizations or emergency department visits for selected chronic conditions. For all these measures, none showed a statistically significant decline between 2002 and 2004; all showed either improvement (fewer occurrences) or no statistical change. For example, in 2004, a smaller share of beneficiaries with chronic obstructive pulmonary disease (COPD) had COPD-related inpatient hospitalizations, and a smaller

**TABLE  
2B-6**

### Most ambulatory care indicators show improvement or stability, 2002-2004

Indicators	Number of indicators			
	Improved	Stable	Worsened	Total
All	20	15	3	38
Anemia & GI bleed	3	1	0	4
CAD	3	1	0	4
Cancer	0	4	3	7
CHF	5	3	0	8
COPD	2	0	0	2
Depression	0	1	0	1
Diabetes	6	1	0	7
Hypertension	0	1	0	1
Stroke	1	3	0	4

Note: GI (gastrointestinal), CAD (coronary artery disease), CHF (congestive heart failure), COPD (chronic obstructive pulmonary disease).

Source: MedPAC analysis of Medicare Ambulatory Care Indicators for the Elderly (MACIE) from the Medicare 5 percent Standard Analytic Files.

share of beneficiaries with diabetes were hospitalized for serious short-term (e.g., diabetic coma) or long-term complications (e.g., nontraumatic amputations).

We found that for several conditions, declines in potentially avoidable hospitalizations occur concurrently with increases in the use of clinically necessary services for the same condition. For example, for diabetes we found decreases in the rate of diabetes-related hospitalizations over the same time period that we found increases in the use of diagnostic testing and follow-up. Therefore, we see improvements on outcome measures (lower rates of short-term and long-term complications) concurrent with improvements on process measures (higher rates of necessary care, such as lipid and hemoglobin testing).

In addition to measuring change from 2002 to 2004, we also evaluated the underlying percentages of beneficiaries receiving the indicated care for their conditions. For 2004, we found that for 20 out of the 32 measures for getting necessary care, at least two-thirds of beneficiaries received the indicated care for their condition. Alternatively, for 12 measures, less than two-thirds of beneficiaries received the specified care for their condition. Among the indicators with the highest rates were two annual visits for people with history of stroke, congestive heart failure, COPD, coronary artery disease, and/or diabetes. Among the lowest

## Development of the Medicare Ambulatory Care Indicators for the Elderly (MACIEs)

The Commission developed a set of indicators to analyze ambulatory care quality and evaluate the provision of necessary care through Medicare claims data. These indicators are called the Medicare Ambulatory Care Indicators for the Elderly (MACIEs). They were initially developed nearly 10 years ago by a research team at RAND who sought measures of care that were both clinically meaningful and could feasibly be analyzed from claims data.<sup>11</sup> In May 2004, we convened an expert panel of physicians, clinicians, and researchers to review and update the original indicators to reflect current medical practice. The experts reviewed clinical evidence from existing clinical guidelines, other organizations' efforts to identify and use ambulatory indicators, and the limits of claims data.<sup>12</sup>

MACIEs are designed to reflect basic clinical standards of care for common medical diagnoses. They focus on two types of measures: (1) the percentage who received clinically necessary services for their diagnoses and (2) the percentage who had potentially avoidable hospitalizations directly related to their diagnoses.

Building off of the initial work for these indicators, "clinically necessary services" are defined as routine care for which:

- the benefits of the service outweigh its risk,
- the benefits to the patient are likely and substantial, and
- physicians have judged that not recommending the care would be improper.

Steven Asch and colleagues describe this definition of routine necessary care in published research (Asch et al. 2000). Measures of potentially avoidable hospitalizations include use of emergency department services and inpatient hospitalizations that might have been averted had patients received better ambulatory care.

For the MACIEs, we selected medical conditions:

- that have a high prevalence or incidence among the elderly population,
- for which effective medical treatment is available, and
- that are readily identifiable from diagnoses coded on Medicare claims.

Under these criteria, the current MACIE analysis focuses on the following medical conditions: anemia, gastrointestinal bleed, breast cancer, colon cancer, coronary artery disease, diabetes, congestive heart failure, depression, hypertension, chronic obstructive pulmonary disease, and stroke.

The MACIE indicators reflect minimum standards of acceptable care for certain diagnoses. For example, they include lipid testing for people with coronary artery disease. The MACIE indicators are not intended to show optimal care, and they cannot account for reasons why patients do not receive necessary care. Because these measures can be derived from claims data, they provide a resource-efficient method to monitor potential underuse of necessary medical

*(continued next page)*

rates was gastrointestinal work-up near the time of initial diagnosis or iron deficiency anemia.

In sum, our MACIEs analysis mostly shows small improvements and stability in the quality of ambulatory care, as defined by our measures. We see increases in the share of beneficiaries receiving necessary ambulatory care and averting potentially avoidable hospitalizations.

Few measures indicated a worsening of care. However, in a little less than half of the process measures, fewer than two-thirds of the applicable beneficiaries received the indicated services. Further analysis with these measures could provide more information on these findings, such as trends in ambulatory care quality by geographic location and beneficiary characteristics.

## Development of the Medicare Ambulatory Care Indicators for the Elderly (cont.)

services by Medicare beneficiaries. While we are using these indicators as a measure of quality, needed services may not be provided for a number of reasons, including problems accessing the health care system, failure of providers to perform or recommend services, or failure of beneficiaries to follow provider recommendations to obtain care. Additionally, there may be circumstances for which the indicated services are in fact contraindicated, such as for patients with certain comorbidities. The MACIE analysis takes particular caution to assign accurate diagnoses, but claims analysis is subject to diagnosis coding errors in the claims files.<sup>13</sup>

The MACIE data analysis requires two years of claims data for each beneficiary cohort in order to check for

service use within a specified amount of time (e.g., eye exam within a two-year period for diabetics). Therefore, the data set is restricted to the population of beneficiaries who were continuously in Medicare fee-for-service during the two-year study period. Consequently, beneficiaries were excluded from the data set if—during the study period—they died, newly enrolled in Medicare, used hospice care, or were in managed care. Beneficiaries younger than age 65 were also excluded from the sample. For purposes of our update analysis, we are tracking these quality indicators in the aggregate. Further analysis on quality and access to care could compare MACIEs for specified subpopulations, such as by geographic location, income status, or other factors. ■

### How should Medicare payments for physician services change in 2007?

After considering current payment adequacy, we also analyze changes in input costs projected for the coming year. For physicians, we examine two factors to forecast input costs: change in input prices and the Commission's policy goal of increased productivity.

#### Input price increases

To measure input price inflation for physician services, we use the Medicare Economic Index (MEI), which CMS constructs from various data sets on price information and survey data supplied by the American Medical Association. The MEI provides a weighted average of price changes for inputs used to provide physician services. For 2007, the MEI currently forecasts that input prices for physician services will increase by 3.7 percent (Table 2B-7, p. 98). (Because the MEI forecasts are revised quarterly, this estimate may change.) For our analysis, we exclude CMS's adjustment for productivity in the MEI because we calculate an expected productivity adjustment (discussed in Chapter 2) that may be used across all provider sectors.

Within this aggregate estimate are individual input cost changes. CMS sorts specified inputs into two major

categories: physician work and physician practice expense. Physician work includes salaries and fringe benefits allotted for physicians. Physician practice expense includes nonphysician employee compensation, office expenses, professional liability insurance (PLI), drugs and supplies, and medical equipment.

To calculate the projected costs for these inputs, CMS first estimates the share, or weight, of physicians' practice revenues attributable to each input, based primarily on data supplied by the AMA. CMS attributes 52.5 percent of physician revenues to physician work and 47.5 percent to practice expense, which includes a PLI weight of 3.9 percent. In 2004, CMS updated its input category weights based on 2000 survey data from the AMA. Rebasings these weights resulted in a decrease in the share of revenues going toward physician work and an increase in the share of revenues going toward practice expense. For the next revision of the MEI, CMS will need to substitute another data source for determining many of the weights because the AMA has discontinued its survey.

CMS uses more timely data to forecast input price changes. CMS currently projects that from 2005 to 2006, input prices for physician work will increase 3.7 percent, based on increases of 3.5 percent in wages and salaries and 4.5 percent in nonwage compensation. Practice expenses are projected to increase by 3.8 percent. This projection includes an 8.6 percent increase in PLI.<sup>14</sup> Although PLI

**TABLE  
2B-7****MEI weights and forecasted  
input price changes for  
physician services for 2007**

Input component	Category weight	Price changes for 2007
Total	100.0%	3.7%
<b>Physician work</b>	<b>52.5</b>	<b>3.7</b>
Wages and salaries	42.7	3.5
Fringe benefits (nonwage compensation)	9.7	4.5
<b>Physician practice expense</b>	<b>47.5</b>	<b>3.8</b>
Nonphysician employee compensation	18.7	3.8
Wages and salaries	13.8	3.5
Fringe benefits (nonwage compensation)	4.8	4.6
Office expense	12.2	2.0
Professional liability insurance	3.9	8.6
Medical equipment	2.1	1.2
Drugs and supplies	4.3	3.9
Pharmaceuticals	2.3	4.9
Medical materials and supplies	2.0	2.5
Other professional expense	6.4	2.4

Note: MEI (Medicare Economic Index). Forecasted price changes for individual components are calculated by multiplying the component's weight by its price proxy. Forecasted price changes are not adjusted for productivity. Numbers may not total exactly because of rounding.

Source: Unpublished estimates from CMS, dated December 07, 2005.

costs continue to be the fastest growing input cost, PLI premium increases have slowed a little in the past few years. CMS shows that average increases for 2005 were 9.9 percent, compared with 18.7 percent in 2004 and 30.3 percent in 2003. Historically, changes in premiums for PLI have generally followed a cyclical pattern. From past experience one would have predicted a slowdown in 2001 and 2002, but in fact, premium increases did not slow until more recently (MedPAC 2003).

Some physicians—particularly those practicing in certain geographic areas and those whose specialties include high-risk procedures—report PLI premium increases that are much higher, and thus take up a significantly higher percentage of their revenues than forecasted in the MEI. The MEI, however, is not designed to reflect price changes for individual physicians; instead it accounts for an average price change for all physicians. The fee schedule, on the other hand, is the primary tool that

reimburses services differentially to account for PLI premium variation by service and geographic area. For example, the fee schedule's PLI RVUs designate higher payments for services furnished by neurosurgeons and cardiothoracic surgeons because they pay higher PLI premiums. Similarly, the fee schedule's PLI GPCIs adjust payments to physicians who practice in geographic areas with high PLI premiums, such as Detroit, Michigan. Given both of these factors, over 20 percent of Medicare's payments to a Detroit neurosurgeon under the fee schedule can be attributable to PLI, if a fairly high proportion of the neurosurgeon's practice consists of major procedures (MedPAC 2003).

**Productivity growth**

In making our update recommendation, the Commission has adopted a productivity objective, or goal, to encourage provider efficiency. Chapter 2 discusses the source of our productivity estimates and our rationale for incorporating productivity goals into our payment update analyses. We currently estimate productivity growth to be 0.9 percent for 2007. This estimate is similar to CMS's when it adjusts the MEI.

**RECOMMENDATION 2B**

**The Congress should update payments for physician services in 2007 by the projected change in input prices less the Commission's expectation for productivity growth.**

**RATIONALE 2B**

Access, supply, and volume measures suggest that the majority of Medicare beneficiaries are able to obtain physician services with little or no problems. Ambulatory quality measures are generally stable and improving. Our analysis of the most recently available data finds that Medicare payments for physician services are adequate. Currently, the projected change in input prices for 2007 is 3.7 percent, and the Commission's goal for 2007 productivity growth is 0.9 percent.

**IMPLICATIONS 2B****Spending**

- Our estimates indicate that this recommendation for 2007 would increase federal program spending by more than \$1.5 billion in the first year and \$5 billion to \$10 billion over five years, relative to current law. Any positive update would increase spending relative to current law because the statute calls for substantial



negative updates from 2007 to 2011, under the SGR. Over longer periods of time, however, the impact would be lower because the SGR would make up for the added spending.

### **Beneficiary and provider**

- This recommendation would increase beneficiary liability for cost sharing, premiums, and deductibles. Cost sharing liability for Part B services would increase directly with the increase in the conversion factor. Part B premiums and deductibles would increase subject to statutory formulas and actuarial projections to ensure that the Medicare program has sufficient revenue to cover costs. For example, by law, the monthly premium for Medicare Part B must be sufficient to cover 25 percent of the program's costs.

### **Additional comments**

Our analysis of payment adequacy is based primarily on data for 2004 and 2005, during which time the Congress overrode the SGR and increased fees for physician services through modest conversion factor increases and other mechanisms (such as GPCI fee increases and bonus payments). Obviously, data are not available for us to examine the impact of the Deficit Reduction Act of 2005—which holds payments for 2006 at 2005 levels—on access, supply, volume, and quality. We will monitor these indicators closely as data become available.

Although the recent Deficit Reduction Act overrode the cut that the SGR called for in 2006, it does not address payment levels for 2007—the year for which we are making our recommendation—and beyond. Under current law, the SGR continues to call for substantial negative updates for 2007 through at least 2011. The Commission does not support these impending fee cuts. We are concerned that such consecutive annual cuts would threaten access to physician services over time, particularly primary care services. Reimbursement cuts may disproportionately affect primary care providers who average lower volume growth in their practice than procedure-based specialists. Because many Medicare beneficiaries rely on primary care providers for important health care management, payment policies that may discourage medical students and residents from becoming primary care physicians raise particular concern for the Commission.

The Commission has discussed several problems associated with the SGR in Congressional testimonies (Hackbarth 2005a, Hackbarth 2005b) and Reports to the Congress (MedPAC 2005, MedPAC 2002). The Commission considers the SGR formula a flawed, inequitable mechanism for volume control and plans to examine alternative approaches to it in the coming year. ■

## Endnotes

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- 1 For example, through 2006, the MMA imposed a floor for the geographic practice cost index (GPCI) for physician work. Establishing a floor raises payments for services furnished in areas with below-average physician work GPICs, which are largely rural. The MMA also provided bonus payments, through 2007, for services provided by physicians in newly established physician scarcity areas (determined separately for primary care physicians and specialists). Services provided in an area that qualifies for the scarcity-area bonus and the pre-existing 10 percent shortage-area bonus can receive both incentive bonuses.
- 2 Small shares of the sample (under 10 percent for each group) reported that they tried to find a new primary care doctor. Of them, only about one-quarter reported having any problems.
- 3 Specifically, CMS combined the 2001 CAHPS-FFS measures with state-level information taken from CMS monitoring activities, including environmental scanning reports by CMS regional offices and telephone calls to 1-800-Medicare and Medicare carriers in 2002. Areas designated as eligible for site selection generally met two criteria: (1) they had high rates of 2001 access problems reported on CAHPS-FFS, and (2) they were located in states where CMS monitoring efforts in 2002 indicated emerging physician access issues related to Medicare payment or Medicare physician participation.
- 4 In 2002, other payment changes also occurred, such as the full phase-in of resource-based relative values for the practice expense component of the physician fee schedule.
- 5 We conservatively categorized physicians who saw fewer than 15 patients under the assumption that they did not regularly serve FFS beneficiaries and provided services to beneficiaries for only a short time during a year or only on an emergency or temporary basis while covering for colleagues.
- 6 Although the percentage rates were stable, estimates of the raw numbers of physicians accepting new patients, including Medicare patients, declined slightly.
- 7 To compare Medicare and private payment rates, the contractor first calculated a price index for each type of private plan (HMO, point-of-service, preferred provider organization, and indemnity). Each price index was a weighted average of service-level price comparisons between Medicare and private payment rates, using Medicare's volume in each service as the weights. These plan-specific estimates were then weighted based on estimates of private enrollment in each type of plan. Because this analysis extrapolates private fees from two large, national insurance carriers, it does not capture the impacts of any enrollment shifts between small, local organizations and large insurers. Such shifts add some uncertainty to the difference between Medicare and private rates across *all* private insurers.
- 8 Services provided in an area that qualifies for the scarcity-area bonus and the pre-existing 10 percent shortage-area bonus can receive both incentive bonuses.
- 9 The Medicare-to-private insurer ratio narrows slightly (1 percentage point) when Part B drugs and lab tests are excluded from the analysis. Without these items, Medicare's physician fees averaged 84 percent of private insurer fees in 2004. Both Medicare and private payers reduced payments for Part B drugs in 2004. With Part B drugs and lab tests excluded, overall average fee increases were 3.4 percent for Medicare and 1.3 percent for private insurers.
- 10 Prior to 2004, oncologists were allowed to bill for the administration of only one chemotherapy drug per day by injection, referred to as "push technique," regardless of the actual number of drugs administered. Starting in 2004, CMS allows oncologists to bill for each additional drug administered by push technique on the same day. The MMA also increased payments for drug administration services, but this payment increase is held constant in our volume analysis.
- 11 MACIEs were formerly called Access to Care for the Elderly Project (ACE-PRO) indicators.
- 12 Sources of guidelines included: the National Guidelines Clearinghouse, the American Heart Association (AHA), U.S. Preventive Services Task Force (USPSTF), the American Diabetes Association (ADA), the Institute for Clinical Systems Improvement (ICSI), the National Cholesterol Education Program's (NCEP's) Third Adult Treatment Panel, and the National Cancer Institute (NCI). In addition to the original ACE-PRO indicators, measures for consideration in the selected conditions/topics were identified from the following sources: the National Quality Measures Clearinghouse, the Physician Consortium for Performance Improvement, the National Health Quality Report (NHQR), the Veterans Health Administration (VHA), National Committee for Quality Assurance (NCQA), National Diabetes Quality Improvement Alliance, ICSI, Centers for Medicare & Medicaid Services (CMS), the Agency for Healthcare Research and Quality (AHRQ), and the Study of Clinically Relevant Indicators of Pharmacologic Therapy (The SCRIPT Project).
- 13 To assign the most accurate diagnosis possible, the MACIE analysis often requires that the specified diagnosis be on at least two physician or outpatient claims or on one inpatient claim. The use of two codes within a year increases positive predictive value and decreases the false positives likely associated with testing for a condition.
- 14 As 2007 approaches, this figure may change to reflect updated premium information.

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SECTION  
20C

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**Outpatient dialysis services**

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# R E C O M M E N D A T I O N S

**2C-1** The Congress should update the composite rate in calendar year 2007 by the projected rate of increase in the end-stage renal disease market basket index less half the Commission's expectation for productivity growth.

**COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2**

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**2C-2** The Congress should direct the Secretary to: eliminate differences in paying for composite rate services between hospital-based and freestanding dialysis facilities; and combine the base composite rate and the add-on adjustment.

**COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2**

# SECTION 2C

## Outpatient dialysis services

### Section summary

Each year, the Commission makes a payment update recommendation for outpatient dialysis services for the coming year. We first judge whether payments for the current year (calendar year 2006) are adequate by considering beneficiaries' access to care, changes in providers' capacity, changes in the quality of care, providers' access to capital, changes in the volume of services, and Medicare's payments and costs for 2006.

Most of our indicators of payment adequacy are positive:

- Beneficiaries are not facing systematic problems in accessing care. Our analysis suggests that facilities are not limiting care to certain types of beneficiaries.
- Providers have sufficient capacity to meet patients' demand, as demonstrated by an increasing number of facilities and dialysis treatment stations.

### In this section

- Are Medicare payments adequate in 2006?
- How should Medicare payments change in 2007?
- Update and distributional recommendations
- Medicare payments for dialysis drugs changed in 2005
- The use of home dialysis is declining among dialysis patients

- The quality of care is improving for dialysis adequacy and anemia status. However, vascular access and nutritional care are clinical areas needing quality improvements. An important step in improving patient outcomes is to broaden the payment bundle to include separately-billable drugs and other services needed by dialysis patients, such as vascular access services and nutritional management.
- The availability of private equity to fund acquisitions and increasing trends in the number of dialysis facilities suggest that providers have sufficient access to capital.
- Spending for dialysis treatments and dialysis drugs continues to grow. Between 1996 and 2004, annual rates of spending for composite rate services and dialysis drugs grew faster than the number of dialysis patients.
- Between 1997 and 2003, per treatment costs for composite rate services increased moderately, at a rate less than CMS's market basket index for dialysis services.

For this sector, we looked at the effect of using audited cost reports when examining the appropriateness of current costs. The Congress mandated that the Secretary audit cost reports of dialysis providers once every three years. We compared cost per treatment calculated from audited and unaudited 2001 cost reports from the same providers. We find that providers' allowable costs are 94.5 percent of reported costs and have applied this correction to the costs of composite rate services for facilities whose 2003 cost reports are not yet settled by CMS. We do not correct the costs of other providers because this information is not generally available for them. There is no statutory requirement that CMS regularly audit the cost reports of other providers who submit cost reports to the agency.

The Medicare margin for composite rate services and dialysis drugs was 2.4 percent in 2003. The Deficit Reduction Act of 2005 increases the composite rate by 1.6 percent in 2006. We project the Medicare margin for composite



rate services and dialysis drugs will be –0.3 percent in 2006 assuming facilities achieve a 6 percent average margin for drugs and –1.7 percent in 2006 assuming facilities achieve a 2 percent margin for drugs. We believe that given the design of the payment system, the long-run profit margin will be 6 percent. The industry is transitioning to the new payment system in 2006, which might result in lower profits in the short term.

In summary, most of our indicators of payment adequacy are positive. Nonetheless, the Commission is concerned about the trend in Medicare margins. Balancing these considerations, the recommendation is to update the composite rate in 2007 by the projected rate of increase in the end-stage renal disease market basket less half of the Commission’s expectation for productivity growth.

*The Congress should update the composite rate in calendar year 2007 by the projected rate of increase in the end-stage renal disease market basket index less half the Commission's expectation for productivity growth.*

## **Recommendation 2C-1**

**COMMISSIONER VOTES:**  
**YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2**

In addition to updating the composite rate, the Commission reiterates its recommendation to improve the distribution of payments for composite rate services (MedPAC 2005a). The Congress should eliminate differences in paying for composite rate services between freestanding and hospital-based facilities and should combine the base composite rate and the add-on payment. Doing so is consistent with the principle of paying the costs incurred by efficient providers who furnish appropriate care, regardless of the care setting. It is also consistent with CMS’s recent action to use the same method to pay for dialysis drugs provided by both facility types in 2006.

*The Congress should direct the Secretary to: eliminate differences in paying for composite rate services between hospital-based and freestanding dialysis facilities; and combine the base composite rate and the add-on adjustment.*

## **Recommendation 2C-2**

**COMMISSIONER VOTES:**  
**YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2**

Following the update and distribution recommendations, we summarize the changes in payment for dialysis drugs in 2005 and discuss providers' ability to purchase them at the Medicare payment rate. This analysis suggests that Medicare's payment for the top 10 drugs together was, on average, greater than providers' acquisition cost in 2005. However, this analysis cannot speak to providers' ability to purchase any individual drug at less than Medicare's payment rate.

We conclude this chapter by examining factors that may be influencing the use of home dialysis. Researchers report that clinical and nonclinical factors may influence a patient selecting in-center hemodialysis versus home dialysis. We also discuss the various Medicare policies that affect the coverage and payment of home dialysis. We plan to continue to analyze this topic in future work. ■

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## Background

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End-stage renal disease (ESRD) is a chronic illness characterized by permanent kidney failure. ESRD patients include those who receive dialysis treatment—a process that removes wastes from the body—and those who have undergone kidney transplantation and have a functioning kidney transplant.<sup>1</sup> Because of the limited number of kidneys available for transplantation, nearly three-quarters of all ESRD patients undergo dialysis.

The 1972 amendments to the Social Security Act extended Medicare benefits to people with ESRD who are eligible for Social Security benefits. This disease-specific entitlement is unique in Medicare. ESRD patients entitled to Medicare due to ESRD alone have the same benefits as other Medicare beneficiaries.

Medicare entitlement begins for most beneficiaries in the fourth month after the start of maintenance dialysis, except for patients who have undergone a kidney transplant or who receive training to perform dialysis at home. During the first three months, also known as the waiting period, the patient and other programs that the patient is eligible for (such as state Medicaid programs) are responsible for payment.

If an employer group health plan (EGHP) covers a patient when ESRD is diagnosed, then the EGHP is the primary payer for the first 33 months of care.<sup>2</sup> Medicare is the secondary payer during this period. EGHPs include health plans that patients were enrolled in through their own employment or through a spouse's or parent's employment, before becoming eligible for Medicare due to ESRD.

In 2004, the Commission's analysis shows that Medicare covered about 309,300 dialysis patients (either as a primary or secondary payer), nearly 93 percent of all such patients in the United States. About one-quarter of newly diagnosed ESRD patients were entitled to Medicaid benefits, and about one-quarter were covered by an EGHP (USRDS 2005).

### Medicare's policies for paying for outpatient dialysis services changed in 2005

Beginning in 2005, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) and regulations that CMS issued to implement the new law substantially changed the outpatient dialysis payments system by:

- paying the acquisition cost for separately billable dialysis drugs,
- shifting some of the profits previously associated with payments for separately billable drugs through an add-on payment to the prospective payment rate (called the composite rate) for outpatient dialysis services,
- adjusting the composite rate for differences in case mix, and
- updating the wage index and the definitions used to define the labor market areas.

However, the MMA does not change the two-part structure of the dialysis payment system—one, a prospective payment called the composite rate that covers the bundle of services routinely required for dialysis treatment and the other, separate payments for certain dialysis drugs that were not available when Medicare implemented the composite rate. Providers receive the composite rate for care provided in dialysis facilities (in-center) or in patients' homes.

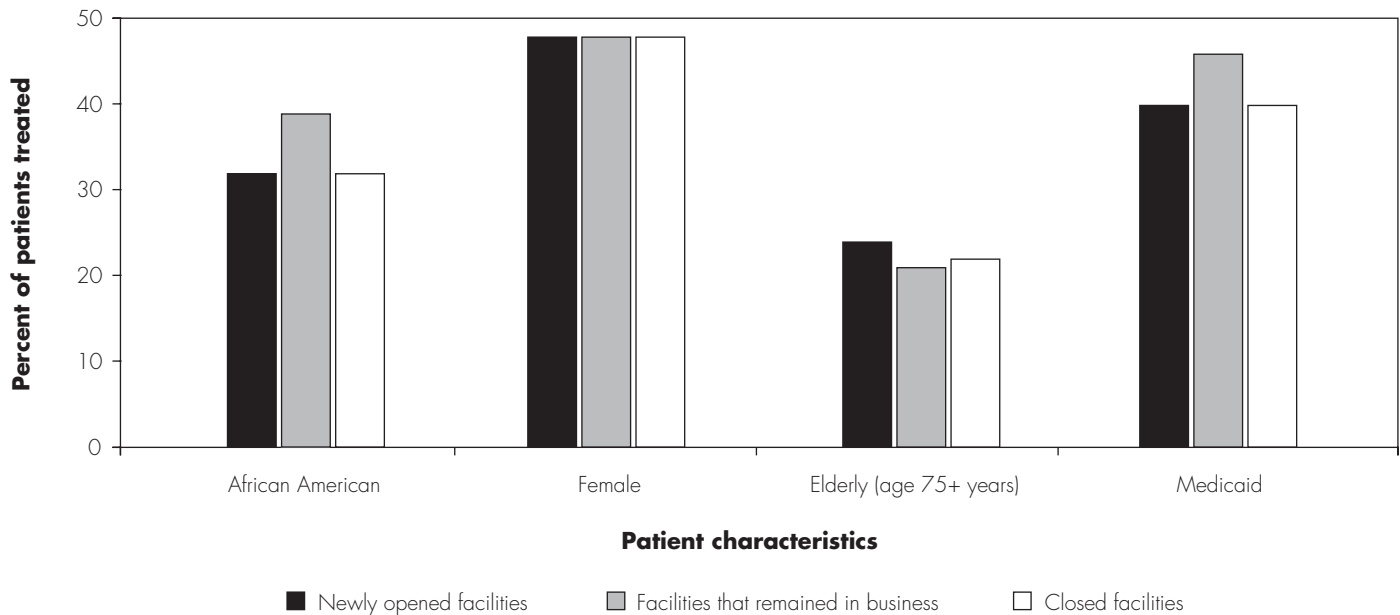
In calendar year 2006, the base composite rate for hospital-based facilities is \$132—on average \$4 more than that for freestanding facilities. (This difference stems from the Omnibus Budget Reconciliation Act of 1981, by which the Congress mandated separate rates for the two types of facilities.) In addition, CMS set the add-on payment at 14.7 percent of the composite rate for both freestanding and hospital-based facilities in 2006.

CMS will pay both provider types their acquisition cost—set at average sales price (ASP) plus 6 percent—for all separately billable drugs beginning in 2006. This change makes Medicare's drug payment less profitable than before 2005, when the program paid either average wholesale price, reasonable cost, or a set (statutory) rate.

In 2004, Medicare spending for outpatient dialysis and drugs administered during dialysis totaled \$7.6 billion for both freestanding and hospital-based facilities. Services paid for under the composite rate (referred to as composite rate services) accounted for about 58 percent of this total, and dialysis drugs accounted for the rest. On a per treatment basis, Medicare's payment averaged \$220 (\$127 for composite rate services and \$93 for dialysis drugs) with the beneficiary responsible for 20 percent of the payment. Medicare spending for composite rate services and dialysis drugs averaged about \$25,000 per patient annually.

**FIGURE  
2C-1**

**Characteristics of beneficiaries vary somewhat according to the facility's business status in 2001 and 2002**



Note: The 122 closed facilities are those that were open for business in 2001 but closed in 2002. The 3,752 facilities that remained in business are those that were open for business in 2001 and 2002. The 253 newly opened facilities are those that did not provide dialysis services until 2002. Patients may receive care from more than one facility. A total of 9,296 patients received care at closed facilities; 337,637 received care from facilities that remained in business; and 11,412 received care from facilities newly opened in 2002. We weighted results by the number of treatments patients received from each facility.

Source: Compiled by MedPAC from 2005 Renal Management Information System file (the number of dialysis treatments provided to each beneficiary), 2001–2002 denominator files (beneficiaries' demographic characteristics and Medicaid eligibility status), 2000–2003 facility surveys, and 2003–2004 Compare database (facilities' business status and characteristics) from CMS.

## Are Medicare payments adequate in 2006?

The first question in applying the Commission's approach for updating payments is whether the current level of Medicare payments for outpatient dialysis services is adequate. The Commission answers this question by looking at aggregate costs for composite rate services and dialysis drugs. We include the payments and costs for dialysis drugs because their use has increased significantly throughout the 1990s, and their effect on the financial performance of facilities is significant. Including these payments and costs gives a more accurate picture of the financial performance of dialysis providers and the adequacy of Medicare's payments for dialysis services.

Most of our indicators of payment adequacy are positive. Beneficiaries are not facing systematic problems in accessing care, providers have sufficient capacity to meet demand and the number of facilities—particularly for profit—continues to increase, the volume of services is

increasing, quality is improving for some measures, and providers' access to capital is good. Still, the Medicare margin for composite rate services and injectable drugs was 2.4 percent in 2003, and we project the Medicare margin will be -0.3 percent in 2006 assuming facilities achieve a 6 percent margin, on average, for drugs between 2005 and 2006 (which is consistent with Medicare's payment of average sales price plus 6 percent) and -1.7 percent in 2006 assuming facilities achieve a 2 percent margin for drugs in 2006. These margin estimates include the 1.6 percent update of the composite rate in 2006 by the Deficit Reduction Act of 2005.

## Beneficiaries' access to care

We found no evidence of beneficiaries facing systematic problems in obtaining necessary care in 2004 and 2005 based on our review of websites and published literature. Facility closings tended to be linked to local issues, such as rising real estate prices and states' certificate-of-need regulations.

Hurricanes Katrina and Wilma affected patients residing in the South, including Louisiana, Alabama, Mississippi, and Florida. CMS reported that Katrina affected about 6,000 dialysis patients and Wilma affected 7,300 patients (Clemons 2005). These patients are currently receiving care at reopened facilities or at other facilities. The American Kidney Fund's Disaster Relief Program and other renal organizations are providing emergency financial assistance to these dialysis patients.

### **Access to in-center hemodialysis and home dialysis**

Availability of specific types of in-center hemodialysis and modalities used in patients' homes—peritoneal dialysis and home hemodialysis—shows little change over time. Between 1998 and 2005, at least 96 percent of all dialysis facilities offered in-center hemodialysis, while 45 percent offered some type of peritoneal dialysis—continuous cycler-assisted peritoneal dialysis (CCPD) or continuous ambulatory peritoneal dialysis (CAPD). In 2003 and 2005, about 12 percent of facilities offered home hemodialysis (these data are not available before 2003).

Nonetheless, fewer patients are receiving dialysis in their homes. The most recent data from the United States Renal Data System (USRDS) show that between 1996 and 2003, the number of patients receiving hemodialysis in facilities increased by 6 percent per year. By contrast, the number of patients treated at home (using peritoneal dialysis) declined by 2 percent per year.<sup>3</sup> At the end of this chapter, we discuss some of the potential factors that may affect the use of home dialysis, such as the care patients receive prior to dialysis, physicians' characteristics, patients' clinical characteristics and preferences, and Medicare's payment and coverage policies.

### **Do certain beneficiary groups face systematic problems in accessing care?**

Besides monitoring the effect of local issues, we assessed whether specific groups of patients faced systematic problems accessing care. Previously, we found that facility closures may occur disproportionately in areas where a higher share of the population is African American (MedPAC 2005b). However, this finding was derived from an analysis of area-level data, which cannot provide direct information about the causality of a relationship.

Consequently, we compared the characteristics of patients treated by the 3,752 facilities that were open in 2001 and 2002 with those of patients treated in the 253 facilities that

newly opened in 2002 and the 122 facilities that closed in 2002.

Facilities that stayed in business in both years treated a greater proportion of patients who were African American or dually eligible for Medicaid compared with facilities that closed or were newly opened (Figure 2C-1). However, the characteristics of the patients treated by closed and newly opened facilities were similar—32 percent were African American, nearly half were female, nearly one-quarter were elderly, and 40 percent were dually eligible for Medicaid. In 2002, providers' capacity to furnish care increased by 131 facilities and by about 2,000 hemodialysis stations (data not shown). These results together suggest that beneficiaries should not be experiencing problems accessing needed care.

The closures of the 122 facilities may be linked to their profitability, size, and economies of scale:

- The Medicare margin for closed facilities was –5.0 percent in 2001 but 4.1 percent for the facilities that remained in business. In addition, the average composite rate cost per treatment was 8 percent higher for closed facilities than for facilities that stayed in business.
- Compared with facilities that remained open, closed ones were smaller (12.5 versus 17.3 hemodialysis stations) and treated fewer patients (44 versus 74 patients, respectively). In addition, facilities that remained open were more productive: They provided 554 treatments per hemodialysis station compared with 462 treatments per station at closed facilities.

Our findings do not suggest that closures are linked to the share of Medicare treatments a facility provided to patients for whom Medicare was the primary payer. Closed facilities and those facilities that stayed open provided similar proportions of treatments paid by Medicare as the primary payer—78 percent and 79 percent, respectively.

However, the share of Medicare treatments (74 percent) was somewhat lower for newly opened facilities. Some dialysis providers have informed the Commission that the payment rates of commercial payers exceed Medicare's and Medicaid's, and they prefer to open in areas where employer insurance covers more people. In 2004, Medicare payment for composite rate services and dialysis drugs averaged \$220 per treatment. By contrast, the large dialysis chains reported revenues per treatment from all

**TABLE  
2C-1**

**The total number of dialysis facilities is growing; for-profit and freestanding dialysis providers are a higher share over time**

	1995	2000	2005	Average annual percent change	
				1995-2000	1995-2005
Total number of:					
Dialysis facilities	2,721	3,805	4,540	7%	5%
Hemodialysis stations	40,578	59,480	78,870	8	7
Mean number of hemodialysis stations	15	16	17	1	2
Percent of all facilities:					
Hospital-based	26%	18%	14%	0	-1
Freestanding	74	82	86	9	7
Rural	23	25	25	8	6
Urban	76	74	75	6	5
For profit	65	78	78	11	7
Nonprofit	35	22	22	-3	0

Note: Nonprofit includes facilities designated as either nonprofit or government.

Source: Compiled by MedPAC from the 1995 and 2000 Facility Survey files from CMS and the 2005 Dialysis Compare database from CMS.

payers (Medicare, Medicaid, and commercial payers) ranging from \$278 to \$316 per treatment.

Finally, closures did not affect rural beneficiaries disproportionately: 26 percent of closed facilities were in rural areas, compared with 25 percent of those that stayed open. Furthermore, 26 percent of all newly opened facilities were located in rural areas.

**What types of providers furnish dialysis care?**

Over time, an increasing proportion of dialysis providers are freestanding, bigger, operated for profit, and owned by publicly traded companies (Table 2C-1 and Figure 2C-2). These trends in the profit status, size, type, and consolidation of dialysis providers suggest that the dialysis industry is attractive to for-profit providers and providing dialysis care in larger facilities leads to efficiencies and economies of scale.

Between 1995 and 2005, the number of freestanding facilities increased from 74 percent to 86 percent of all facilities, while for-profit facilities increased from 65 percent to 78 percent of all facilities. The absolute number of hospital-based facilities decreased modestly (from 708 to 642) during this time. Most freestanding facilities (90

percent) are for profit; by contrast, most hospital-based facilities (92 percent) are nonprofit. In 2005, 60 percent of all facilities were affiliated with the largest four chains and 76 percent of all facilities were affiliated with any chain (these data are not available for 1995 and 2000).

Also, between 1995 and 2005, the average size of dialysis facilities increased, as measured by the number of hemodialysis stations. This trend is consistent with the finding that freestanding facilities are larger than those based in hospitals (18 versus 13 stations, respectively) and that chain-affiliated facilities are bigger than those not affiliated with a chain (18 versus 15 stations, respectively).

The dialysis industry has rapidly consolidated during the past decade.<sup>4</sup> Currently, four national for-profit, publicly traded chains own 60 percent of all facilities and 70 percent of all freestanding facilities. In addition to these four chains, a nonprofit chain operates 4 percent of all facilities. Facilities not owned by these chains are:

- equally divided between for-profit and nonprofit facilities,
- more likely to be freestanding, and
- less likely to be affiliated with any chain.

Only the 5 largest chains operate facilities nationally (in 26 to 43 states). The other chains operate in no more than 11 states and most operate in only 1 to 3 states.

More consolidation will occur by 2006 when the four largest chains merge into two chains. Specifically, the merger of the second and third largest chains (DaVita and Gambro) became final in October 2005, and the first and fourth largest chains (Fresenius and Renal Care Group) announced their merger plans in May 2005. Once both mergers are complete, about one-third of all facilities will be affiliated with Fresenius, and about one-quarter will be affiliated with DaVita. The consolidation will also result in at least one new chain (Renal Advantage), which will own 70 facilities that the Federal Trade Commission required DaVita to divest.

### Do providers have the capacity to meet patient demand?

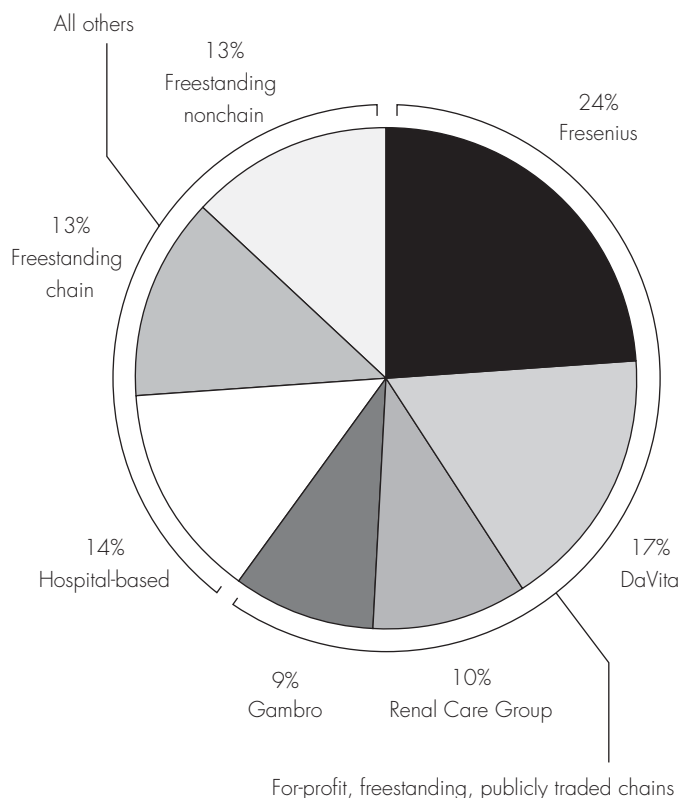
Trends in service volume and capacity suggest that the growth in the number of dialysis facilities and hemodialysis stations appears to have kept up with the demand for care during the past decade. Between 1995 and 2005, the total number of dialysis facilities and hemodialysis stations grew annually by 5 and 7 percent, respectively, while the number of dialysis patients grew annually by 5 percent (Table 2C-1).

“Same-store growth”—the change in the number of hemodialysis treatments provided in consecutive years by a given provider—is another indicator that suggests providers can meet the demand for care. Facilities can increase the number of treatments they furnish by treating more patients and by providing more treatments to existing ones.<sup>5</sup> Between 2002 and 2003, same-store growth averaged 4.7 percent. This growth varied by type of provider; for example, treatments provided by freestanding providers increased by 4.9 percent, while treatments provided by hospital-based facilities increased by 3.4 percent.

Providers appear to have the capacity to provide more hemodialysis treatments than they furnished in 2003. We compared the number of dialysis treatments provided by freestanding facilities with the number they could have provided if they operated at full capacity. We derived full capacity by multiplying the number of hemodialysis stations and the shifts per week reported by providers on their cost reports. The nearly 3,500 freestanding providers who submitted cost reports in 2003 furnished 26.9 million in-center hemodialysis treatments. By comparison, these

**FIGURE 2C-2**

**The dialysis industry is composed primarily of freestanding, for-profit facilities affiliated with a chain in 2005**



Source: Compiled by MedPAC from the 2005 Dialysis Compare database from CMS.

facilities could have provided 32.6 million treatments if they had operated at full capacity, suggesting they operated at 82 percent capacity, on average, in 2003. This estimate may overstate providers’ capacity as stations may not always be available for patient care due to maintenance. In addition, this estimate does not account for treatments that providers did not furnish because patients skipped treatment or were hospitalized.

Analysis of trends in freestanding facilities’ work shifts also suggests that providers have unused capacity. The average number of in-center hemodialysis shifts per week increased from 8.6 in 1998 to 9.9 in 2003, but only one-fifth of all facilities offered treatments after 5 p.m.<sup>6</sup> Some providers told the Commission that they do not offer evening care because their staff is unwilling to work in the evening, patients do not want to be treated then, or both.

**TABLE  
2C-2**

**Dialysis outcomes continue to improve for some measures**

Outcome measure	1999	2000	2001	2002	2003
Percentage of in-center hemodialysis patients:					
Receiving adequate dialysis	90%	91%	92%	92%	94%
With anemia under control	66	71	75	78	81
Dialyzed with an AV fistula	27	30	31	33	35
Not malnourished	80	80	82	81	81
Percent of all peritoneal dialysis patients:					
Receiving adequate CAPD	68	69	68	71	70
Receiving adequate CCPD	65	62	70	66	65
With anemia under control	70	75	76	81	83
Not malnourished	56	56	61	60	63

Note: AV (arteriovenous), CAPD (continuous ambulatory peritoneal dialysis), CCPD (continuous cycler-assisted peritoneal dialysis). Data on dialysis adequacy, use of fistulas, and anemia management represent percent of patients meeting CMS's clinical performance criteria. Not malnourished includes patients with a serum albumin  $\geq 3.5/3.2$  g/dL.

Source: Compiled by MedPAC from 1999–2004 Annual Reports for ESRD Clinical Performance Measures Project from CMS.

**Quality of dialysis care**

CMS data show that the quality of dialysis care has improved for some measures. Between 1999 and 2003, the share of hemodialysis and peritoneal patients who received adequate dialysis and whose anemia was under control increased (Table 2C-2).

All hemodialysis patients require vascular access—the site on the patient’s body where blood is removed and returned during dialysis. Vascular access care is a clinical area in which substantial improvements in quality are needed. Use of arteriovenous (AV) fistulas, considered the best type of vascular access, increased from 27 percent to 35 percent of hemodialysis patients between 1999 and 2003. Clinical guidelines recommend that at least 40 percent of all hemodialysis patients have an AV fistula. CMS is leading a national quality initiative—Fistula First—to increase the use of fistulas. The agency’s goal is to have fistulas placed in at least half of all new hemodialysis patients and at least 66 percent of all patients who are already receiving dialysis. Eventually, CMS aims to improve fistula use rates to levels seen in Europe and Asia, which average 70 percent and 80 percent, respectively.

Nutritional care is another clinical area calling for substantial quality improvements. Malnutrition is common among dialysis patients; different studies have reported its prevalence varies from 18 percent to 70 percent of adult dialysis patients. Researchers have shown that poor nutritional status increases rates of hospitalization and

mortality of dialysis patients.<sup>7</sup> CMS data show that the share of malnourished dialysis patients has remained relatively constant between 1999 and 2003.

The National Kidney Foundation (NKF) has developed a clinical guideline for nutrition in dialysis patients. This guideline recommends:

- **Nutritional counseling**—Dialysis patients should receive intensive nutritional counseling based on an individualized care plan before or at the time dialysis is initiated. Nutritional counseling should be provided every one to two months thereafter and more frequently if poor nutritional status is present. Medicare’s current conditions for coverage require that a dietician assess the nutritional and dietetic needs of patients, recommend therapeutic diets, counsel on prescribed diets, and monitor adherence and response to diets. CMS’s proposal to update the current conditions for coverage would require providers to monitor a nutritional measure—the serum albumin level—on a monthly basis. It would also require providers to include nutritional status in their quality assessment and performance improvement program.
- **Nutritional support**—Depending on the patients’ condition, providers can recommend oral nutritional supplements, enteral tube feeding, intradialytic parenteral nutrition, and total parenteral nutrition. The composite rate bundle includes nutritional counseling services provided by dietitians. However, Medicare



does not cover oral nutritional supplements, and the coverage policies for the other treatments are restrictive.<sup>8</sup> Anti-kickback provisions in the statute limit the ability of providers to furnish patients nutritional supplements at no cost or at reduced prices.<sup>9</sup>

An important step in improving patient outcomes is to include vascular access and nutritional management services in the payment bundle. The Commission previously recommended that the Secretary expand the payment bundle and include separately-billable drugs and currently excluded services needed by dialysis patients so that Medicare could better achieve its objective of promoting access to quality services (MedPAC 2001, MedPAC 2003c). Dialysis care has changed since CMS defined the composite rate in 1983, but the Secretary has not rebased the composite rate. Similar to other prospective payment bundles, the product has changed: New technologies have replaced older technologies, and the bundle now includes services that were not available in 1983. In addition, the bundle might contain services that most providers no longer furnish. The Secretary needs to identify the medications, services, and equipment that will increase the efficiency of patient care and improve patient outcomes as part of designing the broader bundle.

Finally, we have seen few differences in the levels of dialysis adequacy and anemia status achieved by type of facility (e.g., rural versus urban or freestanding versus hospital-based) (MedPAC 2005a). For each provider type, more than 90 percent of patients received adequate dialysis and more than 87 percent of patients had their anemia under control.

### Access to capital

Recent financial information and the increasing number of dialysis facilities suggest that providers have sufficient access to capital. Providers need capital to improve their equipment and to open new facilities to accommodate the growing number of patients requiring dialysis.

The four largest chains appear to have adequate access to capital, as demonstrated by their ability to acquire and open new facilities. Between 2004 and 2005, all of these chains (except for Gambro) increased the number of facilities they operated. Even smaller chains expanded during this time period. For example, the fifth, sixth, and seventh largest chains—Dialysis Clinic Inc., American Renal Associates, and Dialysis Corporation of America—increased the number of facilities they operated in 2005.<sup>10</sup>

Both small and large for-profit chains appear to have adequate access to capital, as demonstrated by the willingness of private investors to fund their acquisitions. For example:

- The mergers of Fresenius–Renal Care Group and DaVita–Gambro will be financed through bonds and bank debt. Fresenius is acquiring 425 dialysis facilities and paying \$3.5 billion, or about \$115,000 per patient. DaVita is acquiring 565 facilities and paying \$3.05 billion, or about \$70,000 per patient (Sullivan 2005).
- A private equity investor group funded the acquisition of 70 facilities (divested by DaVita due to the merger with Gambro) by a newly created company, Renal Advantage.
- National Renal Alliance, a chain that launched in 2002, secured about \$43 million in private equity and debt financing to add 10 more facilities in 2006 to its 14 facilities (*Nephrology News & Issues* 2005b, Owens 2005).

During the upcoming year, the largest chains may reduce the number of facilities they acquire, which may lower their need for capital to fund acquisitions. Explaining the cut in its acquisitions budget, a Fresenius representative stated that “we decided that we no longer need to be as aggressive in acquisitions following the takeover of the Renal Care Group” (*Forbes* 2005). In July 2005, Fresenius announced the closure of five facilities in the Washington, DC, area owing to consolidation.

Data from industry sources show that between 1999 and 2004, the publicly held chains’ net revenues grew from 9 percent to 20 percent annually. Key operational ratios for the largest chains suggest average or above-average performance in 2004:

- Return on equity, a key measure of capital efficiency, ranged from 21 percent to 118 percent (pre-tax).
- Return on total capital, a measure of how effectively a company uses capital, ranged from 20 percent to 38 percent (pre-tax).

Financial investment analysts note that dialysis providers benefit from recurring revenues from dialysis treatments but also face potential pressures from private payers and Medicare. Although about three-quarters of these chains’ patients are insured by Medicare as the primary payer, the proportion of their revenues from Medicare ranges from 48 percent to 58 percent. Revenues from commercial

payers account for 30 percent to 42 percent of revenues for these chains.

The stocks of these for-profit chains have, in large part, enjoyed positive ratings from financial analysts in 2005, and their stock prices generally increased in 2005. Kiplinger included DaVita as one of its best picks in 2005. As expected, the mergers of the four largest chains resulted in downgrades in their credit ratings. Standard & Poor's analysts lowered Fresenius's and DaVita's ratings due to the increased debt burden these companies assumed to finance the mergers. However, one stock analyst stated that

“The [dialysis] industry continues to see consolidation and it generates good cash flow. We feel good about the industry. But the financial cushion has been taken away [due to the mergers] and the stretching of balance sheets are some of the main reasons for the lower credit ratings”  
(*Nephrology News & Issues* 2005a).

Regulatory actions in 2006 could affect providers' access to capital. As described earlier, Medicare's policies for paying for outpatient dialysis services changed in 2005. In addition, CMS recently revised the policy for paying for erythropoietin, which accounts for a substantial share (29 percent) of total payments to facilities in 2004. This new policy, beginning in April 2006, will use a combination of a patient's hematocrit level and erythropoietin dosage amounts to trigger a review of the medical justification for the dosage by the contractor processing the claim. We will continue to monitor the effect of these policy changes on providers' access to the capital markets.

Factors other than Medicare's payments may affect access to the capital markets for the largest chains because each chain operates other lines of business. The four largest chains operate clinical laboratories; one chain also manufactures dialysis equipment and supplies and provides dialysis services internationally.

The effect of Hurricanes Katrina and Rita on the financial performance of dialysis providers is unknown. As of mid-November 2005, 27 facilities remained closed in Alabama, Louisiana, and Mississippi (Clemons 2005). More than three-quarters of these facilities are affiliated with a chain. In the short term, all of them lost revenue, negatively affecting their financial performance. Some of the revenue losses may be offset if patients are treated by affiliated facilities in other areas. We will monitor the hurricanes' effect on the financial performance of both the

independent and chain facilities, including their ability to reopen.

Finally, as we mentioned in last year's March report, other recent events unrelated to Medicare's payment policies, such as investigations by the Department of Justice, may also affect access to the capital markets for certain chains.<sup>11</sup>

## Changes in the volume of services

Between 1996 and 2003, the growth in the number of in-center hemodialysis treatments generally kept pace with the growth in the number of dialysis patients. The number of dialysis treatments increased, on average, by 7 percent annually. In comparison, the number of dialysis patients rose, on average, by 5 percent during this period.

Freestanding facilities treat most dialysis patients and so account for nearly 90 percent (\$6.7 billion) of spending for composite rate services and dialysis drugs. Between 1996 and 2004, dialysis spending by these facilities increased by 8 percent per year, from \$2.1 billion to \$3.9 billion, while spending for dialysis drugs increased by 15 percent annually, from \$951 million to \$2.8 billion. Two important trends in spending for dialysis services and drugs are worth noting:

- Spending for drugs increased from 31 percent of all payments in 1996 to 42 percent in 2004.
- Most drug spending is for erythropoietin, which accounted for 68 percent of drug spending in 2004. During the past 8 years, erythropoietin's share of drug spending has decreased (from 74 percent of drug spending in 1996) because of increased growth in spending for other drugs.

We do not yet know the extent to which the MMA changed spending for drugs relative to composite rate services because the 2005 claims data are not yet available. We anticipate that the proportion of total spending devoted to drugs will be lower beginning in 2005, but we cannot anticipate whether volume will grow at past rates or level off.

Use of dialysis drugs has grown for two reasons. First, they are new and effective. The Food and Drug Administration approved many of the drugs—including erythropoietin and iron supplements—in the early 1990s. Since then, the NKF has advocated using certain drugs in its clinical guidelines. The use of many of these medications has enhanced beneficiaries' quality of care. Increased use of

erythropoietin, for example, has reduced the proportion of dialysis patients with anemia, which reduces quality of life and decreases survival if not treated effectively. Medicare's coverage decisions also affect use of these drugs. For example, CMS made a national decision to cover injections of levocarnitine for patients with ESRD as of January 1, 2003.<sup>12</sup>

Second, the profitability of certain dialysis drugs under pre-MMA policies gave providers financial incentives to furnish them to patients. Freestanding providers were able to purchase dialysis drugs at prices well below Medicare's payment rate. The Office of Inspector General (2004) found that the acquisition costs for the top 10 dialysis drugs were 22 percent lower than Medicare's pre-MMA payment rate for the 4 largest providers and 14 percent lower for other freestanding providers in 2003.

Under post-MMA policies, Medicare will continue to make separate payments for dialysis drugs. We anticipate that financial incentives for providers to furnish dialysis drugs will continue under post-MMA policies, but the incentives may be less because dialysis drugs will not be as profitable as they were under pre-MMA policies. Nonetheless, financial incentives will be present, and vary from drug to drug depending on the difference between each drug's acquisition cost and Medicare's payment rate.

Information from USRDS raises questions about whether providers furnish dialysis drugs efficiently. Using Medicare claims data, its research shows some variation in spending across different providers. Specifically, per patient per month spending varied from \$449 to \$568 for erythropoietin, \$86 to \$112 for injectable iron, and \$73 to \$169 for vitamin D analogs across freestanding and hospital-based facilities (USRDS 2005). Some of this variation may be due to case mix, as providers' costs vary based on patients' characteristics. But higher use does not lead to better outcomes: A previous MedPAC analysis showed no association between quality of care and providers' costs for composite rate services and worse outcomes for providers with higher combined costs for composite rate services and dialysis drugs (MedPAC 2003d).

## Payments and costs for 2006

We assess providers' costs and the relationship between Medicare's payments and providers' costs by considering whether current costs approximate what efficient providers would be expected to spend on delivering high-quality care. We also consider the accuracy of the data providers

include in their cost reports. In this section, we first examine three indicators of the appropriateness of current costs:

- trends in the growth of cost per treatment for composite rate services,
- trends in the growth of cost per treatment for dialysis drugs, and
- differences in cost per treatment for composite rate services between audited and unaudited 2001 cost reports for the same facilities.

We then present our projection of the Medicare margin for composite rate services and dialysis drugs for calendar year 2006. The latest and most complete data available on providers' costs is from 2003. In contrast to the analysis of costs for hospitals (included in this chapter) and for post-acute providers (included in Chapter 4), we were not able to use 2004 cost reports. Unfortunately, CMS provided us substantially fewer cost reports for calendar year 2004 than for 2003 (2,100 cost reports versus 3,600 reports, respectively). This 2004 sample was not representative of the industry, so we decided not to use it. The low number of 2004 cost reports is linked to delays experienced by the agency's contractors (fiscal intermediaries) in processing 2004 reports submitted by dialysis facilities. (Beginning in 2005, CMS required that dialysis providers submit their cost reports electronically, and some fiscal intermediaries were delayed in updating their software used to process cost reports.)

In modeling 2006 payments, we incorporate policy changes that went into effect between the year of our most recent data, 2003, and our target year, 2006. In 2005, CMS paid freestanding providers an average acquisition payment for most dialysis drugs. The agency offset this decrease by setting the add-on payment to the composite rate at 8.7 percent. In 2006, CMS will pay freestanding providers ASP plus 6 percent for all dialysis drugs, and the agency will set the add-on payment to the composite rate at 14.7 percent. The 2006 add-on payment includes a 13.1 percent adjustment to offset the decrease in the prices of dialysis drugs relative to pre-MMA rates. It also includes an update of 1.4 percent to reflect the estimated growth in drug spending between 2005 and 2006. The MMA requires that CMS annually increase the add-on payment based on the estimated growth in drug spending beginning in 2006.

We also included the effect of CMS's update to the wage index in 2006. The agency implemented this MMA provision budget neutral across all providers but estimated that the change in the wage index would lower aggregate payments to freestanding facilities by 0.1 percent and increase aggregate payments to hospital-based providers by 0.4 percent (CMS 2005). Finally, we also incorporated the increase in the composite rate in 2005 (1.6 percent).

### **Appropriateness of current costs**

Because the composite rate is predetermined, providers have an incentive to restrain their costs for composite rate services. In contrast, because Medicare pays for dialysis drugs on a per unit basis, providers have little incentive to limit volume as long as the payment rate is at or above the acquisition cost. At issue is whether aggregate dialysis costs provide a reasonable representation of costs that efficient providers would incur in furnishing high-quality care.

**Average dialysis cost per treatment peaked in 2002 and declined between 2002 and 2003** Between 1997 and 2003, three distinct trends in cost growth are apparent. The average cost per treatment for composite rate services grew modestly during the late 1990s, increasing by 1.5 percent annually between 1997 and 1999. Between 2000 and 2002, average cost per treatment increased substantially, by 4.4 percent annually. Most recently—between 2002 and 2003—the average cost per treatment declined by 0.7 percent. By contrast, the CMS market basket index suggests that prices for goods and services purchased by dialysis facilities increased by 2.6 percent, on average, between 2002 and 2003.

Overall, the cost per in-center hemodialysis treatment for freestanding facilities that reported costs in both 1997 and 2003 increased on average by 2.0 percent annually, a rate slower than the input price increases measured by CMS's market basket for ESRD services (2.6 percent). That costs grew more slowly than input prices suggests that (if other things are equal) freestanding facilities have been able to achieve productivity gains. Furthermore, the variation in cost growth across freestanding dialysis facilities shows that some facilities held their cost growth well below others. For example, per treatment costs rose by 0.2 percent for facilities in the 25th percentile of cost growth, 1.9 percent for facilities in the 50th percentile, and 3.7 percent for facilities in the 75th percentile. Costs grew more rapidly between 1997 and 2003 for:

- facilities located in urban areas compared with those in rural areas (2.1 percent versus 1.5 percent, respectively);
- facilities not affiliated with any chain compared with facilities affiliated with one of the four largest chains (2.2 versus 1.9 percent, respectively); and
- nonprofit facilities compared with for-profit facilities (2.3 percent versus 1.9 percent, respectively).

This analysis does not account for differences in case mix among facilities, which may affect their cost growth.

**Average cost per treatment for dialysis drugs increased faster than for dialysis services** The cost per treatment for dialysis drugs increased by 14.5 percent annually between 1997 and 2003. The pre-MMA payment method for separately billable drugs gave providers no incentives to improve efficiency. How the changes mandated by the MMA—paying acquisition cost for most drugs—will affect the growth in drug costs in 2005 and beyond is uncertain.

The growth in erythropoietin and other drug costs partly reflects the growth of the dialysis population during this time period. Other factors contributing to the growth in drug costs include:

- Providers furnished higher doses of some dialysis drugs to patients. For example, the average weekly erythropoietin dose prescribed to adult in-center hemodialysis patients increased from 197 units per kilogram in 1997 to 271 units per kilogram in 2003 (CMS 2004).
- Providers prescribed dialysis drugs to a greater share of dialysis patients. For example, the proportion of in-center hemodialysis patients prescribed injectable iron increased from 51 percent in 1996 to 65 percent in 2003 (CMS 2004).
- Providers substituted newer, costlier drugs to treat certain comorbidities—such as bone disease—for older, less expensive ones.

### **Auditing cost reports lowered average dialysis cost per treatment in 2001**

For dialysis providers, the Commission has looked at the effect of using audited cost reports when assessing the appropriateness of current costs. We do so because the Commission's analysis of current costs uses only Medicare-allowable costs. In addition, audited cost reports

are available for this sector. In the Balanced Budget Act of 1997 (BBA), the Congress mandated that the Secretary audit cost reports of dialysis providers once every three years. Prior to the BBA, the Commission's predecessor—the Prospective Payment Assessment Commission (ProPAC)—raised concerns about the reliability of dialysis cost reports and the need to have an accurate measure of the cost of providing dialysis services (ProPAC 1997).

Dialysis providers have historically included nonallowable costs on their cost reports:

- The Health Care Financing Administration (HCFA) conducted audits of a random sample of 1988 and 1991 dialysis facility cost reports and found that providers' allowable costs were about 90 percent and 89 percent, respectively, of reported costs.
- HCFA audited the 1996 reports and the Commission found that the allowable cost per treatment was about 96 percent of the reported cost per treatment.

Correcting costs to reflect the findings from these auditing efforts is not new. ProPAC corrected dialysis costs using the findings of HCFA's 1988 and 1991 audits (ProPAC 1993, ProPAC 1997). MedPAC corrected dialysis costs using the findings from HCFA's 1996 audit, and the Government Accountability Office (GAO) adopted this correction in its analysis of dialysis payments and costs (GAO 2004, MedPAC 2003b).

We do not correct the costs of other providers—hospitals, skilled nursing facilities, and home health agencies—because this information is not generally available for them. There is no statutory requirement that CMS regularly audit the cost reports of other providers who submit cost reports to the agency. CMS rarely audits the cost reports of these other providers for accuracy, and the few audits that the agency does conduct tend to focus on variables that are unrelated to our cost analysis. If sufficient audited cost report data were available for these other providers, however, we would assess the effect of the audit and make a similar correction.

We used the most recent audited data that are available—2001—to examine the potential effect of CMS's audit. We compared the cost per treatment calculated from audited and unaudited 2001 cost reports from the same providers.<sup>13</sup> Each cost report includes an indicator reporting its status: as submitted, settled without an audit, settled with an audit, or reopened. The proportion of 2001 cost reports that CMS has settled with an audit has

increased from 1 percent to about 20 percent since 2003. By contrast, CMS has audited few of the 2002 and 2003 costs reports (2 percent and 0.2 percent, respectively).

For the same facilities, the cost per treatment from their audited cost reports differed from the cost per treatment before CMS audited their reports. The audit primarily affects the cost per treatment for composite rate services, not the drug cost per treatment. The cost per treatment for composite rate services decreased by \$7 (from \$144.41 to \$136.51) for facilities whose cost reports were settled by an audit. We expected composite rate costs to change more than drug costs because the audits primarily target those cost fields that can affect the payment a facility receives. In particular, CMS considers the costs reported for composite rate services, not drug costs, when determining if the agency will reimburse providers for bad debt.

We determined payment margins by using the results of the 2001 audit. For facilities with audited cost reports, we calculated the ratio of allowable costs to reported costs in 2001—94.5 percent for the cost per dialysis treatment. We then applied this adjustment to the reported costs of composite rate services for all facilities for which CMS has not yet settled their cost reports (about one-quarter of facilities in 2003), which resulted in the cost per treatment for composite rate services decreasing by 1.5 percent for all facilities.

### **The Medicare margin for freestanding facilities**

The Commission assesses current payments and costs for dialysis services by comparing Medicare's payments for composite rate services and injectable drugs with providers' Medicare-allowable costs. As mentioned earlier, the latest and most complete data available on providers' costs are from 2003.

For 2003, we estimate that the aggregate Medicare margin for composite rate services and injectable drugs is 2.4 percent, after accounting for the effect of the audit (Table 2C-3, p. 120). Aggregate margins vary based on a facility's size, affiliation with the four largest chains, and profit status. This finding stems from differences in the cost per treatment. For example, total cost per treatment was 6 percent higher for independent facilities than for facilities owned by the four largest chains and 4 percent higher for small facilities than for large facilities. In addition, this finding also reflects differences in the proportion of payments facilities receive from composite rate services, which were less profitable than dialysis injectables in 2003.

**TABLE  
2C-3****Aggregate Medicare margin for dialysis services varies by type of freestanding dialysis facility in 2003**

Facility type	Aggregate margin	Percentage of all treatments	Percentage of payments from dialysis drugs
<b>All facilities</b>	<b>2.4%</b>	<b>100%</b>	<b>41%</b>
Urban	2.7	84	41
Rural	1.4	16	42
For profit	2.7	90	41
Nonprofit	-0.3	10	38
Four largest chains	3.7	73	42
Other chains	-1.1	14	39
Nonchain	-1.9	12	38
Furnishes:			
≤10,000 treatments	-2.2	27	42
>10,000 treatments	4.2	73	41

Source: Compiled by MedPAC from the 2001 and 2003 cost reports and the 2003 institutional outpatient file from CMS.

Aggregate margins for composite rate services and injectable drugs declined from 5.5 percent in 2000 to 2.4 percent in 2003. During this period, the composite rate increased twice, by 1.2 percent in 2000 and 2.4 percent in 2001. Providers' cost per treatment for composite rate services spiked between 2000 and 2002, as discussed earlier in this section.

The Deficit Reduction Act of 2005 increases the composite rate by 1.6 percent in 2006. We project the Medicare margin will be -0.3 percent in 2006 assuming facilities achieve a 6 percent margin, on average, for drugs and -1.7 percent in 2006 assuming facilities achieve a 2 percent margin for drugs. We believe that given the design of the payment system, the long-run profit margin will be 6 percent. The industry is transitioning to the new payment system in 2006, which might result in lower profits in the short term. It is likely that the largest four dialysis chains, who furnish 60 percent of all dialysis treatments, will attain greater margins than nonchain facilities. The Office of Inspector General (OIG) reported that the largest four chains paid, on average, less for the top 10 drugs than nonchain providers in 2003 (OIG 2004).

These estimates reflect the net impact of the changes to drug payments and the wage index the MMA mandated for dialysis facilities. These estimates also reflect the Congress updating the composite rate in 2005 (1.6 percent).

### How should Medicare payments change in 2007?

The Commission accounts for expected cost changes in the coming year by considering a forecast of input price inflation and assessing recent cost trends. CMS's market basket index for composite rate services projects that input prices will increase by 3.1 percent between 2006 and 2007.

Our update framework reflects the expectation that, in the aggregate, providers should be able to reduce the quantity of inputs required to produce a unit of service while maintaining quality. Productivity increases should be expected from providers. The Commission uses the 10-year moving average of multifactor productivity in the economy as a whole, which is 0.9 percent.

### Update and distributional recommendations

On the basis of our review of payment adequacy for outpatient dialysis services and expected cost changes in the coming year, the Commission recommends the following:

## RECOMMENDATION 2C-1

**The Congress should update the composite rate in calendar year 2007 by the projected rate of increase in the end-stage renal disease market basket index less half the Commission's expectation for productivity growth.**

### RATIONALE 2C-1

Most of our indicators of payment adequacy are positive, including beneficiaries' access to care, volume of services, quality of care, and access to capital. Nevertheless, the Medicare margin for composite rate services and injectable drugs declined from 5.5 percent to 2.4 percent between 2000 and 2003. We project the Medicare margin will be -0.3 percent in 2006, assuming facilities achieve a 6 percent margin for drugs between 2005 and 2006, and -1.7 percent, assuming facilities achieve a 2 percent margin for drugs. Because we are concerned about the trend in the Medicare margin, we recommend that the Congress update the composite rate in 2007 by the ESRD market basket index less half the Commission's expectation for productivity growth.

### IMPLICATIONS 2C-1

#### Spending

- Because there is no provision in current law to change the composite rate in 2007, this recommendation will increase federal program spending relative to current law by between \$50 million to \$200 million in the first year and less than \$1 billion over five years.

#### Beneficiary and provider

- This recommendation increases beneficiary cost sharing, but no negative effects on beneficiary access to care are anticipated due to this increase. This recommendation is not expected to affect providers' willingness and ability to provide quality care to Medicare beneficiaries.

Note that some dialysis providers help financially needy patients pay for Part B premiums and medigap policies through a fund administered by the American Kidney Fund. In addition, Medicare reimburses dialysis providers for bad debt incurred with furnishing composite rate services.

In addition to updating the composite rate, the Commission recommends a change to improve the distribution of payments for composite rate services. Currently, Medicare pays hospital-based facilities \$4

more, on average, for composite rate services than it pays freestanding facilities. This difference began with the Omnibus Budget Reconciliation Act of 1981, which mandated separate rates for the two types of facilities. In the 1983 rule implementing the composite rate, the Secretary attributed this \$4 difference to overhead, not to patient complexity or case mix.

The current payment method is not consistent with the Commission's principle of paying the costs incurred by efficient providers who furnish appropriate care, regardless of the care setting. Consequently, we reiterate our recommendation that the Congress eliminate differences in paying for composite rate services between freestanding and hospital-based facilities and combine the composite rate and the add-on payment (MedPAC 2005a). These actions will result in a uniform payment policy across settings.

## RECOMMENDATION 2C-2

**The Congress should direct the Secretary to:**

- **eliminate differences in paying for composite rate services between hospital-based and freestanding dialysis facilities; and**
- **combine the base composite rate and the add-on adjustment.**

### RATIONALE 2C-2

This recommendation aims to implement a uniform payment policy across settings. Doing so will ensure that Medicare pays the same amount for the same services across different settings.

### IMPLICATIONS 2C-2

#### Spending

- Because this recommendation redistributes resources already in the system, it would not affect federal program spending relative to current law. The Commission's June 2005 report provides a complete analysis of the implications of this recommendation.

#### Beneficiary and provider

- Some facilities could receive higher or lower payments. We do not expect this recommendation to affect providers' willingness and ability to provide care to beneficiaries. This recommendation does not substantially change beneficiary cost sharing.

**TABLE  
2C-4**

**Medicare's drug prices are lower based on average sales price than under other methods**

**Average estimated payment in 2005**

<b>Drug</b>	<b>ASP+6%</b>	<b>AAP</b>	<b>95% AWP</b>
Erythropoietin	\$9.30	\$9.76	\$10.00
Calcitriol	0.75	0.96	1.36
Doxercalciferol	2.19	2.60	3.98
Iron dextran	11.21	10.94	17.91
Iron sucrose	0.36	0.37	0.65
Levocarnitine	12.30	13.63	36.48
Paricalcitol	3.92	4.00	5.32
Sodium ferric gluconate complex	4.74	4.95	8.17
Recombinant alteplase	30.61	31.74	31.89
Vancomycin	2.95	2.98	3.79

Note: ASP (average sales price). AAP (average acquisition payment). AWP (average wholesale price). CMS paid providers based on AAP in 2005 and based on 95 percent of the average wholesale price before 2005 except for erythropoietin, which was paid at a rate set by the Congress. In 2006, CMS payment for all dialysis drugs is ASP plus 6 percent.

Source: CMS 2004, CMS 2005.

**Medicare payments for dialysis drugs changed in 2005**

The MMA and regulations issued by CMS to implement the law changed how Medicare paid for dialysis drugs by paying acquisition cost for most drugs furnished by freestanding providers in 2005. At issue is whether freestanding providers were able to purchase drugs at less than the Medicare payment rate in 2005. Some stakeholders raised concerns that the average acquisition payment (AAP) may not cover providers' costs in furnishing these drugs. Our analysis suggests that Medicare's payments exceeded providers' costs that year. We will continue to monitor the effect of this new policy on freestanding providers.

In 2005, CMS paid AAP for the top 10 drugs that made up 98 percent of the volume furnished by freestanding providers. To calculate AAP, the agency used the acquisition costs that the OIG collected in a 2003 survey of freestanding providers (OIG 2004). CMS derived the 2005 rates for these drugs by updating the 2003 values using the producer price index. This system has reduced

payment rates for the top 10 dialysis drugs, ranging from 2 percent (for erythropoietin) to 61 percent (for paricalcitol). The MMA mandated that CMS create an add-on payment to the composite rate to make up the difference in drug revenue.

To assess providers' ability to purchase dialysis drugs over time, the Commission acquired pricing information from a commercial data source. These data track sales to retail pharmacies, staff-model HMOs, clinics (including freestanding facilities), long-term care facilities, hospitals, and federal facilities. Prices are net of discounts but do not include rebates manufacturers provide retrospectively. The Commission bought data for the top 10 drugs billed by dialysis providers for one month of each of the first three quarters of 2005. For this analysis, we focused on prices paid by clinics, including freestanding dialysis facilities.

The Commission tracked trends in average purchase prices and price variation from the first to the third quarter of 2005. We also estimated an aggregate purchase price—a market basket price—for the top 10 dialysis drugs. We calculated this market basket price by weighting the average purchase price of each drug by its share of 2005 spending, as estimated by CMS (2005).

We found that this market basket's purchase price declined between the first and third quarters of 2005 for most of the 10 drugs. We estimate that clinics' price for the top 10 drugs decreased in 2005, from \$8.09 in the first quarter to \$7.46 in the third quarter. By contrast, Medicare paid \$7.93 using AAP for the top 10 drugs in 2005. The results derived from the commercial data source may overstate the amount clinics actually pay for drugs because the information does not reflect off-invoice discounts or rebates that would have further lowered net prices. In addition, the average purchase price includes purchases by both dialysis and nondialysis providers, such as physicians, whose purchasing power may be less than that of the four largest dialysis chains. Thus, the average purchase price we calculate may be greater than the price paid by the largest four chains. However, nondialysis providers probably have a small impact on the average purchase price of the top 10 dialysis drugs. Dialysis providers have informed the Commission that the top 10 dialysis drugs are primarily used to treat ESRD patients.

This analysis suggests that Medicare's payment for the top 10 drugs was, on average, greater than providers' acquisition cost in 2005. However, this analysis cannot speak to providers' ability to purchase any individual drug



at less than Medicare's payment rate. The Commission will continue to track providers' ability to purchase drugs in 2006, when Medicare will pay ASP plus 6 percent (instead of AAP). Based on 2005 rates, Medicare's payment under ASP is lower than the rate under AAP and under the average wholesale price (Table 2C-4).<sup>14</sup>

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## **The use of home dialysis is declining among dialysis patients**

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The number of patients using peritoneal dialysis or hemodialysis in their homes has declined during the past decade. Between 1996 and 2003, use of peritoneal dialysis fell from 30,100 patients to 25,892 patients, and use of home hemodialysis fell from 1,944 patients to 1,325 patients (USRDS 2005). This decline has occurred even though some home dialysis patients rate their quality of dialysis care higher than those receiving in-center hemodialysis (Rubin et al. 2004).

In this section, we explore some of the factors that may be affecting the use of home dialysis. Our review of the literature shows that clinical factors (patients' other health problems) and nonclinical factors (physician training) may influence a patient selecting in-center hemodialysis versus home dialysis. We also discuss the various Medicare policies that may affect the coverage and payment of dialysis services.

The Commission will continue to monitor the use of home dialysis post-MMA and is interested in exploring the effect of Medicare's payment and coverage policies on the use of home dialysis. Policy options to consider include: using pay for performance to encourage the use of home dialysis, educating patients about the different treatment options before they start dialysis treatment, and screening at-risk patients for chronic kidney disease.

### **Clinical and nonclinical factors affect the use of home dialysis**

Each year, the nearly 100,000 new dialysis patients must select a dialysis method. Several factors—including the patient's health and social circumstances, care before the start of dialysis, where the patient lives, physician preferences, and clinical and financial reasons—may influence the selection of one type of treatment over the other.

Patients' characteristics influence the choice of the dialysis method. A survey of nephrologists showed that they are

more likely to recommend peritoneal dialysis for younger patients, men, patients with good compliance, patients who weighed less than 200 pounds, patients without diabetes, patients with some residual renal function, and patients living with a family (Thamer et al. 2000). Among patients residing in 19 states, comorbidities were less severe in peritoneal dialysis patients than in hemodialysis patients (Miskulin et al. 2002). These researchers also found the use of peritoneal dialysis was lower for patients that are older, African American, and have hypertension, after controlling for differences in case mix. Heaf (2004) reported that about one-fifth of dialysis patients are not suitable for peritoneal dialysis because of abdominal problems, physical disabilities, or psychological problems (such as dementia).

Social circumstances also influence the choice of dialysis. Certain patients either may prefer the interaction of in-center care or might not be sufficiently independent to perform home dialysis. Patients who selected peritoneal dialysis instead of hemodialysis were more likely to have progressed further in the educational system, be employed full-time, be physically independent, and be more autonomous in the decision-making process before the start of dialysis (Stack 2002). Miskulin and colleagues (2002) found that employed patients and those living more than 30 miles from the nearest dialysis unit were more likely to receive peritoneal dialysis.

Patients' care during the 12-month period prior to dialysis may influence the dialysis treatment they receive. In particular, early referral to a nephrologist may increase the likelihood that patients will use peritoneal dialysis as their initial type of treatment. An earlier MedPAC analysis showed that 2.3 percent of patients who saw a nephrologist when starting dialysis treatment chose peritoneal dialysis compared with 5.8 percent of patients who saw a nephrologist more than 12 months before the start of dialysis (MedPAC 2004). Other researchers have also concluded that early nephrology referral and patient counseling before starting dialysis are strong determinants of choosing peritoneal dialysis (Lameire and Van Biesen 1999, Little et al. 2001, Stack 2002).

Some research suggests that use of peritoneal dialysis is associated with educating patients about alternative dialysis methods before they start dialysis. Only one-quarter of new patients who selected hemodialysis reported that medical professionals informed them about peritoneal dialysis (USRDS 1997). By contrast, at least 60 percent of patients choosing peritoneal dialysis had

this option discussed with them. A more recent survey found that the majority of dialysis patients are uninformed about peritoneal dialysis, home hemodialysis, or renal transplantation as options (66 percent, 88 percent, and 74 percent, respectively) (Mehrotra et al. 2005). Although Medicare covers nutritional counseling for patients with renal disease who are not yet undergoing maintenance dialysis, the program does not pay for any other type of pre-ESRD counseling for these patients.

Use of peritoneal dialysis varies by geographic location. The likelihood of new patients using peritoneal dialysis is lower in the South and higher in the Northwest (Stack 2002).

Most physicians believe that peritoneal dialysis is underused in the United States (Mendelssohn et al. 2001). Nonetheless, the length of time physicians have practiced and their training may affect the use of home dialysis. More years in practice were associated with a decreased likelihood of recommending peritoneal dialysis. Nephrologists who had practiced for 20 years or more were less likely to prescribe peritoneal dialysis compared with their colleagues who had been in practice for fewer than 5 years (Thamer et al. 2000). Burkart (2002) noted that many physicians lack training in peritoneal dialysis because they finished their training before this option was widely used or because their fellowship was at an institution that focused on basic research. The nature of the training that physicians receive may also affect the use of home dialysis. Mehrotra and others (2002) concluded that many training programs do not allocate enough time to ensure appropriate training in providing care for peritoneal dialysis patients. These researchers found that the amount of time spent by fellows in training for the care of peritoneal dialysis was significantly lower in the United States than in Canada, and that U.S. training programs provided care to significantly fewer patients undergoing either hemodialysis or peritoneal dialysis than those in Canada.

Finally, economics might influence the use of home dialysis versus in-center care. The rapid growth in the number of dialysis facilities throughout the 1990s has created an incentive to direct patients to treatment in-center so that facilities operate at capacity. Rubin and colleagues (2004) concluded that the current financial incentives may encourage clinicians to choose hemodialysis because once substantial investment in a facility has been made, the marginal costs of treating an

additional patient are likely lower for a new hemodialysis patient than for a new peritoneal dialysis patient.

### **Medicare policies that affect the payment of home dialysis services**

Medicare's payment policies for composite rate services, dialysis drugs, self-dialysis training services, and physician services may also affect the use of home dialysis. Some studies show that home dialysis patients incur lower total costs and have higher quality of life than in-center patients.

#### **Payment for composite rate services and dialysis drugs**

The decline in the use of home dialysis has occurred even though the composite rate for in-center hemodialysis and home dialysis is the same. Historically, the cost per treatment for peritoneal dialysis—the home treatment most frequently used by dialysis patients—was less than the cost per treatment for in-center hemodialysis.

To encourage the use of home dialysis, the Congress called for the same rate when creating the current dialysis payment system in 1981. Specifically, section 1881 of the Social Security Act states that CMS should set the dialysis payment rate by finding: "...which [method] the Secretary determines, after detailed analysis, will more effectively encourage the more efficient delivery of dialysis services and will provide greater incentives for increased use of home dialysis than through the single composite weighted formulas."

As discussed earlier, Medicare's payment rate for dialysis drugs substantially exceeded providers' costs before 2005. The profitability of dialysis drugs before 2005 may have given some providers an incentive to furnish in-center dialysis instead of peritoneal dialysis because:

- In-center hemodialysis patients on average use more dialysis drugs per treatment (as measured by payments) compared with peritoneal dialysis patients. Medicare's payment for dialysis drugs averaged \$90 per treatment for in-center hemodialysis patients compared with \$31 per treatment for peritoneal dialysis patients in 2003.
- Medicare pays for drugs only when they are administered in a facility, with one exception—erythropoietin. Certain dialysis drugs, such as iron, may not be safe for patients to administer in their homes.

Whether recent payment changes will affect the use of home dialysis remains to be seen. These changes made dialysis drugs less profitable by shifting most of the drug profits to the composite rate (through the add-on payment); thus, a provider's incentive to treat patients in a facility might be reduced.

### Payment for home hemodialysis

Medicare's policy of covering three dialysis sessions per week may affect the use of home hemodialysis. Most home hemodialysis is provided more frequently—either in short daily sessions or at night five to six times weekly. Some providers contend that Medicare's payments do not cover the costs of providing more frequent hemodialysis because CMS limits payment to three treatments weekly. Mohr and others (2001) showed that facilities would incur an additional 10 percent to 20 percent in costs per patient per year to provide daily dialysis. Some studies show improved clinical outcomes and quality of life for patients on daily hemodialysis, though the small sample sizes and limitations of study designs constrain conclusions by clinicians, patients, and policymakers. Consequently, the National Institute of Diabetes & Digestive & Kidney Diseases is currently funding a clinical trial comparing the potential benefits of more frequent hemodialysis—short daily or long nocturnal dialysis—to thrice-weekly hemodialysis.

### Payment for self-dialysis training services

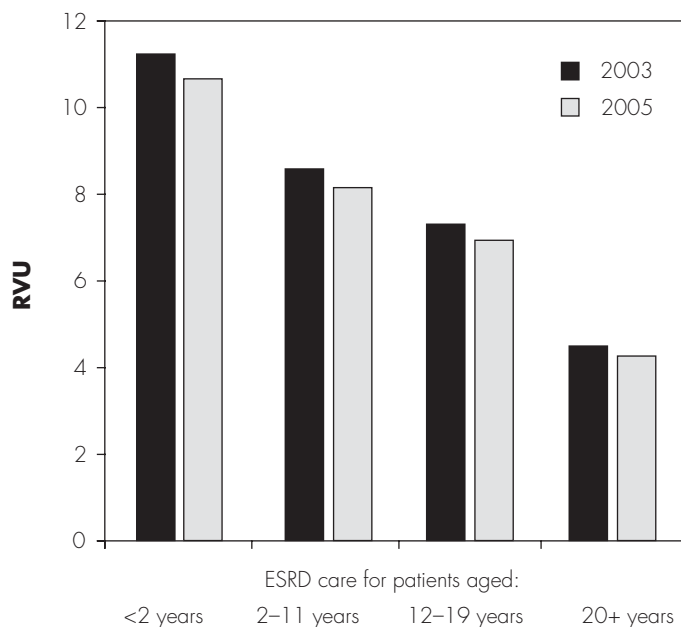
Payment policies for self-dialysis training services—instruction on how to dialyze in the home—may also affect the use of home dialysis. CMS augments facilities' composite rate payment for providing training services. At issue is whether the number of sessions covered by Medicare is sufficient to provide patients with the necessary instruction to self-dialyze and whether the training payment covers providers' costs of furnishing these services. Medicare covers a maximum of 15 training sessions for the two forms of peritoneal dialysis and pays \$12 per training session for continuous ambulatory peritoneal dialysis and \$20 per training session for continuousycler-assisted peritoneal dialysis. By contrast, Medicare pays \$20 per training session for hemodialysis and covers up to three sessions per week for no more than three months. These payment and coverage policies have remained the same for the past 15 years.

### Payment for physicians caring for dialysis patients

CMS changed the payment for physicians treating dialysis patients in 2004, and this new policy decreased the work

**FIGURE 2C-3**

**Work RVUs decreased for monthly care of home dialysis patients between 2003 and 2005**



Note: RVU (relative value unit), ESRD (end-stage renal disease). This graph provides the work RVUs for the monthly care of home dialysis patients by physicians.

Source: CMS 2002, CMS 2004.

relative value units (RVUs) assigned to physicians caring for home patients (Figure 2C-3).<sup>15</sup> For example, for the monthly care of adults, the work RVUs declined from 4.47 RVUs in 2003 to 4.24 RVUs in 2005. Whether this policy change has altered physicians' attitudes towards prescribing home dialysis to their patients is unknown.

CMS's rationale for this payment change was to align payments with physician involvement in patient care, and thus make higher payments to physicians when they conduct more face-to-face visits. Before 2004, CMS valued the work RVUs the same regardless of the number of times the physician saw a patient during the month. The Commission agreed that the payment method before 2004 lacked both accountability and quality incentives but argued that the agency should collect and present baseline data on the type, frequency, and content of physician encounters (MedPAC 2003a).

Although we do not yet know the effect of this policy change on the use of home dialysis, one recent study suggests that physicians are seeing their in-center dialysis

patients more frequently since 2004. Among a sample of in-center hemodialysis patients, the number of physician visits increased from 1.5 per patient-month before the policy change (in 2003) to 3.1 per patient-month after the policy change (in 2004) (Mentari et al. 2005). Most of these visits occurred in the dialysis facility compared to the physician's office (90 percent versus 10 percent, respectively). This policy change's effect on the frequency of physician visits for home patients is unknown. Before the change in policy, home patients were typically seen less frequently than in-center patients.

In addition, we do not know the effect of the policy change on quality. Mentari and colleagues (2005) concluded that the increase in the number of physician visits that occurred after the payment policy change did not result in any clinically important improvement in quality. However, other research (not examining the effect of the 2004 policy change) found that more frequent physician contact is positively associated with achieving clinical performance targets (Plantinga et al. 2005).

## **Next steps**

The Commission plans to explore the effect of Medicare's payment and coverage policies on the use of home dialysis. Next steps include obtaining more information about:

- the effect of medical factors on the use of home dialysis,
- the effectiveness of programs that educate patients about different dialysis treatments before they start dialysis,
- the association between the use of home dialysis and nonclinical factors such as where the patient lives and physician preference and training,
- differences in beneficiary and program spending associated with home and in-center dialysis,
- the relationship between providers' costs in furnishing home dialysis training services and Medicare's payments, and
- the economic incentives of home versus in-center dialysis under post-MMA payment policies. ■

## Endnotes

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- 1 The two types of dialysis—hemodialysis and peritoneal dialysis—remove wastes from a patient’s bloodstream differently. During hemodialysis, a machine removes wastes from the bloodstream. This procedure is usually performed in dialysis facilities. By contrast, peritoneal dialysis uses the lining of the patient’s abdomen as a filter to clear wastes and extra fluid and is usually performed in the patient’s home.
- 2 EGHPs are usually the primary payer for 33 months—the 3-month waiting period plus the 30-month coordination period.
- 3 USRDS reports that the number of in-center hemodialysis patients increased from 192,711 in 1996 to 296,776 in 2003. By contrast, the number of peritoneal patients decreased from 30,089 to 25,892.
- 4 For example, in May 1997, Gambro acquired the 262 facilities of Vivra Renal Care. In November 1997, Total Renal Care acquired the 358 facilities of Renal Treatment Centers. In February 2002, Renal Care Group acquired the 87 facilities of National Nephrology Associates.
- 5 Facilities can increase the number of treatments provided to a given patient by: (1) improving patients’ compliance in attending their thrice-weekly hemodialysis treatments; and (2) reducing the number of days that patients are hospitalized. CMS pays for three hemodialysis treatments per week.
- 6 We censored the data by assuming that facilities furnish no more than 24 shifts per week (i.e., operating 4 shifts per day, 6 days per week). Less than 1 percent of all providers reported furnishing more than 24 shifts per week.
- 7 The nutritional status of a patient may be affected by several factors, including physiological responses to ESRD, the dialysis process itself, presence of anemia, endocrine factors, and inadequate food intake secondary to certain conditions (such as anorexia and emotional distress).
- 8 CMS’s coverage policy for enteral and parenteral nutritional therapy limits coverage to patients who, because of chronic illness or trauma, cannot be sustained through oral feeding. Beneficiaries meeting this national coverage policy are those that must rely on either enteral or parenteral nutritional therapy, depending upon the particular nature of their medical condition. CMS states that typical examples of conditions that qualify for coverage are massive small bowel resection for parenteral therapy and head and neck cancer for enteral nutrition therapy.
- 9 Section 1128A(a)(5) of the Social Security Act prohibits a person from offering services to a beneficiary that would likely influence the beneficiary’s choice of a provider. The Office of Inspector General’s interpretation is that this section does not apply to the provision of goods or services valued at less than \$10 per item and \$50 per patient annually.
- 10 American Renal Associates operated 14 facilities in 2004 and 29 facilities in 2005. Dialysis Corporation of America operated 18 facilities in 2004 and 23 facilities in 2005.
- 11 In October 2004, three of the largest chains received subpoenas from federal prosecutors concerning laboratory testing for parathyroid hormone levels and vitamin D therapies. Another large chain agreed in September 2004 to pay \$350 million to settle claims by the Department of Justice related to Medicare and Medicaid payments and the chain’s relationships with physicians and pharmaceutical companies. In the short term investors have not reacted negatively. We will continue to monitor the effect of these events on the chains’ access to capital.
- 12 Levocarnitine supplements the loss of carnitine, a naturally occurring body substance that helps transport long-chain fatty acids for energy production by the body. Patients on hemodialysis can suffer carnitine deficiencies from dialytic loss, reduced renal synthesis, and reduced dietary intake. Patients must show improvement from the levocarnitine treatment within six months of starting treatment for Medicare to continue to pay for the treatment.
- 13 Audited 2001 cost reports refer to those obtained from CMS in September 2005; about 20 percent of these cost reports were settled by an audit. Unaudited 2001 cost reports refer to those obtained from CMS in September 2003; only 1 percent of these cost reports were settled by an audit.
- 14 Between 1994 and the implementation of the MMA, Medicare’s payment for erythropoietin remained unchanged—\$10 per 1,000 units. In 2006, CMS will base payment for erythropoietin (and all other dialysis drugs) on its average sales price. Thus, Medicare’s payment rate post-MMA may be higher or lower than the pre-MMA rate.
- 15 Beginning in 2004, CMS began to pay physicians treating dialysis patients a monthly capitated payment based on the number of visits they furnished in a month. For in-center patients, CMS pays a monthly capitated payment based on the number of visits the physician has with the patient during the month—stratified into three payment categories: one visit per month, two or three visits per month, and four or more visits per month. For home patients, CMS pays physicians at the same rate paid for seeing in-center patients two to three times per month. Before 2004, CMS paid physicians at the same monthly capitated payment regardless of the number of times the physician saw each patient during the month.

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CHAPTER

3

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**Reviewing the work relative  
values of physician fee  
schedule services**

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# R E C O M M E N D A T I O N S

**3-1** The Secretary should establish a standing panel of experts to help CMS identify overvalued services and to review recommendations from the RUC. The group should include members with expertise in health economics and physician payment, as well as members with clinical expertise. The Congress and the Secretary should ensure that this panel has the resources it needs to collect data and develop evidence.

.....  
**COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2**

**3-2** The Secretary, in consultation with the expert panel, should initiate the five-year review of services that have experienced substantial changes in length of stay, site of service, volume, practice expense, and other factors that may indicate changes in physician work.

.....  
**COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2**

**3-3** In consultation with the expert panel, the Secretary should identify new services likely to experience reductions in value. Those services should be referred to the RUC and reviewed in a time period as specified by the Secretary.

.....  
**COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2**

**3-4** To ensure the validity of the physician fee schedule, the Secretary should review all services periodically.

.....  
**COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2**

# Reviewing the work relative values of physician fee schedule services

## Chapter summary

Relative value units (RVUs) are a key element of Medicare's physician fee schedule. They determine how payment rates vary among the 7,000-plus services that physicians furnish to the program's beneficiaries. Periodic review of the RVUs is necessary because the resources needed to perform a service can change over time. When that happens, the value of a service must be changed accordingly; otherwise, Medicare's payments will be too high or too low. For example, if volume grows but total hours worked during a week remain the same, then the work per unit must be going down; unless the service's work RVU is reviewed and revised downward, the service will become increasingly profitable.

Ensuring the accuracy of payments under the physician fee schedule is important for several reasons. First, inaccurate payment rates can distort the market for physician services. Overvalued services may be overprovided because they are more profitable than other services. At the same time, undervalued services may prompt providers to increase volume in order to maintain their overall level of payment. Conversely,

## In this chapter

- Measuring physician work
- Importance of review of work relative value units
- The five-year review process
- Improving the five-year review
- Future work

some providers may opt not to furnish undervalued services, which can threaten access to care. Second, over time, if certain types of services become undervalued relative to others, the specialties that perform those services may become less financially attractive, which can affect the supply of physicians. Finally, misvalued services mean that Medicare is paying too much for some services and not enough for others and therefore is not spending taxpayers' and beneficiaries' money wisely.

By law, CMS is required to review the RVUs for the physician work component—which represent the relative time, effort, stress, and skill needed—every five years to determine if any revisions are necessary. This process is known as the “five-year review.” The third five-year review is currently under way.

The Commission evaluated CMS’s five-year review process and determined that changes are necessary because previous five-year reviews led to substantially more increases in RVUs than decreases, even though many services are likely to become overvalued over time. Although we recognize the valuable contribution made by the American Medical Association/ Specialty Society Relative Value Scale Update Committee (RUC), we conclude that CMS’s five-year review process does not do a good job of identifying services that may be overvalued. CMS has relied too heavily on physician specialty societies to identify services that are misvalued and provide supporting evidence.

CMS should play a lead role in identifying misvalued services so overvalued ones are not ignored. CMS could gain the requisite expertise by establishing its own group of experts, separate from the RUC, to help the agency conduct these and other related activities.

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### **Recommendation 3-1**

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**COMMISSIONER VOTES:**  
**YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2**

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*The Secretary should establish a standing panel of experts to help CMS identify overvalued services and to review recommendations from the RUC. The group should include members with expertise in health economics and physician payment, as well as members with clinical expertise. The Congress and the Secretary should ensure that this panel has the resources it needs to collect data and develop evidence.*

The expert panel established by the Secretary would not supplant the RUC, but would augment it. The expert panel would assist CMS by using the results of data analyses to identify potentially misvalued services and assess whether those services warrant review by the RUC. Changes in volume, increases in claims for multiple services, and adjustments to practice expense—among other changes—can signal the need to revise valuations of physician work.

*The Secretary, in consultation with the expert panel, should initiate the five-year review of services that have experienced substantial changes in length of stay, site of service, volume, practice expense, and other factors that may indicate changes in physician work.*

### **Recommendation 3-2**

**COMMISSIONER VOTES:**  
YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

The work required to perform a new service also may change over time, as physicians become more familiar with the service and more efficient at furnishing it. Scheduled reviews of the RVUs for recently introduced services will help ensure that Medicare’s payment rates change along with the work required.

*In consultation with the expert panel, the Secretary should identify new services likely to experience reductions in value. Those services should be referred to the RUC and reviewed in a time period as specified by the Secretary.*

### **Recommendation 3-3**

**COMMISSIONER VOTES:**  
YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

The above recommendations should improve the identification of misvalued services, but inaccuracies could persist within the fee schedule. Periodic review of all services is therefore necessary to maintain the robustness of the payment system.

*To ensure the validity of the physician fee schedule, the Secretary should review all services periodically.*

### **Recommendation 3-4**

**COMMISSIONER VOTES:**  
YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

We recognize that these recommendations will increase demands on CMS and urge the Congress to provide the agency with the financial resources and administrative flexibility needed to undertake them.

The recommendations in this chapter represent the first step in the Commission's work on pricing of services in the physician fee schedule. In future reports, we will consider other elements of the fee schedule, including adjustment of payments for input prices that vary geographically, the boundaries of payment localities, methods for determining practice expense RVUs, and the fee schedule's unit of payment. In addition, we are concerned about disparities in remuneration between primary and specialty care, and the implications those disparities have for the future of the physician workforce—a workforce that will be required to meet the chronic care and other needs of Medicare beneficiaries. The Commission will also consider opportunities to improve the value of services Medicare purchases, with a goal of identifying cost-effective services. ■

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## Background

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In 1992, the Health Care Financing Administration (HCFA) (now the Centers for Medicare & Medicaid or CMS) implemented the Medicare physician fee schedule. The Congress intended the new resource-based fee schedule to remedy some of the problems inherent in the old charge-based payment system, which undervalued evaluation and management (E&M) services as a group and overvalued procedures. Such inaccurate valuations were widely perceived to have altered physician decisions about what services to provide, where to practice, and whether to specialize (PPRC 1987).

Under the resource-based physician fee schedule, each service is assigned values reflecting the relative resources needed to provide the service, with the physician work component—representing the time, effort, skill, stress, and risk of performing the service—accounting, on average, for slightly more than half of the payment. Subsequent analyses by the Physician Payment Review Commission (PPRC) and others showed that, under the physician fee schedule, payment rates for E&M services increased relative to other services, such as surgery and other procedural services (PPRC 1997, Iglehart 2002).

Nevertheless, there are signs that some physician services continue to be misvalued. In recent years, aggregate payments for certain types of services have grown at widely disparate rates, with growth in payments for imaging and minor procedures outpacing that for visits and major procedures (MedPAC 2005). Volume growth differs across services for several reasons, including variability in the extent to which demand can be induced and advances in technology that expand access and can improve patient outcomes. Imaging services, for example, can improve physicians' ability to diagnose and treat disease. The Commission and others have voiced concerns, however, that differential volume growth is due in part to differences in the profitability of services (Ginsburg and Grossman 2005).

To the extent that the sustainable growth rate (SGR) limits growth in aggregate physician spending, differences in the rate of volume increases across services means that certain types of services—such as imaging—are capturing a larger portion of Medicare physician spending, at the expense of other services.<sup>1</sup> The Commission has expressed particular concern about primary care services, which have been found to be capturing a smaller portion of Medicare physician spending even though the overall

relative value of E&M services has increased. An Urban Institute analysis of changes in the relative values assigned to services during the first 10 years' experience with the physician fee schedule and how those changes interact with growth in the volume of services sheds light on this dynamic. For example, in 1992, the first year of the resource-based physician fee schedule, E&M services accounted for half of total relative-value-weighted physician volume, while imaging services accounted for 12 percent (Table 3-1, p. 138) (Maxwell et al. 2005).<sup>2</sup> Due to overall increases in the relative values of E&M services between 1992 and 2002, those services would have been expected to rise 1.6 percentage points to account for almost 52 percent of relative-value-weighted volume by 2002. Meanwhile, overall reductions in the relative value of imaging services would have caused those services' share of weighted volume to fall by 2.4 percentage points, from 12 percent of total relative-value-weighted volume to 9.6 percent.

But growth over the 10-year period in the number of imaging services more than made up for their loss in relative value, so those services now account for 14 percent of total relative-value-weighted volume. At the same time, the number and intensity of E&M services furnished grew slowly relative to some other types of services, thereby nullifying the overall gains in the relative value of E&M services. Consequently, as a share of total spending, Medicare payments for E&M services fell between 2002 and 2004 (Figure 3-1, p. 139). In 2002, E&M services accounted for 49.7 percent of spending under the physician fee schedule. In 2003, the E&M share was 49.2 percent, and in 2004 it dropped to 46.5 percent.

The results of CMS's reviews of the physician work relative values in the fee schedule raise additional concerns that some physician services are misvalued. CMS is required by law to review and, if necessary, refine the fee schedule's relative values at least every five years, a process that is known as the five-year review.<sup>3</sup> The first two five-year reviews, completed in 1996 and 2001, led to substantially more increases than decreases in the relative values of services. It appears that services perceived to be undervalued are far more likely to be reviewed, while potentially overvalued services remain misvalued.

This phenomenon can decrease payment rates for other services. By law, if changes to the work relative values resulting from a five-year review would cause total physician fee schedule payments to change by more than \$20 million, then a budget neutrality requirement

**TABLE  
3-1**

**Effect of change in relative values and volume on distribution of total relative values, 1992-2002**

Type of service	Share of RVU-weighted volume in 1992	Percentage change in total relative value	Percentage change in volume	Percentage change in volume and total relative value	Share of RVU-weighted volume in 2002
E&M	50%	1.6%	-1.6%	0.0%	50%
Imaging	12	-2.4	4.6	2.2	14
Major procedures	13	-0.3	-2.4	-2.7	10
Other procedures	23	0.2	-0.2	0.0	23
Tests	3	0.9	-0.3	0.6	4

Note: E&M (evaluation and management), RVU (relative value unit). Total relative value includes the components of physician work, practice expense, and professional liability insurance. Columns may not add to 100 due to rounding.

Source: Urban Institute analysis of CMS physician/supplier files and American Medical Association/Specialty Society Relative Value Scale Update Committee Review files.

applies. When more work relative values are increased than decreased—as was the case in previous five-year reviews—the budget neutrality requirement results in the passive devaluation of services whose relative values were not increased.<sup>4</sup>

Misvalued services can distort the market for physician services (as well as for other health care services that physicians order, such as hospital services). If relative values are not set in proportion to underlying resource costs, some physician decisions may be inappropriately influenced by financial considerations. Some overvalued services may be overprovided because they are more profitable than other services. Services can become increasingly profitable if, for example, the work per unit declines because volume grows but total hours worked during a week remain the same. At the same time, undervalued services may prompt providers to increase volume in order to maintain their overall level of payment. Conversely, some providers may opt not to furnish undervalued services, which can threaten access to care. If certain types of services become undervalued relative to other types of services, the specialties that perform those services may become less financially attractive. Over time, that can affect the supply of physicians by influencing physician decisions about whether and how to specialize. Finally, misvalued services mean that Medicare is paying too much for some services and not enough for others, and therefore is not spending taxpayers' money wisely.

In this chapter, we discuss the importance of periodic review of the relative values in the physician fee schedule and examine the current five-year review process.

Although we recognize the valuable contribution made by the American Medical Association/Specialty Society Relative Value Scale Update Committee (RUC) and support the RUC's continued involvement, we conclude that the process does not do a good job of identifying services that may be overvalued. CMS relies too heavily on physician specialty societies to identify services that are misvalued and to provide supporting evidence. The recommendations in this chapter should help remedy this problem.

### Measuring physician work

Since January 1, 1992, Medicare has paid for physicians' services using a physician fee schedule. Under the fee schedule, payment for each service reflects the relative resources needed to provide it. Each service's total relative value is the sum of three components corresponding to the main inputs required to produce physicians' services:

- physician work—the time, mental effort, technical skill and effort, psychological stress, and risk of performing the service;
- practice expense—the associated costs incurred for nonphysician staff, equipment, supplies, office space, and other inputs; and
- professional liability insurance.

The three components are represented by three relative value units (RVUs) assigned to each service code. On



average, the physician work component accounts for over half of payments under the fee schedule.

The work RVUs were originally developed by a research team at the Harvard School of Public Health in a cooperative agreement with the Health Care Financing Administration. Hundreds of physicians were given a set of vignettes describing typical clinical scenarios for reference services and asked to assign work values to other vignettes relative to the reference set. Small groups of physicians reviewed and revised results from these surveys based on comparisons with the results from other groups and additional analyses.<sup>5</sup> The resulting resource-based Relative Value Scale (RBRVS) was implemented in 1992. The RBRVS changes each year as new codes are added or established codes are redefined (which may change the amount of work required to perform the service).

Medicare adopted the RBRVS to remedy some of the problems inherent in the old charge-based payment system. That system was criticized as being inflationary and administratively complex. Further, in part because E&M services as a group were believed to be undervalued and procedures overvalued relative to the resources needed to provide them, many believe that the charge-based payment system created inappropriate incentives for the use of medical services, and may have influenced physicians' decisions on where to locate and what to specialize in (PPRC 1987).

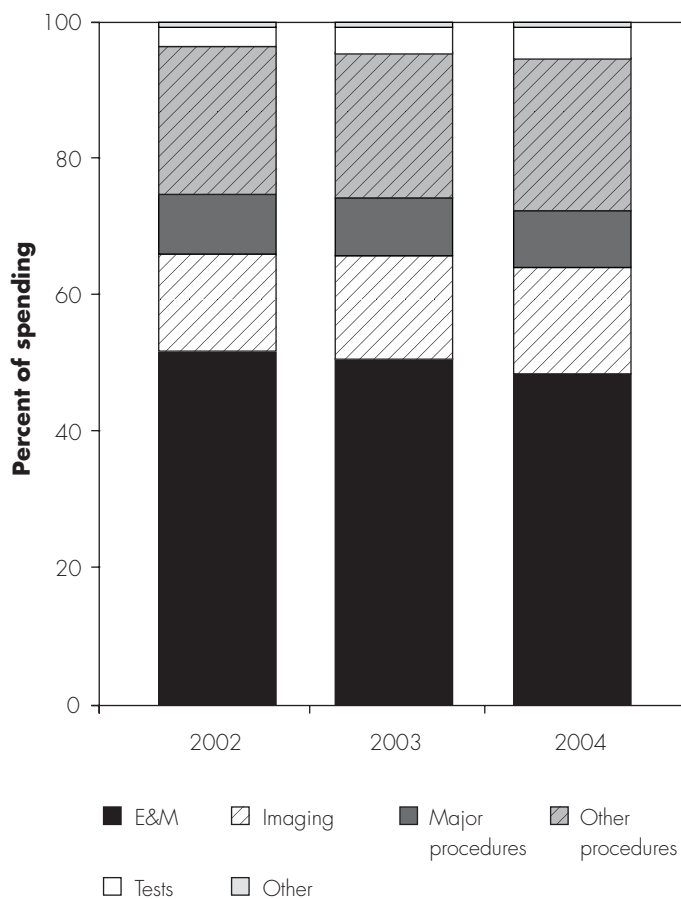
## Importance of review of work relative value units

Periodic review of the RVUs is important because the resources needed to perform a service can change over time. In an analysis of the first five-year review, Health Economics Research identified seven factors that can increase or decrease the amount of time, effort, stress, and skill required (McCall et al. 1999). These factors are:

- **Learning by doing**—results in efficiency improvements that reduce the amount of work involved in performing a service. As early performers of a service become more familiar with a procedure, they can complete it more quickly and with less mental effort, skill, and risk. The service's work value, therefore, should decline.
- **Technology diffusion**—affects average procedure time and intensity. Changes to average time and reported

**FIGURE 3-1**

**Spending for physician services, by type of service, 2002-2004**



Note: E&M (evaluation and management). E&M services include visits to specialists, such as pathologists, psychiatrists, and ophthalmologists.

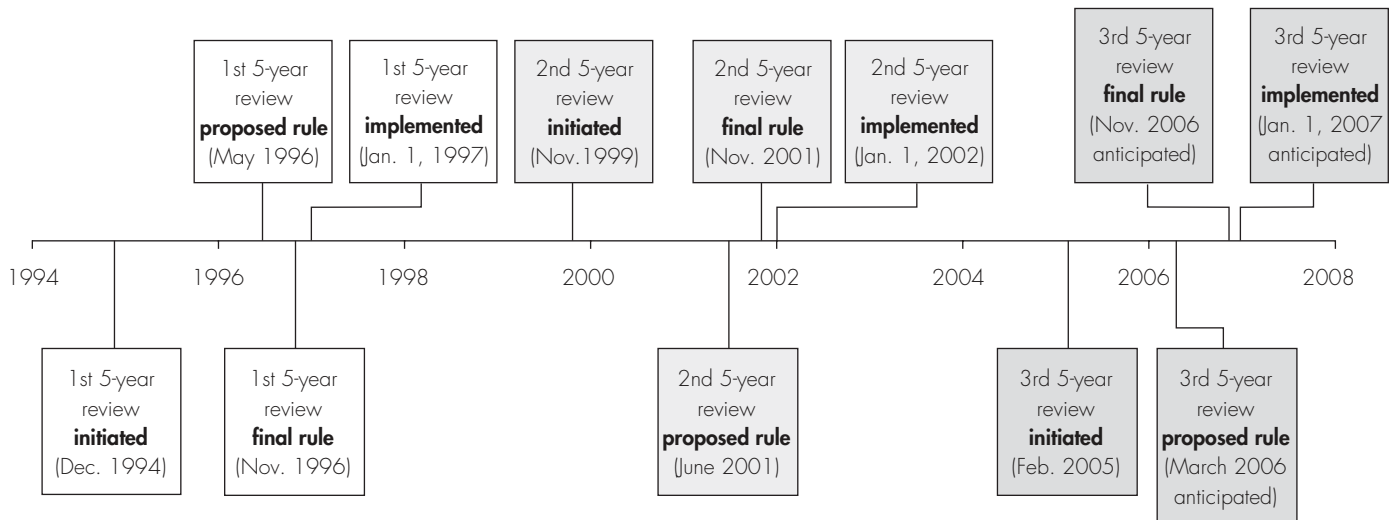
Source: MedPAC analysis of claims data for 100 percent of Medicare beneficiaries from CMS.

work will depend on how familiar providers are with a technology. Initially, average time and intensity may increase, as a growing number of physicians first begin to perform a service. Later, average time and intensity should decrease.

- **Technology substitution**—can reduce the time required to accomplish a task and raise the productivity and hourly wage of workers as physician work is replaced by machines. Computerized interpretation of diagnostic tests is an example of this phenomenon.
- **Allied health personnel substitution**—should reduce the physician time required to perform a service. As the physician's time may then be devoted to more

**FIGURE  
3-2**

**Five-year review schedule**



Note: CMS's proposed changes are published in a proposed rule. The American Medical Association/Specialty Society Relative Value Scale Update Committee's recommendations inform these proposals.

complicated tasks, however, personnel substitution can sometimes have an offsetting effect on physician work by raising the average intensity per physician minute.

- **Re-engineering**—affects both the level and intensity of physician work by changing the way patient care is managed. When re-engineering changes the site of care, such as when patients spend less postoperative time in the intensive care unit, physician work can increase or decrease.
- **Changes in patient severity**—can increase or decrease physician work. A drop in average severity may reduce physician work, such as when the risk of a procedure declines, making it an option for patients who are less severely ill. Patient severity can also rise over time, which could increase physician work.
- **Increased documentation requirements**—can boost the work required to perform a service.

Thus, physician work can increase or decrease over time. When the work required to produce a service changes, CMS should adjust the the value of the service accordingly. Otherwise, Medicare's payments will be too high or too low, relative to the resources need to produce it.

### The five-year review process

To keep the fee schedule up to date, CMS is required by law to review and, if necessary, refine the fee schedule's relative values at least every five years. This process is known as the five-year review. CMS initiated the first five-year review in 1994 and completed it in 1996 (Figure 3-2). The third five-year review is now under way. For this review, as with previous five-year reviews, CMS is assessing only the work relative values.<sup>6</sup>

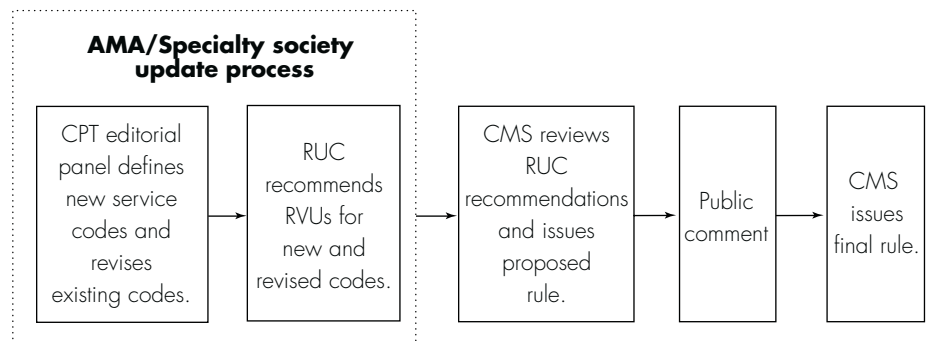
In conducting its five-year reviews, CMS relies heavily on the assistance of a private-sector group called the RUC. The RUC was formed in 1991 by the American Medical Association (AMA) and physician specialty societies to make annual recommendations to CMS on the relative values for new services that are added to the physician fee schedule, as well as for services that have been redefined by the AMA's Current Procedural Terminology (CPT) Editorial Panel (Figure 3-3).

Every five years, the RUC also reviews and makes recommendations to CMS on the relative values of existing services as part of the five-year review. CMS initiates the five-year review process by requesting public

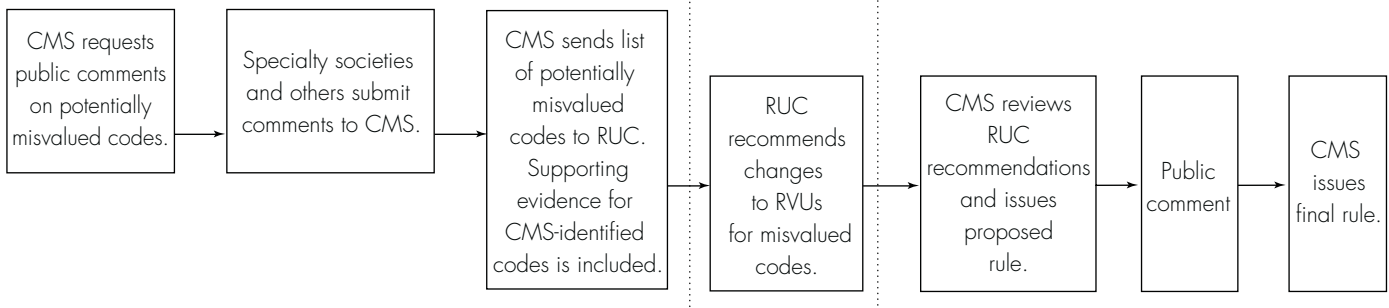
**FIGURE  
3-3**

**Current RVU annual and five-year review process**

**Annual review**



**Five-year review**



Note: RVU (relative value unit), AMA (American Medical Association), CPT (Current Procedural Terminology), RUC (Relative Value Scale Update Committee).

comments on potentially misvalued work RVUs. All of the codes on the fee schedule are open for comment. Most comments are submitted by physician specialty societies. In addition, CMS staff may identify codes that they believe need review. The codes are then forwarded to the RUC. RUC staff develop survey instruments for specialty societies that are interested in formulating relative value recommendations for the codes in question. Specialty societies field the surveys and use the findings to propose changes in the relative values of services to the RUC.

The RUC then assesses the evidence. The RUC may decide to adopt a specialty society’s recommendation, refer it back to the society, or modify it. Final recommendations must be adopted by a two-thirds majority of RUC members.

The RUC submits its recommendations to CMS. After reviewing the recommendations, the agency proposes interim RVUs for services, which are published in the *Federal Register*. As discussed below, the agency generally accepts the relative value revisions recommended by the RUC. Before issuing a final rule, CMS considers public comments on its proposed rule. When public comments disagree with CMS’s proposed RVUs, CMS may convene a refinement panel to consider the work RVUs for a particular service or related services. The panel consists of representatives of the commenting specialty that performs the service, related specialties, primary care specialties, and carrier medical directors. The commenting specialty presents its rationale to the panel, panel members can ask questions, and then the panel members complete scoring sheets indicating the service valuation. CMS uses

statistical methods to examine the inter-rater variation and estimate the panel's mean rating. If the refinement panel's mean rating for a service differs considerably from the proposed RVU, CMS usually adopts the refinement panel's rating.<sup>7</sup>

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## Improving the five-year review

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There is no reason to believe that physician services are more likely to become undervalued over time than overvalued. Yet previous five-year reviews led to substantially more increases in RVUs than decreases. During the first five-year review, the RUC recommended increases in the relative values for 296 codes, no change for 650 codes, and decreases for 107 codes (AMA 2005). The second five-year review produced an even more lopsided outcome, with the RUC recommending increases in the relative values for 469 codes, no change for 311 codes, and decreases for 27 codes. CMS makes the final decisions regarding relative value revisions. In the two previous five-year reviews, the agency accepted more than 90 percent of the RUC's recommendations (HCFA 2001, HCFA 1996).

The RUC has recommended more increases than decreases in large part because it has been much more likely to review undervalued services than overvalued ones. Most of the services examined by the RUC during the five-year review process are identified in public comments to CMS from specialty societies. The vast majority of these comments have concerned codes that societies believe are undervalued. During the second five-year review, CMS (then the Health Care Financing Administration) received comments on about 900 codes; the relative values for all but a handful were considered too low (HCFA 2001). The same is true of the 542 codes submitted to CMS for the current review. This outcome is not surprising, given that the specialty societies and their members have a financial stake in the process. Indeed, the chair of the RUC has stated that physician specialty societies "are not in a position" to nominate potentially overvalued codes (Rich 2005).

During the first five-year review, CMS identified codes it considered misvalued and asked the RUC to evaluate them. During the second five-year review, however, the agency did not identify any codes for RUC review. And for the current five-year review, CMS submitted codes to the RUC but did not indicate whether it thought the submitted

codes were over- or undervalued, nor did the agency provide evidence for the RUC to consider.<sup>8</sup>

The integrity of the physician fee schedule relies on the accuracy of its relative values. As mentioned previously, volume growth and the nation's supply of generalists and specialists may also be influenced by the accuracy of the relative values. Given the importance of accurate payment, the Commission has concluded that CMS's process for reviewing the relative values of existing codes must be improved. The RUC and the specialty societies play an important role, which should continue, but CMS's responsibility to identify potentially misvalued services, especially overvalued ones, is central. To improve the identification of misvalued services, the agency needs more resources to collect and analyze data.

The Commission recommends that CMS reduce its reliance on physician specialty societies to identify physician services that merit review and to provide supporting evidence. The Secretary should establish an expert panel to help CMS identify misvalued services and collect data to establish supporting evidence for the RUC to consider. Further, the Commission recommends that the Secretary implement reviews of services based on analyses of Medicare data, institute automatic reviews of work relative values for selected recently introduced services after a specified period, and establish a process by which all services are reviewed periodically. These recommendations are not intended to supplant the RUC but rather to augment it. The changes should help reduce the number of physician fee schedule services that are misvalued, thereby making payments more accurate.

We recognize that these recommendations will increase demands on CMS. As the recommendations are intended to improve the accuracy of Medicare's payments and achieve better value for Medicare spending, the Congress should provide CMS with the financial resources and administrative flexibility to undertake them.

In addition to the issues addressed by the Commission's recommendations, the representation of certain specialties on the RUC is also a concern. Twenty-three of the RUC's 29 members are appointed by major national medical specialty societies (Figure 3-4) (AMA 2005). (Three seats rotate on a two-year basis, with two reserved for an internal medicine subspecialty and one for any other specialty.) Originally, the specialty criteria for a permanent seat on the RUC were that the specialty: was a member of the American Board of Medical Specialties; comprised

**FIGURE  
3-4**

**Composition of the AMA/Specialty Society Relative Value Scale Update Committee**

Chair	One representative each from:			
AMA	Anesthesiology	Internal medicine	Orthopedic surgery	Pulmonary medicine*
CPT Editorial Panel	Cardiology	Neurology	Otolaryngology	Radiology
American Osteopathic Association	Dermatology	Neurosurgery	Pathology	Spine care*
Health Care Professionals Advisory Committee	Emergency medicine	Obstetrics/Gynecology	Pediatrics	Thoracic surgery
Practice Expense Advisory Committee	Family medicine	Oncology*	Plastic surgery	Urology
	General surgery	Ophthalmology	Psychiatry	

Note: AMA (American Medical Association), CPT (Current Procedural Terminology).  
\*Indicates a rotating seat.

Source: American Medical Association 2005.

1 percent of physicians in practice; comprised 1 percent of Medicare physician expenditures; had Medicare revenue that was at least 10 percent of the specialty’s mean practice revenue; or was not meaningfully represented by an umbrella organization, as determined by the RUC. Although the RUC continues to use the criteria to evaluate petitions for new seats, current members are not subject to removal based on the criteria (Smith 2005).

Some physician groups are concerned that physicians who furnish primary care services are not represented adequately on the RUC (Stubbs 2005). Representation on a panel such as the RUC can be defined by the percentage of total E&M services furnished by a specialty, or by the proportion of total Medicare physician expenditures, or in other ways. At this time, the Commission does not have a recommendation on how RUC membership should be defined. Rather, the Commission calls on CMS to request that the medical community propose changes in the composition of the RUC. The Commission is aware that the AMA and physician specialty societies are having ongoing conversations about the RUC’s composition. We will continue to monitor the issue.

**Assisting CMS with the valuation of services**

As currently designed, the five-year review process does not do a good job of identifying services that may be overvalued. CMS relies too heavily on physician specialty societies to identify services that merit review and provide evidence in support of increasing or decreasing the relative values of services under review. Although the RUC provides valuable expertise, the review process would benefit if CMS had an additional means of identifying misvalued services and if supporting evidence were collected and analyzed not only by specialty societies but also by experts who were less invested financially in the outcome.

**RECOMMENDATION 3 - 1**

**The Secretary should establish a standing panel of experts to help CMS identify overvalued services and to review recommendations from the RUC. The group should include members with expertise in health economics and physician payment, as well as members with clinical expertise. The Congress and the Secretary should ensure that this panel has the resources it needs to collect data and develop evidence.**

### RATIONALE 3 - 1

Given the tendency of the current process to identify and correct undervalued services, CMS should play a lead role in identifying overvalued services. CMS could gain the requisite expertise by establishing its own group of experts, separate from the RUC, to help the agency conduct these and other related activities.

### IMPLICATIONS 3 - 1

#### Spending

- This recommendation would not affect federal benefit spending relative to current law.

#### Beneficiary and provider

- Any effects on beneficiaries and providers are likely to be small. This recommendation is expected to make payments under the physician fee schedule more accurate and, therefore, could have redistributive effects on providers.

Currently, after CMS has published its proposed changes to work RVUs for existing services, the agency may convene ad hoc refinement panels to evaluate public comments. The refinement panels include carrier medical directors and physicians from the specialty most frequently furnishing the service, related specialties, and primary care. We propose that this refinement panel be reconfigured to play a regular role in the service valuation process, particularly at the beginning of the process when CMS is seeking to identify misvalued services.

The expert panel should not supplant the RUC, which provides a valuable service to CMS. Rather, the panel should help improve the identification of misvalued services, especially overvalued ones, for RUC review (Figure 3-5). The panel should be involved at the outset of the five-year review process, before the RUC begins its work. The panel would review the codes that CMS's data analyses have identified as potentially misvalued and consider which services warrant further consideration by the RUC (see Recommendation 3-3, p. 147). The panel would then develop additional evidence supporting the correction of misvalued services, for example, by conducting its own provider surveys. This supporting evidence is likely to carry more weight with the RUC than an unannotated list of codes (such as that forwarded by CMS to the RUC during the current five-year review). Later in the five-year review process, CMS would use the expert panel to help evaluate RUC recommendations.

To ensure that the panel has sufficient expertise in considering whether services are misvalued, it should include representatives from CMS's network of carrier medical directors, experts in medical economics and technology diffusion, private payer plan representatives, and a mix of physicians, particularly ones that are not directly affected by changes to the Medicare physician fee schedule (for example, physicians who are employed by managed care organizations or academic medical centers). Carrier medical directors have a wealth of knowledge about current medical practice and local coverage decisions that could assist the panel in its review activities. Experts in medical economics will help CMS decide whether to adjust RVUs to account for any economies of scale that accompany volume growth, while experts in technology diffusion will help CMS address the efficiencies that accompany the learning-by-doing associated with new services. Private payers bring the feedback they receive from the marketplace and may provide evidence of distortions in payment rates for physician services.

Although this recommendation would not affect federal benefit spending relative to current law, the Congress may need to appropriate additional program funding for CMS to establish, manage, and staff the expert panel. In addition, the panel would need adequate resources to collect and analyze data.

#### Improving the identification of misvalued services

Analyses of Medicare data may provide the needed information to support the agency's claim that certain codes are overvalued. In addition, the analyses are likely to show that some of the services needing review are significant contributors to recent growth in Medicare physician spending.

### RECOMMENDATION 3 - 2

**The Secretary, in consultation with the expert panel, should initiate the five-year review of services that have experienced substantial changes in length of stay, site of service, volume, practice expense, and other factors that may indicate changes in physician work.**

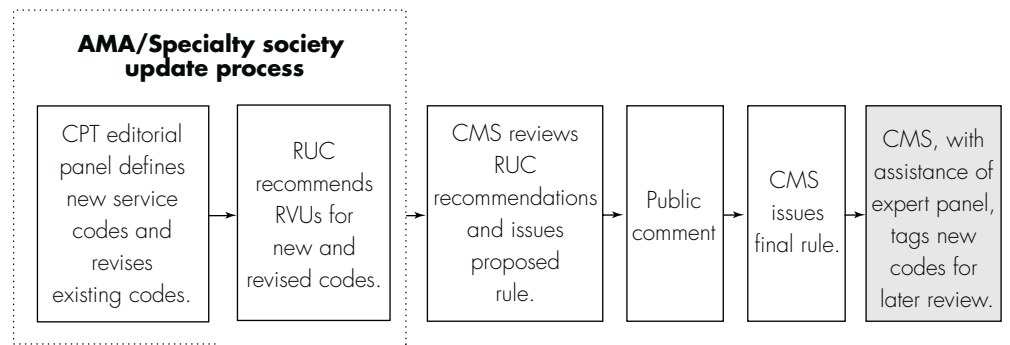
### RATIONALE 3 - 2

Reviews of services experiencing substantial change may improve the identification of overvalued services.

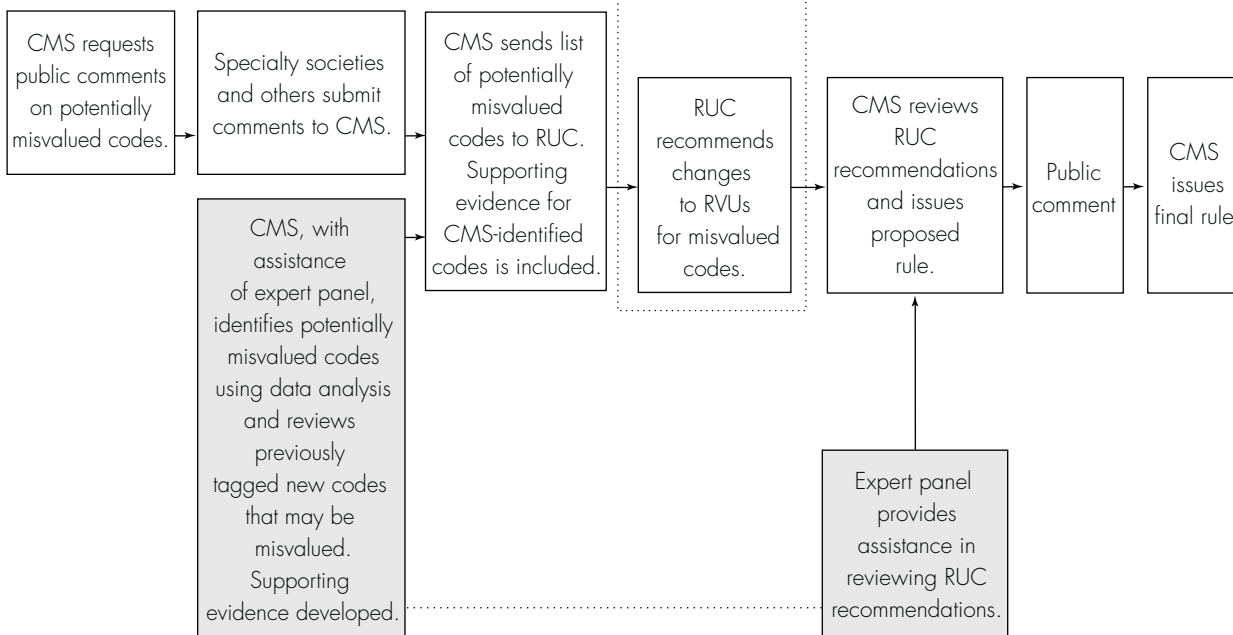
**FIGURE 3-5**

**RVU annual and five-year review process, current and recommended**

**Annual review**



**Five-year review**



Note: RVU (relative value unit), AMA (American Medical Association), CPT (Current Procedural Terminology), RUC (Relative Value Scale Update Committee). MedPAC's recommended changes are shown in gray boxes.

**IMPLICATIONS 3-2**

**Spending**

- Given budget neutral implementation, this recommendation will not affect program spending.

**Beneficiary and provider**

- Any effects on beneficiaries are likely to be small. This recommendation is expected to make payments under the physician fee schedule more accurate and thus could have redistributive effects on providers.

Changes in volume, increases in claims for multiple services, and adjustments to practice expense, among other changes, can signal the need to revise valuations of physician work. An expert panel established by the Secretary (see Recommendation 3-1, p. 143) would assist CMS by using the results of data analyses to identify potentially misvalued services and assess whether those services warrant review by the RUC (Figure 3-5).

## **Changes in volume may suggest that physician work has changed**

Over time, some services that experience volume growth may become overvalued. Requirements for physician work should fall as proficiency improves through learning by doing; nonphysician clinical staff time may fall as well. (In addition, volume growth should lead to economies of scale in the use of fixed assets, such as equipment and office space, which should be reflected in revised practice expense RVUs.) When volume grows but total hours worked during a week remain the same, then the work per unit must be going down; unless the service's work RVU is reviewed and revised downward, the service will become increasingly profitable. As discussed previously, wide variation in the profitability of services can create perverse incentives that can distort the market for physician services.

Every year, the Commission analyzes growth in the volume of physician services when assessing the adequacy of Medicare's payments for those services. These analyses have consistently shown that volume growth is highest for certain types of services, especially imaging and tests.

CMS should routinely conduct analyses similar to the Commission's to identify services with unusually high volume growth. One approach is for CMS to compare each service with similar services, flagging those with unexpectedly higher-than-average volume growth. For instance, if the volume growth for an MRI service exceeds that for all imaging services, CMS would flag the MRI service as needing review during either the next five-year review or an interim review. The service would then be forwarded to the RUC for review, along with the expert panel's supporting evidence. Specialty societies and other interested parties would have a chance to submit their own evidence to the RUC supporting a specific RVU for the service in question. CMS could also compare volume growth across broad categories of services—imaging, tests, E&M, major procedures, and other procedures—to determine if certain categories were experiencing higher volume growth than others and whether that volume growth warranted review. These comparisons of volume growth would expand on analyses presented in CMS's letter to MedPAC regarding the preliminary estimate of the physician update for 2006 (Kuhn 2005).

## **Increased claims for multiple services suggest that physician work may have changed**

Generally, RVUs are determined for each service individually, under the assumption that services are furnished independently. But if physicians frequently provide multiple services at the same time, efficiencies often accrue. Therefore, increased frequency of claims for multiple services furnished by a single physician may provide an indication that the RVUs for certain services are too high.

The Commission has previously commented on this issue. In March 2005, we recommended that the Secretary should improve Medicare's coding edits that detect unbundled diagnostic imaging services and reduce the technical component payment for multiple imaging services performed on contiguous body parts (MedPAC 2005). The technical component includes practice expense but not physician work. On November 2, 2005, CMS announced that it will implement this recommendation over a two-year transition period. In 2006, the agency will reduce by 25 percent the technical component payment for second and subsequent imaging services performed on contiguous body parts. Starting in 2007, the reduction will be 50 percent.

In addition to a payment adjustment for practice expense, changes to payments for physician work when multiple services are provided together may be appropriate. The time that physicians spend furnishing services is one measure of physician work, and some time savings are likely when physicians furnish multiple services together instead of separately.

## **Other indicators of changes in physician work**

A large increase in the practice expense component of physician payment—during future five-year reviews, for example—signals the need to evaluate work RVUs, because such changes may reflect substitution of nonphysician clinical staff or other inputs for work previously done by physicians. For example, use of digital storage of radiographic and other images may increase practice expenses, while simultaneously reducing physician work by shortening the time physicians need to interpret those images (Kieffer and Drew 2000).

Additional analyses of Medicare data would flag services for review based on changes in site of service, the mix of specialties performing the service, and length of stay (an indication that pre- and postsurgical periods may have changed since the service was valued).



## Ensuring accurate payment for recently introduced services

When a new service is added to the physician fee schedule, it may be assigned a relatively high work value because of the additional time, mental effort, technical skill and effort, psychological stress, and risk that are often required to perform that service. Over time, the work required for certain services would be expected to decline as physicians become more familiar with the service and more efficient in furnishing it. The Commission is aware that the RUC is considering taking a more proactive role in the review of recently introduced services. Yet the experience to date is that the relative values of these services generally remain valued at their initial high levels. Indeed, an Urban Institute analysis of changes in the relative values assigned to non-E&M services introduced to the physician fee schedule between 1992 and 1997 found that the work relative values of new services actually increased on average 0.5 percent each year between 1997 and 2002 (Maxwell et al. 2005).

### RECOMMENDATION 3-3

**In consultation with the expert panel, the Secretary should identify new services likely to experience reductions in value. Those services should be referred to the RUC and reviewed in a time period as specified by the Secretary.**

### RATIONALE 3-3

The work required to perform a new service often changes as physicians gain familiarity with it. Automatic reviews of the RVUs for selected recently introduced services will help ensure that Medicare's payment rates change along with the work required.

### IMPLICATIONS 3-3

#### Spending

- Given budget neutral implementation, this recommendation will have no effect on program spending.

#### Beneficiary and provider

- Any effects on beneficiaries are likely to be small. This recommendation is expected to make payments under the physician fee schedule more accurate and thus could have redistributive effects on providers.

The work required to furnish many—although not all—new services can be expected to change over time. CMS, with the assistance of the expert panel, should conduct analyses to determine if changes in work can

be expected in the early years after a service is first introduced. Such research could inform not only the Secretary's decision about what an appropriate value for a particular service should be but also when reviews should occur. The Secretary should identify services that are likely to experience work changes and schedule a future review for them (Figure 3-5, p. 145). At the appropriate time, the RUC should review the services identified by the Secretary and should consider the expert panel's supporting evidence for that change. Reviews should not be postponed until an upcoming five-year review but should occur on an as-needed basis. As is the case with five-year reviews, specialty societies and other interested parties would have a chance to submit their own evidence to the RUC supporting a specific RVU for a service scheduled for review.

As part of this process, CMS should also assess established services for which the newly introduced services are substitutes. The use of coronary angioplasty instead of coronary artery bypass grafts is an example of such substitution. As the use of newly introduced services grows, the types of patients using established services could change. If the severity of patients receiving established services increases or decreases, the resources needed to furnish those services could change as well.

#### Validating relative values

Since the fee schedule was first implemented, the RUC has reviewed the relative values of most of the services furnished to beneficiaries. However, that review has not occurred for about one-sixth of the RVU volume. Consequently, the original valuation of those services, established more than 15 years ago, may no longer reflect current medical practice. The improvements we recommend above should help CMS identify and correct a higher proportion of misvalued services, but inaccuracies could remain in the fee schedule. Some may persist because, due to low volume, the services have not been identified for review. Other inaccuracies could remain because a service did not experience a large change in any single factor that would flag it for review; rather, it underwent small changes in several factors that in combination warrant reevaluation.

The unreviewed RVU volume is spread over many codes (about half of the services in the fee schedule). It is not practicable for CMS and the RUC to undertake a review of this magnitude at one time. An alternative to reviewing all previously unreviewed services simultaneously would be to periodically review a sample of codes within

different types of services. Such a review would confirm the validity of the RVUs and detect problems in valuation that were not identified by the data analyses previously discussed.

### RECOMMENDATION 3 - 4

**To ensure the validity of the physician fee schedule, the Secretary should review all services periodically.**

### RATIONALE 3 - 4

Although the volume for many services is small, the valuation of all services needs to be confirmed or revised periodically to keep the fee schedule as accurate as possible. The data analyses we recommend above are intended to identify relative values that are no longer accurate, but inaccuracies could persist within the fee schedule. Therefore periodic review of all services is necessary to maintain the robustness of the payment system.

### IMPLICATIONS 3 - 4

#### Spending

- Given budget neutral implementation, this recommendation will have no effect on program spending.

#### Beneficiary and provider

- In general, any effects on beneficiaries and providers are likely to be small. This recommendation is expected to make payments under the physician fee schedule more accurate and thus could have redistributive effects on providers.

We recognize that the resources of the RUC and the Secretary are limited. The Secretary should choose a strategy to achieve our recommendations that best fits the agency's resource constraints. One approach is for CMS, on an annual basis, to select a sample of codes from those that have not yet been reviewed and have its own panel of experts consider the valuations. Those services that appear to warrant review could be forwarded to the RUC. The RUC, in turn, would use its regular process to review the services and make recommendations to CMS.

## Future work

The recommendations in this chapter represent the first step in the Commission's work on pricing of services in the physician fee schedule. In future reports, we will consider other elements of the fee schedule, including adjustment of payments for input prices that vary geographically, the boundaries of payment localities, methods for determining practice expense RVUs, and the fee schedule's unit of payment. In addition, we are concerned about income differences among physician specialties, including the disparities in remuneration between primary and specialty care, and the implications of those disparities for the future of the physician workforce required to meet the chronic care and other needs of Medicare beneficiaries. Some recent surveys of the career plans of medical students and residents suggest that a declining number may be choosing primary care (Association of American Medical Colleges 2006, Garibaldi et al. 2005); other specialties may also be facing shortages. Finally, the Commission will consider opportunities to improve the value of services Medicare purchases, with a goal of identifying cost-effective services. ■

## Endnotes

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- 1 The SGR determines the spending target for physician services. It is composed of growth rates for: enrollment in Medicare fee-for service; input prices for physician services; physician services spending due to changes in law and regulations; and, as an allowance for volume increases, real gross domestic product per capita.
- 2 This analysis examined total relative value unit (RVU) volume. Work RVUs account for slightly more than half of total RVUs.
- 3 Section 1848(c)(2)(B)(i) of the Social Security Act (42 U.S.C. 1395).
- 4 Both of the previous five-year reviews would have resulted in increases in total estimated payments under the physician fee schedule, thus triggering the budget neutrality adjustment. After the first five-year review, the Health Care Financing Administration (HCFA) (now CMS) reduced the work RVUs by 8.3 percent overall. The impact of the adjustment on the payment for any individual service depended on what percentage the work RVUs represented of the service's total RVUs. As a result of the second five-year review, HCFA reduced the conversion factor by 0.3 percent; all services were affected equally by this adjustment. CMS also sometimes makes budget neutrality adjustments within families of codes, in which case other types of services are not affected.
- 5 The psychometric technique of magnitude estimation was used to obtain objective estimates of physician work. In a national survey, physicians were asked to rate about 25 services (depending on the specialty in question), relative to a reference service that differed by specialty. The individual physicians' results were averaged across each vignette to yield a specialty-specific scale of relative work values for the services in question. A cross-specialty linking for selected services was performed to place all surveyed services on a common scale. The cross-linking services were selected by a multi-specialty group of surveyed physicians. Multivariate regression analysis was used to link services across all specialties. During a second and third phase of the project, virtually all physician services were surveyed, either through national random samples or small, expert groups of physicians.
- 6 Until recently, the practice expense and malpractice components were not resource-based, so CMS has excluded them from the five-year reviews.
- 7 CMS uses clear cutoffs for this determination, using differences greater than one standard deviation as the threshold for adopting the panel's recommended valuation.
- 8 CMS identified 168 codes for RUC review: 149 codes that the RUC has never reviewed, 1 low-volume code that is valued as being performed in the inpatient setting but that CMS believes is now predominantly performed in the outpatient setting, and 19 codes that CMS believes have experienced advances in technology that are likely to have changed the amount of work required to perform them.

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CHAPTER 4

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**Post-acute care providers**

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# R E C O M M E N D A T I O N S

## Section 4A: Skilled nursing facility services

**4A-1** The Congress should eliminate the update to payment rates for skilled nursing facility services for fiscal year 2007.

COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

.....

**4A-2** The Secretary should modify the PPS for skilled nursing facilities to more accurately capture the cost of providing care to different types of patients. This new system should:

- ▶ reflect clinically relevant categories of patients;
- ▶ more accurately distribute payments for nontherapy ancillary services;
- ▶ improve incentives to provide rehabilitation services based on the need for therapy; and
- ▶ be based on more contemporary, representative data than the current system based on time study data from 1990, 1995, and 1997.

COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

.....

**4A-3** To improve quality measurement, the Secretary should:

- ▶ collect information on activities of daily living at admission and at discharge;
- ▶ develop and use more quality indicators, including process measures, specific to short-stay patients in skilled nursing facilities; and
- ▶ put a high priority on developing appropriate quality measures for pay for performance.

COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

## Section 4B: Home health services

The Congress should eliminate the update to payment rates for home health care services for calendar year 2007.

COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

## Section 4C: Long-term care hospital services

The Congress should eliminate the update to payment rates for long-term care hospital services for 2007.

COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

## Section 4D: Inpatient rehabilitation facility services

The Congress should eliminate the update to payment rates for inpatient rehabilitation facility services for fiscal year 2007.

COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

# Post-acute care providers: An overview of issues

## Chapter summary

The recuperation and rehabilitation services that post-acute care providers furnish are important to Medicare beneficiaries. Medicare beneficiaries can seek care after a hospitalization in four different post-acute care settings: skilled nursing facilities (SNFs), home health agencies, long-term care hospitals (LTCHs), and inpatient rehabilitation facilities (IRFs).

Medicare's goal is to ensure that beneficiaries receive appropriate, high-quality care in the least costly setting consistent with their clinical conditions. Starting with this premise, we see two key problems as we look across post-acute care settings. One is the lack of integration and coordination of policies across settings. The other is limitations (though not always the same ones) in the performance of the distinct post-acute care payment systems that Medicare uses for these settings.

This year, the Commission analyzed payment adequacy for each of the four types of post-acute care providers. These analyses and our prior work on comparability of post-acute care settings reveal similar issues

## In this chapter

- Cross-cutting issues in post-acute care
- Toward a more integrated approach to post-acute care

in all of the payment systems for these providers. Before describing each analysis, we lay out these common themes:

- Payments are not accurately calibrated to costs.
- Services overlap among settings.
- The post-acute care product is not well defined.
- Assessment instruments differ among settings.

New prospective payment systems (PPSs) for post-acute care providers have led to changes in the patterns of post-acute care use. The Centers for Medicare & Medicaid Services (CMS) developed a PPS for each type of provider, following mandates in the Balanced Budget Act of 1997 (BBA).

Providers have responded to the new incentives of the PPSs in ways that may not serve the program or beneficiaries well. For example, the Commission has documented changes in the mix of services provided and patients served, which may result from the incentive to select patients who will be cared for most profitably. These responses have led us to call for refining the case-mix systems, measuring quality of care, and better defining the characteristics of the care that should be provided in each setting.

The Commission has recommended that CMS refine the system for SNFs because of concerns that the payment system systematically pays too much for some types of patients and too little for others. Inaccurate case-mix systems in general create incentives for providers to select patients for whom profits are highest, to the detriment of other patients and the providers who serve them. However, even under refined case-mix systems that would better match payments to patients' resource needs, patient characteristics not in the case-mix systems would still likely affect how profitable a given type of patient would be to providers, creating an incentive to select patients. Including these characteristics may not always be possible or even good policy. Collecting the information needed may be too burdensome or including the information may create perverse incentives in treatment.



Refinement would also not eliminate the potential for selection within each case-mix category.

The types of services and patients seem to overlap among settings, creating further opportunities for providers to benefit from selecting patients. The settings with higher payments from Medicare will find it easier to generate referrals from physicians if they offer more specialized care, which patients may not always need. This is not to say that all patients overlap; some patients are clearly best suited for some settings. It is at the margin that we see apparent similarities among patients. Even if there are overlaps in some patients, whether the settings are substitutes—that is, providing the same level of care—or complements is unknown.

The product Medicare is buying from each setting is not always clearly defined or measured, and the way care is delivered varies within each type of setting. The lack of clear product definitions makes both accurate pricing and quality measurement difficult. Further, because the product is not well understood, it is unclear whether a low-cost provider is stinting or efficient. Better measures of quality and outcomes are needed to address this issue. Ideally, Medicare should identify the type of care that patients need, not the type of setting.

Each setting also has different patient assessment tools, complicating comparisons of cost and the quality of patient outcomes across settings. Long-term care hospitals have no standard patient assessment tool at all, although providers have developed their own for care planning. CMS uses setting-specific patient assessment tools to determine payment rates within each of the other three systems, and quality measures are also derived from the assessment in each setting.

Refining all of the case-mix systems would not resolve issues of whether patients go to the lowest-cost, appropriate post-acute setting or whether they need post-acute care at all. Some patients might recover and recuperate at home using outpatient settings or might do best by staying a few more

days in the acute-care hospital. Medicare would also want to make sure that beneficiaries receive the most clinically appropriate and effective care, regardless of the setting.

To this end, the Commission is looking beyond the payment adequacy question in each setting to think more broadly about how to match patients who use post-acute care with the set of services that can provide the best outcomes at the lowest cost. One approach would develop tools to compare patients across post-acute care settings; another would think of more integrated approaches. The Commission has not yet identified a strategy but hopes to develop these ideas in future work. Recent legislation establishes a demonstration of a common assessment instrument and explores issues of cost across settings in 2008. ■

Medicare beneficiaries can seek care after a hospitalization in four different post-acute care settings: skilled nursing facilities (SNFs), home health agencies, long-term care hospitals (LTCHs), and inpatient rehabilitation facilities (IRFs) (see text box on p. 158 for an overview of each of these settings). Clear and comprehensive criteria are lacking for what type of post-acute care is best for patients with particular characteristics or needs. Although Medicare defines eligibility for each setting, these definitions do not clearly delineate which patients should go to which setting for which services. Further, the payment systems for these settings and their patient assessment tools have developed separately over the years, each based on its own historic costs and care patterns.

The Commission maintains that in the post-acute care sector, just as in the other sectors of Medicare, the services provided should meet beneficiaries' needs, Medicare payments should cover an efficient provider's costs of furnishing appropriate services, and the program should reward higher-quality care. Because of the overlap in services and patients among post-acute care providers, we may also want to consider efficiency across post-acute care and not just within each setting. However, the lack of comparable patient assessment instruments confounds our ability to judge efficiency and quality across settings. The sections that follow focus on payment adequacy for each setting, using the framework laid out in Chapter 2. We also discuss the particular issues that we see in each setting. In some cases, we offer recommendations to improve payment or quality measurement within the setting.

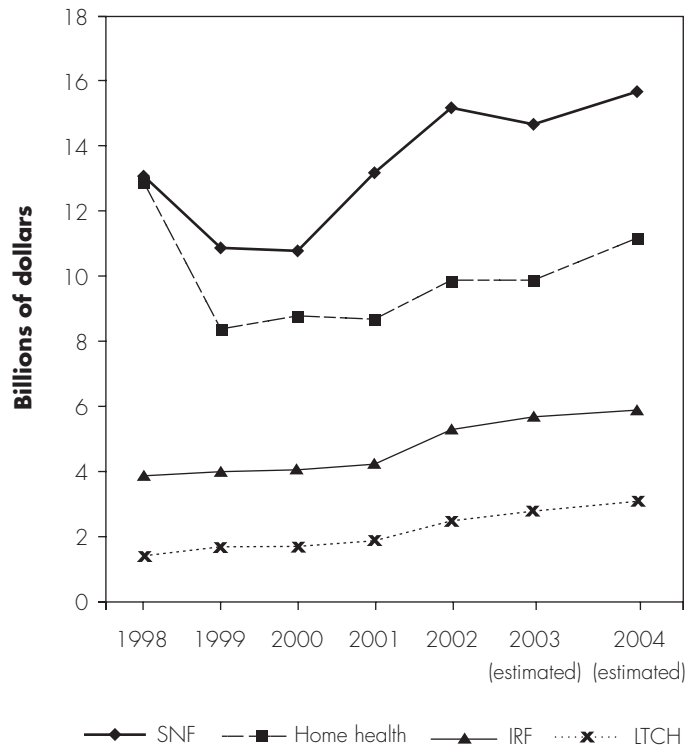
## Background

Medicare spending on post-acute care services totaled about \$36 billion in 2004, accounting for more than 12 percent of total Medicare spending. After slowing in the late 1990s when CMS implemented the Balanced Budget Act of 1997 (BBA), spending and the number of providers have risen (Figure 4-1). The number of home health agencies increased by 10 percent in the last year alone, and there were over 50 percent more LTCHs in 2005 than in 2000. The rise in spending is the result of both higher payments and greater use.

In 2002, about one-third of Medicare beneficiaries discharged from prospective payment system (PPS) hospitals went to a post-acute care setting. About one-third of those went to a SNF, one-third to home health,

**FIGURE 4-1**

**PAC spending shows recent growth**



Note: PAC (post-acute care), SNF (skilled nursing facility), IRF (inpatient rehabilitation facility), LTCH (long-term care hospital). These amounts are program spending only; they do not include beneficiary copayments.

Source: Centers for Medicare & Medicaid Services, Office of the Actuary.

and the rest to other settings (for example, IRF) or several settings (for example, SNF followed by home health care). Post-acute care use is not uniform, either across or within the diagnosis related groups assigned in the hospital. For some conditions, such as angina and chest pain, few beneficiaries use post-acute care services. For others, including major joint procedures, stroke, and tracheostomy, these services are commonly used. But even for these conditions, some beneficiaries do not use post-acute care.

The last era of rapid growth in post-acute care in the late 1980s and early 1990s was spurred by a number of factors: the profitability of SNF and home health services under cost-based reimbursement and payment for each unit of care, the loose eligibility requirements, and the poor oversight of program integrity. These increases also may have been encouraged by hospitals' incentives to shorten length of stay in the hospital. In the Balanced Budget Act of 1997, the Congress mandated that CMS develop

## Who are the post-acute care providers?

### Skilled nursing facilities (SNFs)

Medicare covers care in a skilled nursing facility when a patient meets two conditions. First, the patient requires daily skilled nursing or rehabilitation staff to manage, observe, and evaluate care. Examples of skilled care are changing dressings and physical therapy. Second, the patient had a prior hospital stay of at least three days within 30 days of admission. Patients have no cost sharing for SNF care through the first 20 days of a stay. For the next 80 days, patients must pay a daily copayment. After 100 days, Medicare coverage ends, and other insurers, patients, or the Medicaid program pays for any additional days of care.

A skilled nursing facility could be part of a nursing home or a hospital. Medicare certifies these facilities if they have the staff and equipment to give skilled nursing care or skilled rehabilitation services. More detail on SNFs and the payment system is available at [http://www.medpac.gov/publications/other\\_reports/Dec05\\_payment\\_basics\\_SNF.pdf](http://www.medpac.gov/publications/other_reports/Dec05_payment_basics_SNF.pdf).

### Home health agencies

Home health care includes skilled nursing, therapy, aide services, or medical social work services provided to beneficiaries in their homes. To be eligible for Medicare's home health benefit, beneficiaries must need part-time (fewer than eight hours per day) or intermittent (temporary but not indefinite) skilled care to treat their illness or injury and must be unable to leave their homes without considerable effort. Daily care is precluded except on a short-term basis. Home health care has no coinsurance or cost sharing.

Home health agencies may be freestanding or based in another type of health care facility (hospital, nursing home, or inpatient rehabilitation facility). Regardless of where they are based, home health agency staff travel to furnish all care in the beneficiaries' home. More detail on home health agencies and the payment system is available at [http://www.medpac.gov/publications/other\\_reports/Dec05\\_payment\\_basics\\_HHA.pdf](http://www.medpac.gov/publications/other_reports/Dec05_payment_basics_HHA.pdf).

### Long-term care hospitals (LTCHs)

Patients use long-term care hospitals as they would an acute care inpatient hospital; the distinction is the length of stay. Long-term care hospitals are certified as hospitals and are intended to treat medically complex

patients with long lengths of stay. Medicare requires that the average Medicare length of stay be more than 25 days (the average length of stay in hospitals under the acute care inpatient PPS is approximately 5 days). Cost sharing and coverage follow the acute care hospital rules.

The characteristics of long-term care hospitals vary. Some are converted from former public health hospitals; these tend to have the most beds and are concentrated in New England. Newer entrants, called "hospitals within hospitals," are located on the same grounds as an acute care hospital but have separate ownership and financial arrangements. Hospitals within hospitals are smaller than the older LTCHs. Despite a reputation for serving ventilator patients, long-term care hospitals serve a wide mix of patients, including those requiring wound care and those with respiratory and other infections.

LTCHs are usually the most costly post-acute setting for Medicare beneficiaries. The Commission has found that, while LTCH patients generally cost Medicare more than similar patients using alternative settings, the cost is comparable for the sickest patients. Detail on long-term care hospitals and the payment system is available at [http://www.medpac.gov/publications/other\\_reports/Dec05\\_payment\\_basics\\_LTCH.pdf](http://www.medpac.gov/publications/other_reports/Dec05_payment_basics_LTCH.pdf).

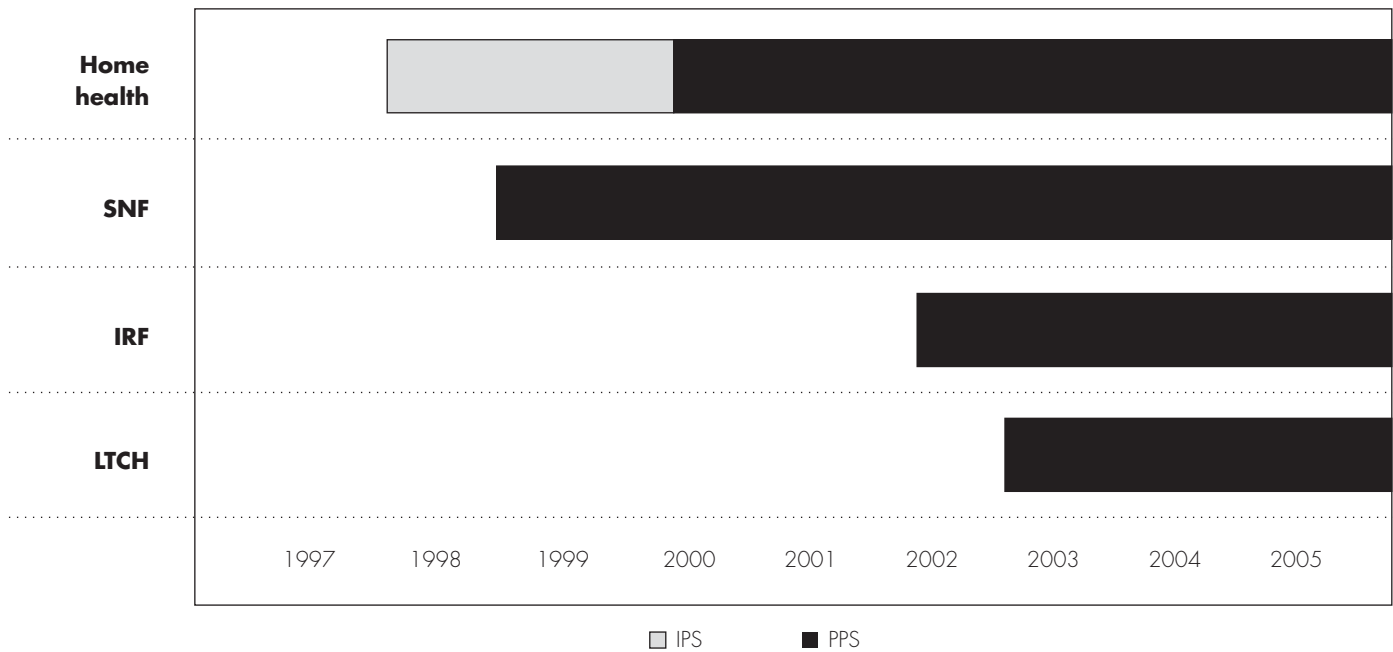
### Inpatient rehabilitation facilities (IRFs)

Inpatient rehabilitation facility care is provided to patients who can sustain three hours of therapy per day. In contrast to the other post-acute care settings, IRFs are directed solely toward rehabilitation rather than recuperation. Cost sharing and coverage follow the acute care hospital rules.

Although inpatient rehabilitation facilities are certified as hospitals, they must meet several additional requirements. At least 75 percent of their patients must fall within a select list of diagnoses that CMS finds most indicative of the need for IRF care (This issue is discussed in more detail in Chapter 4D). Most IRFs are hospital based although freestanding rehabilitation hospitals also participate in Medicare. More detail on inpatient rehabilitation facilities and the payment system is available at [http://www.medpac.gov/publications/other\\_reports/Dec05\\_payment\\_basics\\_IRF.pdf](http://www.medpac.gov/publications/other_reports/Dec05_payment_basics_IRF.pdf). ■

**FIGURE  
4-2**

**Post-acute care PPS starting dates**



Note: PPS (prospective payment system), SNF (skilled nursing facility), IRF (inpatient rehabilitation facility), LTCH (long-term care hospital), IPS (interim payment system).

prospective payment systems for each of these settings in the hope of curbing the rapid increase in post-acute care spending. Figure 4-2 shows the implementation dates for each of the new PPSs.

### **Cross-cutting issues in post-acute care**

This year, the Commission has conducted payment adequacy analyses for each of the four types of post-acute care providers. We find many similarities in the experiences with the payment systems for these providers; before we describe each payment adequacy analysis in the following sections, we lay out several common themes.

### **Experience under the prospective payment systems**

New PPSs for post-acute care providers have led to changes in the patterns of post-acute care use. CMS developed a PPS for each type of provider, following mandates in the BBA. The Congress intended the prospective payment systems to moderate spending, as had the earlier prospective payment system for inpatient hospital care. In two of the most frequently used post-acute

care settings, payments slowed following the BBA but have started to rise again. At the same time, providers have responded to the incentives of the PPSs in ways that may not serve the program or beneficiaries well. For example, the Commission has documented changes in the mix of services provided and the types of patients served that have resulted in very high margins. The PPSs also give providers an incentive to select patients who will be cared for most profitably under the new system. These responses have led us to call for action to slow payments, refine the case-mix systems, and measure quality of care.

Changes in the pattern of care following introduction of a new PPS are to be expected. Under the inpatient PPS, hospitals changed the hospital product by shortening length of stay, which led to high hospital inpatient margins and fueled the growth in post-acute care. Medicare payment policy also has changed to reflect the new patterns of care. For example, the transfer policy pays hospitals proportionately less for patients whose length of stay is at least two days shorter than average and who go to post-acute care settings. The Commission has recently called for the Congress and CMS to refine the hospital case-mix system to reduce incentives to select certain

types of cases or less severely ill patients (MedPAC 2005c).

One example of the response to the incentives of the new prospective payment systems is in SNFs. The SNF prospective payment system contains strong incentives for facilities to provide therapy. While this method of paying for therapy counters incentives in any PPS to stint on services, there is currently no way to measure whether patients are benefitting from the therapy they receive. So under the current system, SNFs that provide additional therapy will earn higher payments even if their patients do not benefit from additional therapy.

Another example of response is in home health. The Commission has documented the dramatic drop in the number of visits provided during a 60-day episode of care. In the previous payment system, home health agencies earned more revenue with each visit they made. Under the interim payment system of cost limits and under the PPS, the incentive is to provide fewer visits within the episode of care, because the payment does not vary with the number of visits (unless the number of visits is so low as to trigger a low-utilization payment). Measured quality has not suffered from the lower number of visits.

We find that financial performance varies widely among providers. While this is not unexpected given differing market conditions and management decisions, some of the variation may be because of case-mix systems that systematically pay too much for some types of patients and too little for others. Inaccurate case-mix systems in turn create incentives for some providers to select patients for whom profits are highest, to the detriment of other patients and the providers who serve them. The lack of a clear definition of the standard of care we expect from the service contributes to the problem because providers can furnish fewer services than average and profit from the system. The payment systems for two settings—SNFs and home health agencies—reward rehabilitation over other important care also provided in those settings. Medicare should pay adequately for rehabilitation but not by creating a bias against treating patients with complex medical needs who do not also need therapy.

Even under refined case-mix systems that better match payments to patients' resource needs, patient characteristics not in the case-mix systems would likely still affect how profitable a given type of patient is to providers, creating an incentive to select patients. Including these characteristics may not always be possible

or even a good policy. Collecting the information needed may be too burdensome. Adjusting payment based on some patient characteristics would create perverse incentives. For example, home health patients who have caregivers at home receive fewer visits than those who do not. But paying home health agencies less for patients with caregivers at home might discourage agencies from caring for patients with such informal care, which in turn might discourage family members and others from providing this support.

In the SNF prospective payment system, the Commission and others have identified several flaws that may lead to overpayment of some cases: lack of adjustment for nontherapy ancillary services, higher payment for more therapy, and case-mix weights based on outdated time-study data collected before the implementation of the PPS. Recommendation 4A-2 addresses this issue.

Analysts familiar with the home health PPS have drawn attention to possible problems with the case-mix system as well, although other observers have stated that the key problem in the home health care payment system is that the services are undefined. The results of the Commission's recent analysis were not strong enough to draw a conclusion about the accuracy of the payment system, although growth in rehabilitation episodes suggests that these services are profitable (MedPAC 2005a).

### **Overlap in services and patients among settings**

Overlaps in the types of services and patients create opportunities for selection of patients among settings—with incentives for patients to go to the settings where they can be most profitably treated, not necessarily where they need care. Decision makers lack criteria to determine the choice of setting objectively, and Medicare does not know whether patients are receiving quality care in the lowest-cost setting.

All four post-acute care settings provide rehabilitation and recuperation. For example, patients with joint replacements might go home with home health care or outpatient therapy, to a SNF, or to an inpatient rehabilitation facility upon leaving the hospital. Patients with complex medical conditions (e.g., patients who need tube feeding or respirator care) may go to an LTCH or a SNF, or they might stay longer in the hospital. Hospital discharge planners and physicians make judgments about where patients should go based, in part, on coexisting

conditions and family and housing circumstances. However, they have no evidence-based criteria to help them sort where patients should go or what care they should receive. Medicare also has no way of knowing when patients are getting quality care at the most efficient setting for their needs. Medicare's attempts to define eligibility for patients to use certain settings leave much to the providers' discretion.

Discharge planners and physicians decide where a patient should go based on the community's available resources; physicians' perceptions of post-acute care providers' capabilities and quality; the patient's preferences, health status, and ability to improve in the setting; and the payment system's incentives. Some of these factors may be susceptible to providers' influence. For example, if Medicare pays more for patients in one setting than in another, providers in the higher-paid setting may develop capabilities to attract those patients. A facility may also develop relationships with physicians and discharging hospitals (particularly likely when they are located in the same hospital) that will draw more patients to the higher-paid setting. Over time, patients whose need is less clear may tend to go to the higher-paid facility, and Medicare thus would pay more than is necessary for their recovery and recuperation.

Long-term care hospitals are only available in some parts of the country, raising questions about where the kinds of beneficiaries treated in LTCHs receive care in parts of the country without these facilities.

We have some limited information about differences in outcomes based on particular conditions and settings. Research for the Commission compared cost and outcomes for patients with lower extremity joint replacement in three settings—the SNF, IRF, and home (Beeuwkes Buntin 2005). This study found that the IRF was the most expensive setting for Medicare and that the outcomes (though the differences were not large) were best for patients who went home. Those who went to an IRF had worse outcomes than those who went home, but better outcomes than those who went to a SNF. This study's analysis was limited in the types of outcomes and by the lack of comparable patient functional status measures among the settings.

Although this study used sophisticated techniques to control for selection, the finding that patients who returned home had the best outcomes suggest that unmeasured selection is still present in the data. Although some

patients may recover best without any institutional care, one would expect that the patients who go home are the least ill and their better health status accounts for their better outcome. Other researchers have also looked at the question of substitution across post-acute care settings and attempted to measure differences in outcomes. The findings are mixed on this question, and the results differ by patient diagnosis (MedPAC 2005b).

In two post-acute care settings, CMS and the Commission have made or called for specific policy changes to mitigate the potential for patients to use higher-cost settings unnecessarily. For example, CMS has changed the types of cases that qualify a facility as an inpatient rehabilitation facility (as opposed to a short-stay hospital) due to concerns about patients using IRFs when another post-acute care setting would provide comparable care at lower cost to the program. The Commission has called for a new, clearer definition of LTCH care to help limit use of this costly type of care to the patients who will benefit the most from it. Specifically, we recommended that the Congress and the Secretary develop facility and patient criteria to make sure that the patients who are admitted to these facilities are medically complex and have a good chance for improvement (MedPAC 2004). Facility-level criteria would include staffing, patient evaluation and review processes, and mix of patients. Patient-level criteria would include clinical characteristics (such as open wounds) and treatment modalities.

### **Lack of clarity in the product Medicare is buying from post-acute care settings**

The product Medicare is buying from each setting is not always clearly understood. The pattern of care is changing under the PPSs in response to the new incentives. The lack of clear definition of the product makes it difficult to know whether the change in care represents gains in efficiency or a perverse outcome.

The lack of a defined product allows the capabilities of post-acute care providers to vary from market to market. For example, a SNF in one city may have different capabilities than one in another city; indeed the capabilities of SNFs to care for certain patients may vary within a city. In some instances a SNF may be a ready substitute for an LTCH, even for relatively complicated patients; another SNF may not be.

In addition, the purpose of the home health benefit must be the same as the general purpose of all the services covered by the Medicare program: diagnosis or medically

necessary treatment of illness, injury, or deformity over a spell of illness. However, precisely how the concepts of medical necessity and spell of illness pertain to home health is less clear than it is for facilities. Like other post-acute care settings, home health has no definitive clinical practice standards to determine what treatments are necessary and for what kinds of patients they are appropriate. The range of services covered by home health is fairly broad: skilled services necessary to treat patients—nursing and therapy—as well as nonskilled or nonmedical services that are necessary to maintain patients’ health or facilitate their treatment—aide services and social work.

### **Differing patient assessment tools across settings**

The differences in the assessment tools across post-acute care settings make it difficult to compare costs and outcomes across settings. Ideally, patient assessment tools would help providers assess patients’ care needs and evaluate patient outcomes and the quality of care. While Medicare requires three of the post-acute care settings to use patient assessment tools, each uses a different one. SNFs use the Minimum Data Set (MDS), home health agencies use the Outcome and Assessment Information Set (OASIS), and IRFs use the IRF–Patient Assessment Instrument (IRF–PAI). Medicare does not require LTCHs to have a patient assessment tool. Uniform information would allow researchers and program administrators to compare costs, quality, and other outcomes across post-acute care settings, while controlling for differences in patient condition and other characteristics.

The Commission has found that although the tools measure the same broad aspects of patient care—functional status, diagnoses, comorbidities, and cognitive status—the timeframes covered, the scales used to differentiate among patients, and the definitions of the care included in the measures vary considerably (MedPAC 2005b). These differences make it very difficult, if not impossible, to compare care across settings and conclude which setting is the most efficient and effective for similar patients.

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### **Toward a more integrated approach to post-acute care**

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The problems we discuss in the previous section reinforce each other—poor case-mix systems create incentives for

selection within and among settings, lack of clear criteria allows some high-cost facilities to serve patients who might benefit just as much from a lower-cost setting, and poor quality information makes it difficult to develop better criteria. These interwoven problems led us to look at alternatives to the current payment approach, which bases payment on the setting rather than on the care the patient needs. These alternatives are only conceptual at this point. Because of complex problems in implementing these ideas, which we discuss below, they will need more thought before the Commission is prepared to recommend them.

The goal of an integrated approach to post-acute care is for patients to go to the post-acute care settings that can provide the best outcomes at the lowest cost to Medicare. We discuss two approaches to this end. One focuses on developing a common assessment instrument to be used in all settings. The second approach is for Medicare to designate a case manager for post-acute care.

The Commission has not yet developed recommendations in these areas and plans to explore these ideas in future work. While the Commission supports the goals of a comprehensive data collection approach and payment policy, developing these approaches is not easy in the near term and would likely require significant resources.

Recent legislation establishes a post-acute care demonstration by 2008 that would be designed to understand costs and outcomes across different post-acute care sites. Under this program, patients with certain diagnoses will receive a single comprehensive assessment on the date of discharge from an inpatient hospital to determine their needs and the clinical characteristics of their diagnosis to determine their appropriate placement in a post-acute care site. CMS will develop and use a standardized patient assessment instrument across all post-acute care sites to measure functional status and other factors during the treatment and at discharge from each provider. Participants in the program will provide information on the fixed and variable costs for each individual. An additional comprehensive assessment will be provided at the end of the episode of care.

### **Tools to develop better information on post-acute care**

To help address the problem of measuring the value of post-acute care services furnished to Medicare beneficiaries, the ideal is a common patient assessment tool that would be used in every post-acute care setting



so that we can compare costs, quality of care, and patient outcomes, while controlling for differences in patient condition and other characteristics that should affect the content and cost of care or the patient's capacity to benefit from care. However, for reasons noted last year, none of the currently used tools is the best starting point for this purpose, though elements of each might be modified (MedPAC 2005b). Developing this tool probably would take time and considerable resources. A shorter-term approach might be a tool that doctors and discharge planners would use to assess patients before sending them to post-acute care.

An adequate common patient assessment tool would require each post-acute provider to collect the same information. Consistent information would allow us to know what Medicare is buying in each setting, evaluate the value of the services furnished, and consider which patients are appropriately treated in each setting. For providers, the information gathered from the patient assessment tool should help them assess patient outcomes and the quality of care.

The burden of developing a common patient assessment tool and collecting the data to support it might be high, particularly during the transition to the new instrument. Existing payment systems and quality measures may also need to be revised to reflect the new instrument.

In the shorter term, one might focus on developing a decision tool to help discharge planning and admission assessment that would help sort patients into post-acute care based on their clinical needs. However, to develop this assessment decision tool, we need more research that systematically compares the cost, quality, and patient outcomes of alternative settings for specific patient conditions. Ideally, this assessment would evaluate the patients' current and expected care needs and then identify the services required to meet those needs. Hospital staff or a physician would use this decision tool before patients are discharged from the acute care hospital to inform them in deciding to which post-acute care setting (if any) the patients should go. A referring physician could also use this tool for patients without a prior hospitalization.

CMS is taking steps to develop information to improve post-acute care. A contractor will identify the data hospital discharge planners should use to make appropriate patient placements; recommend quality measures; and review patient assessment tools, classification systems, and care

management systems. CMS will also use an umbrella instrument to gather some new information and to house summarized data from each setting's existing patient assessment tool.

### **Rationalizing post-acute care**

The Commission is also beginning to explore longer-term ideas for improving the incentives in the post-acute care system. One approach would be similar to the chronic care initiative that CMS is now testing in a pilot project. This program identifies patients based on their health care conditions in Medicare claims and then assigns them to a care manager or nurse advisor, who helps provide information to patients and their physicians. A similar approach would be for Medicare to pay for case management for post-acute care patients, identifying them while they are still in the hospital. Medicare could pay a case manager a fee to help direct these patients to the setting where they would have the services that best meet their needs. Case management could include performance risk as in the Medicare Health Support initiative. Under this model, the case management fees are at risk—providers must pay them back if they do not achieve spending and quality targets. Alternatively, a case management entity could take risk for post-acute care benefits in a type of capitation arrangement where the entity would then pay post-acute care providers directly. Because an at-risk care manager would profit from sending patients to low-cost settings, this idea creates the challenge of holding the care manager accountable for the quality of care and the need to monitor care so patients receive the care they need. It also raises the question of how to decide which patients would go to post-acute care and which would receive similar outpatient services.

We see other challenges in implementing either of these approaches. First, not all patients enter a SNF, home health agency, IRF, or LTCH from the hospital: At least half of home health care patients are referred from the community. Second, a lack of assessment and discharge planning tools, together with a lack of evidence-based outcome information across settings and patients, would hamper private entities just as they hamper the program. Third, the amount of resources needed to develop these tools, accommodate payment systems, and tie quality measurement to them is another set of challenges. Fourth, ceding the decision of where to refer patients to a third party would represent a shift in power from providers to the entity. Post-acute providers would likely resist being beholden to a case manager in this way. ■

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SECTION  
4 A

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**Skilled nursing facility services**

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# R E C O M M E N D A T I O N S

**4A-1** The Congress should eliminate the update to payment rates for skilled nursing facility services for fiscal year 2007.

COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

.....  
**4A-2** The Secretary should modify the PPS for skilled nursing facilities to more accurately capture the cost of providing care to different types of patients. This new system should:

- ▶ reflect clinically relevant categories of patients;
- ▶ more accurately distribute payments for nontherapy ancillary services;
- ▶ improve incentives to provide rehabilitation services based on the need for therapy; and
- ▶ be based on more contemporary, representative data than the current system based on time study data from 1990, 1995, and 1997.

COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

.....  
**4A-3** To improve quality measurement, the Secretary should:

- ▶ collect information on activities of daily living at admission and at discharge;
- ▶ develop and use more quality indicators, including process measures, specific to short-stay patients in skilled nursing facilities; and
- ▶ put a high priority on developing appropriate quality measures for pay for performance.

COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

# SECTION 4A

## Skilled nursing facility services

### Section summary

In this section, we present information on providers of skilled nursing facilities (SNFs). The latest data on the supply of SNF providers show that the total number of SNFs increased less than 1 percent between 2004 and 2005, with hospital-based SNFs continuing to exit and freestanding facilities entering the program. The number of SNF-certified beds also increased, but it is unclear whether this represents new capacity or new certification of existing beds as SNF beds.

The volume of SNF services increased between 2002 and 2003, following the trend since the implementation of the prospective payment system (PPS). Admissions increased 7 percent and covered days increased 9 percent. Continued growth in the volume of SNF services suggests continued access to care for Medicare beneficiaries. Total payments increased from \$14.0 billion to \$14.4 billion between 2002 and 2003, a 2.9 percent increase. At this same time the average payment per day declined, due to elimination of some temporary payment add-ons.

### In this section

- Are Medicare payments adequate in 2006?
- How should Medicare payments change in 2007?
- Update and distributional recommendations
- Improving measurement of skilled nursing facility quality
- Quality measurement recommendation

Evidence on the quality of SNF care continues to be limited. The two sets of quality measures of SNF care for short-stay patients show that quality has changed little over time. Better quality measures and data collection are needed.

Large publicly traded companies that operate SNFs have access to capital. Analysts' reports of nonprofit SNFs show more limited access to capital than for-profit SNFs, but data on their borrowing are not as readily available.

In sum, the evidence generally indicates that Medicare beneficiaries continue to have access to skilled nursing facility services. The aggregate Medicare margin for freestanding SNFs, which accounted for 83 percent of covered days in 2003, is 13.5 percent in 2004 and projected to be 9.4 percent in 2006. Given these circumstances, SNF payments are more than adequate to accommodate cost growth; thus no update is needed.

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## **Recommendation 4A-1**

**COMMISSIONER VOTES:**

**YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2**

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*The Congress should eliminate the update to payment rates for skilled nursing facility services for fiscal year 2007.*

The Commission remains concerned that the current SNF patient classification system does not appropriately distribute resources among patients with different resource needs, in spite of the Centers for Medicare & Medicaid Services' (CMS's) refinement of the payment system in 2006. SNFs that care for more patients with expensive nonrehabilitation therapy needs may not be able to operate as profitably under the prospective payment system for SNFs as those that care for a higher proportion of patients with short-term rehabilitation needs.

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## Recommendation 4A-2

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*The Secretary should modify the PPS for skilled nursing facilities to more accurately capture the cost of providing care to different types of patients. This new system should:*

- *reflect clinically relevant categories of patients;*
- *more accurately distribute payments for nontherapy ancillary services;*
- *improve incentives to provide rehabilitation services based on the need for therapy; and*
- *be based on more contemporary, representative data than the current system based on time study data from 1990, 1995, and 1997.*

COMMISSIONER VOTES:

YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

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Currently, CMS has only three quality measures for SNF patient care. These measures—delirium, pain, and pressure ulcers—are too limited to be the only set of quality measures that CMS uses for SNFs. One way to improve the SNF measure set would be to collect activities of daily living (ADLs) at admission and discharge. However this does not address all the shortcomings of the current measures nor does it expand the set of quality measures for SNF care. Other quality indicators—rehospitalization, discharge to the community, ADL improvement, and process measures—should be developed because they measure important aspects of care for SNF patients and could apply to all SNF stays. Medicare urgently needs quality indicators that allow the program to assess whether patients benefit from SNF care and to distinguish between facilities. ■

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## Recommendation 4A-3

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*To improve quality measurement, the Secretary should:*

- *collect information on activities of daily living at admission and at discharge;*
- *develop and use more quality indicators, including process measures, specific to short-stay patients in skilled nursing facilities; and*
- *put a high priority on developing appropriate quality measures for pay for performance.*

COMMISSIONER VOTES:

YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

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## Background

### What is SNF care and where is it provided?

Medicare beneficiaries who need short-term skilled nursing care or rehabilitation services on a daily basis in an inpatient setting following a medically necessary hospital stay of at least three days qualify to receive covered services in a skilled nursing facility (SNF).<sup>1</sup> Medicare spending on SNFs was \$14.4 billion for 2.4 million admissions in 2003 and represented 6 percent of total Medicare spending. SNF services may be provided in freestanding or hospital-based facilities. In 2003, 90 percent of facilities were freestanding, and 83 percent of Medicare-covered SNF stays were in freestanding facilities. The share of skilled nursing facilities, Medicare payments, and Medicare-covered stays varies for hospital-based, freestanding, and other categories of SNFs in 2003 (Table 4A-1).

A freestanding SNF is typically part of a nursing home that also provides long-term care, which Medicare does not cover. Patients who are in a facility for a Medicare-covered skilled nursing stay are typically a small share of the total patient population in a Medicare-participating skilled nursing facility. The remaining patients are non-Medicare skilled nursing care patients or long-term care residents. At the median, Medicare-covered SNF days in 2004 made up just 10 percent of freestanding SNFs' total days. Medicare-covered SNF days were more than one-quarter of the total patient days in just 5 percent of SNFs.

### How does the Medicare SNF payment system work?

Medicare's prospective payment system (PPS) for SNF services started on July 1, 1998.<sup>2</sup> The prospectively determined per day payment rates cover all routine, ancillary, and capital costs, as well as costs for many items and services that Medicare Part B reimbursed before CMS implemented the SNF prospective payment system.<sup>3</sup> Under the PPS, Medicare pays SNFs a set amount for each day of care, adjusted for the case-mix group of each patient and geographic cost differences.

The payment system adjusts the base payment rate by classifying each Medicare patient into a case-mix group. The case-mix groups are intended to group patients with similar predicted resource needs. Weights associated with the case-mix groups adjust payments up or down

**TABLE  
4A-1**

**Characteristics of skilled nursing facilities, 2003**

Type of SNF	Facilities	Medicare payments	Medicare-covered stays
Freestanding	90%	90%	83%
Hospital-based	10	10	17
Urban	67	81	78
Rural	33	19	22
Large chain	15	20	17
Not large chain	85	80	83
For profit	67	71	64
Nonprofit	28	26	31
Government	5	3	4

Note: SNF (skilled nursing facility).

Source: MedPAC analysis of the Provider of Services file and 2003 Medicare Provider Analysis and Review file.

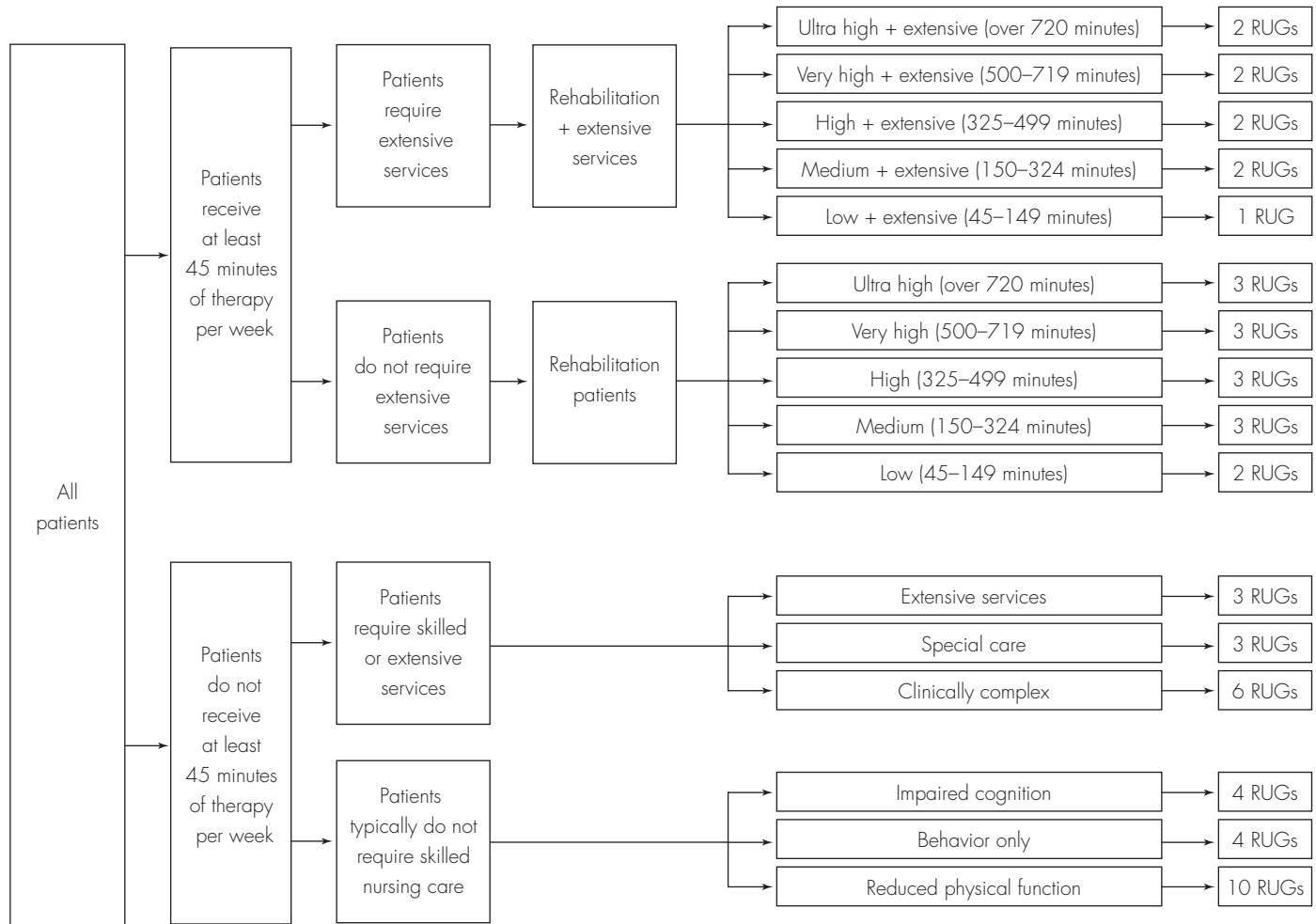
depending on those needs. Patients' characteristics and service needs are determined by periodic assessments using the Minimum Data Set (MDS).

The case-mix system for SNFs is called resource utilization groups (RUGs). As of January 1, 2006, the latest version of RUGs—the 53-group RUG (RUG-53) classification system—went into effect, replacing the 44-group RUG (RUG-44) payment system. (Additional detail on the basics of the SNF payment system can be found at [http://www.medpac.gov/publications/other\\_reports/Dec05\\_payment\\_basics\\_SNF.pdf](http://www.medpac.gov/publications/other_reports/Dec05_payment_basics_SNF.pdf).) Each RUG-53 group has associated weights used to adjust the base payments to reflect differences in patients' expected resource use.<sup>4</sup> Assigning a beneficiary to a RUG-53 group is based on (Figure 4A-1, p. 172):

- the number of minutes of therapy (physical, occupational, or speech) that the patient has used or is expected to use;
- the need for certain services (e.g., respiratory therapy or specialized feeding);
- the presence of certain conditions (e.g., pneumonia or dehydration);

**FIGURE 4A-1**

**RUG-53 classification scheme**



Note: RUG-53 (resource utilization group, 53-group model). Differences between RUGs are based on activity of daily living score, service use, and the presence of certain medical conditions. The extensive services category includes patients who have received intravenous medications or tracheostomy care, have required a ventilator/respirator or suctioning in the past 14 days, or have received intravenous feeding in the past seven days. The special care category includes patients with multiple sclerosis or cerebral palsy, those who receive respiratory therapy seven days per week, or are aphasic or tube fed. The clinically complex category includes patients who are comatose; have burns, septicemia, pneumonia, internal bleeding, or dehydration; or receive dialysis or chemotherapy.

Source: Figure adapted from Government Accountability Office 2002a.

- an index based on the patient’s ability to perform independently four activities of daily living (eating, toileting, bed mobility, and transferring); and in some cases,
- signs of depression.

In compliance with the requirement in law that Medicare’s prospective payment bundle for SNFs include payment for nontherapy ancillary (NTA) services, such as prescription drugs and respiratory therapy, CMS included the cost of

NTAs as part of the total costs used to develop Medicare’s SNF base payment rates (MedPAC 2005b). Specifically, NTA costs were incorporated into the nursing component of the base rate but were not used to develop the case-mix indexes that adjust the base payment rates. Instead, the payment system distributes payments for nontherapy ancillary services using weights developed from data on nursing time. As a result, the case-mix adjustment does not distribute payments for NTAs according to variation in expected NTA costs across different patient types—payments for patients with high NTA costs are too low and

payments for patients with low NTA costs are too high. This issue has been a matter of concern for the Congress, the Commission, the Government Accountability Office (GAO), the Centers for Medicare & Medicaid Services (CMS), industry stakeholders, and researchers since the early years of the SNF prospective payment system (CMS 2000, Fries et al. 2000, GAO 1999, Kramer et al. 1999, MedPAC 2002, MedPAC 2001, White 2003, White et al. 2002).

Because of known problems with the RUG-based case-mix system, the Congress directed CMS to study alternative systems to the RUGs in the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA). In response, CMS sponsored research on RUG alternatives that categorize patients according to the relative resource use of different patient types. A report on this study was due to the Congress no later than January 1, 2005, but CMS has not released the complete results.

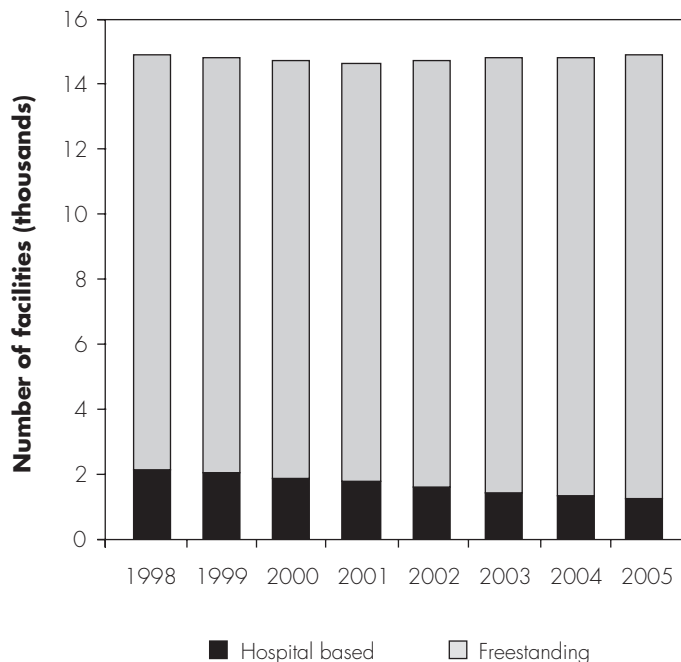
Although CMS modified the payment system in fiscal year 2006, the system continues to distribute payments for NTAs based on the amount of nursing time that certain groups of patients use. Thus, the SNF payment system still needs to be refined to better target payments to patients' resource use. CMS acknowledged in the final rule outlining the RUG refinements that the SNF payment system still needs ongoing evaluation and change and that it intends to use the BIPA-mandated report to Congress to outline a series of next steps to enhance the accuracy of the SNF prospective payment system (CMS 2005). In comments on the proposed regulation, the Commission called for CMS to release that report.

## Are Medicare payments adequate in 2006?

Our indicators of payment adequacy are generally positive for SNFs. We find that the supply of providers remained stable in 2005, with the share of facilities that are freestanding continuing to grow and the share that are hospital based declining. By all measures—total days, total stays, and total payments—volume of SNF services provided to Medicare beneficiaries grew between 2002 and 2003, the latest period for which we have data. This increase in use, combined with providers' statements about the desirability of increasing the Medicare share of the patient population, suggests that access to SNF care for Medicare beneficiaries is good. We continue to have limited quality measures specific to Medicare-covered

**FIGURE 4A-2**

**The number of SNFs has remained stable, but more are freestanding and fewer are hospital-based**



Note: SNF (skilled nursing facility).

Source: MedPAC analysis of CMS Online Survey, Certification, and Reporting (OSCAR) system data.

patients. In 2005, one quality measure CMS publicly reported showed improvement and two others showed no change. The scant evidence on SNF quality argues for the development of additional measures for monitoring quality. These measures could eventually form the basis of a pay-for-performance program for SNFs. Access to capital for for-profit providers appears to be good, but nonprofits may face more limited access to capital. Our analysis of SNFs' Medicare payments and costs found that payments will more than cover SNFs' costs of caring for Medicare patients in 2006.

## Supply of providers

Based on data from CMS's Online Survey, Certification, and Reporting (OSCAR) system, the total number of SNFs increased less than 1 percent from 2004 to 2005 (Figure 4A-2). This trend follows the growth rate of SNF supply over the past five years. The number of hospital-based SNFs participating in the program has continued to decline while the number of freestanding providers has increased.

**TABLE  
4A-2****Medicare payments and use of skilled nursing facilities has grown since 1999**

	1999	2000	2001	2002	2003	Percentage change 2002-2003	Average annual change 1999-2003
Payments (billions)	\$9.5	\$10.4	\$12.7	\$14.0	\$14.4	3%	11%
Average payment per day	\$223	\$236	\$266	\$256	\$242	-5	2
Admissions (thousands)	1,796	1,824	1,950	2,223	2,385	7	7
Covered days (thousands)	42,412	43,811	47,913	54,674	59,416	9	9
Average days per admission	23.6	24.0	24.6	24.6	24.9	1	1

Note: Data include Puerto Rico, Virgin Islands, and unknown. Data do not include swing bed units.

Source: MedPAC analysis of unpublished CMS data.

Hospital-based SNFs proliferated in the period before the PPS was implemented. Following implementation, the number of hospital-based SNFs sharply declined (Dalton and Howard 2002). Hospital-based SNF payments under the PPS were disproportionately reduced relative to freestanding SNF payments. This is because the PPS rates were based primarily on costs of freestanding SNFs, according to the formula prescribed in the Balanced Budget Act of 1997.<sup>5</sup> A recent study found that hospital-based SNF closures in the period following the implementation of the SNF PPS resulted in increased utilization of alternative post-acute care sites and longer acute-care hospital stays. These closures did not have statistically robust effects on mortality and rehospitalization in the period after PPS implementation (White and Seagrave 2005).

Given that facilities vary in size, the number of facilities is an inexact measure of supply. The number of SNF beds would provide more detail on capacity than the number of facilities, but data on the number of beds from the OSCAR system do not provide an easily interpretable count of the number of SNF beds. Facilities may certify all of their beds as SNF beds, even if only a small fraction of the total certified SNF beds are actually intended for or used by patients in Medicare-covered stays. OSCAR data indicate that the supply of SNF and dually-certified SNF/nursing facility beds increased between 2004 and 2005. But this increase could reflect a facility certifying beds as SNF beds without increasing the number of beds in the facility or using the beds for SNF patients.

### Volume of services and access to care

Between 2002 and 2003, the latest year for which claims data were available, the number of SNF admissions increased 7 percent while the total number of Medicare-covered days increased 9 percent (Table 4A-2). These rates of increase were consistent with the five-year average annual increases in admissions and covered days between 1999 and 2003. The average length of stay per Medicare SNF admission was 1.3 days longer in 2003 than in 1999.

While volume continued to climb in 2003, the average payment per day declined for the second consecutive year. Between 2002 and 2003, it fell from \$256 to \$242. The decline in payments per day results from the elimination of two temporary add-on payments: a 4 percent increase across all RUGs and a 16.7 percent increase for the nursing component of the base rate.

Continued growth in the volume of SNF services suggests continued access to SNF care for Medicare beneficiaries. Large for-profit chains view increasing their Medicare patient shares as a way to improve their financial performance, according to their filings with the Securities and Exchange Commission. Taken together, the continued increase in utilization and the relative attractiveness of Medicare payment rates suggest that Medicare beneficiaries have access to SNFs. We cannot conclude, however, that access is consistently good across all types of patients. The Health and Human Services Office of Inspector General (OIG) studied Medicare beneficiary access to SNF services in 2004, but that report has not yet been released.

Looking ahead, monitoring access for different types of SNF patients is important as CMS implements modifications to the SNF payment system. The elimination of temporary payment add-ons in January 2006 reduced payments for certain medically complex patients who do not qualify for rehabilitation case-mix groups.<sup>6</sup> Following the implementation of the PPS, OIG studies—based on interviews with discharge planners—found access to be generally good for Medicare beneficiaries, although some beneficiaries with complex medical needs may experience delays in accessing SNF care (OIG 2001, OIG 2000a, OIG 1999). Past findings of delays in access make monitoring access for medically complex patients especially important in light of recent payment system changes that affect payments for these patients.

In addition to SNF policy changes, a number of policy changes are occurring in other settings that could affect access to and use of SNF care. Alternative post-acute care settings or even inpatient care can substitute for other post-acute care settings. CMS is currently implementing the 75 percent rule for inpatient rehabilitation facilities and the outpatient therapy cap (both of which could increase demand for SNF care), as well as expanding the post-acute care transfer policy (which could dampen SNF use).

### **Quality of care**

Our ability to assess the quality of care that skilled nursing facilities provide to their short-stay patients is limited because few quality measures focus specifically on the care provided during a short-term, Medicare-covered post-acute stay. As discussed in our March 2005 report, the quality of SNF care and nursing home care are not necessarily related because the goals and types of care provided to short-term and long-term patients are different (MedPAC 2005c).

The Commission uses two sets of existing measures to monitor SNF-sector trends in quality of care for short-stay patients. The first is the set of three short-stay measures from CMS's Nursing Home Compare (NHC) website; these measures are currently the only publicly reported, SNF-specific quality measures. The second set of measures is preventable hospitalizations for five potentially avoidable conditions. These measures were developed by researchers at the University of Colorado under a contract with CMS (Kramer and Fish 2001). They are not currently publicly reported but can be calculated from administrative data. We found little change in these

measures between 1999 and 2002. However, we were unable to update the preventable hospitalization measures beyond 2002 because the updated data file needed for the computation of these measures was not available from CMS in time for this report.

### **Nursing Home Compare short-stay measures**

CMS currently publishes three measures of the quality of care for short-stay patients on its NHC website. These measures are the share of each facility's patients:

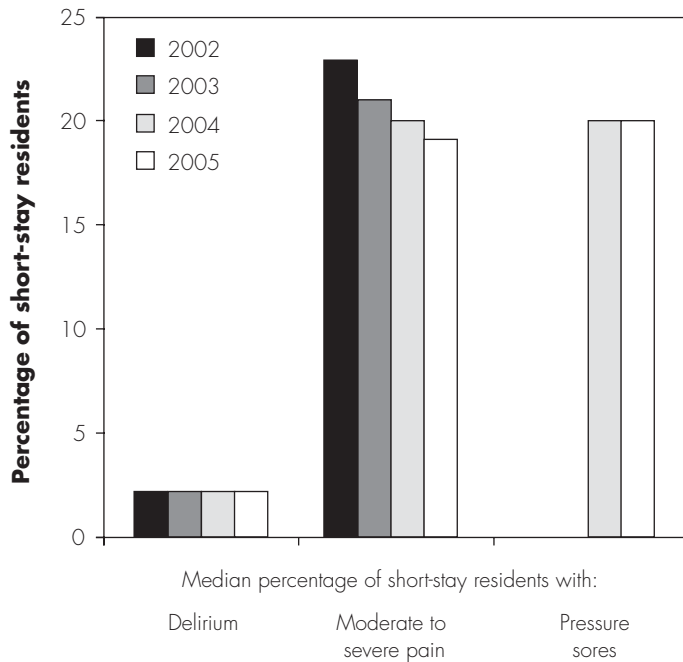
- with symptoms of delirium that represent a departure from usual functioning on a 14-day assessment,
- with moderate pain at least daily or horrible or excruciating pain at any frequency at 14-day assessment, and
- who develop a pressure ulcer between the 5-day and 14-day assessments or who had any stage pressure ulcer at the 5-day assessment.

Analysis of these quality indicators downloaded from the NHC website in the third quarter of each of the past four years shows that the median share of short-stay residents with delirium has remained the same, the median share with pain has declined, and the median proportion with pressure sores did not change from 2004 to 2005 (Figure 4A-3, p. 176).<sup>7</sup> It should be noted, however, that although the measure continues to be used on the NHC website, two validation studies found the pressure ulcer measure to be invalid (Abt 2005, Abt 2003). For each of these measures in each year, there are no data on the NHC for about one-third of facilities either because the data are missing or because the number of residents with these conditions at the point in the stay when these conditions are measured is too small to report. Patients who do not have a 14-day assessment cannot generate a quality score on any of these indicators, so we cannot use these measures to evaluate the quality of care for the sizeable number of SNF stays (45 percent in 2001) that last fewer than 14 days.

As we discussed in our 2005 March report, the SNF assessment instrument—the Minimum Data Set (MDS)—as it is currently administered, is limited in its ability to collect information about the quality of SNF care (MedPAC 2005c). (Later in this section we discuss this issue further in the context of the need to develop additional quality measures for SNFs.)

**FIGURE  
4A-3**

**Selected quality indicators for  
SNFs are stable or improving**



Note: Skilled nursing facility (SNF). Data not available on pressure sores for 2002–2003. Median proportions are not weighted by the number of short-stay patients in the facility. Facilities that were categorized as Medicaid-participating-only were excluded from this analysis. Data are from a point in time in the fall of each year. For each of these measures in each year, the Nursing Home Compare has no data for about one-third of facilities.

Source: MedPAC analysis of CMS Nursing Home Compare data.

**Rehospitalization for five potentially avoidable conditions**

National average rates of rehospitalization within 30 days for five potentially avoidable conditions—electrolyte imbalance, respiratory infection, congestive heart failure, sepsis, and urinary tract infection—increased between 1999 and 2002 (Table 4A-3). These conditions are characterized as “potentially avoidable” because they may be avoided with proper assessment, management, and monitoring by facility staff (Kramer and Fish 2001). The measures are risk adjusted for diagnosis and functional severity of patients using covariates specific to each measure and are calculated for each year using all SNF stays that began in that year in facilities with more than 10 stays.<sup>8</sup>

**SNFs’ access to capital**

Providers’ access to capital affects their ability to invest in their facilities and enhance their patient care capabilities. In sectors where Medicare payments make up a larger share of payments, the impact of Medicare payment on access to capital is more direct and substantial. SNFs’ ability to access capital is less attributable to Medicare payments because of the relatively small share of SNF providers’ payments that are from Medicare and the relatively large share that is from Medicaid, the largest payer of nursing facility care. Providers argue Medicaid payments are inadequate to cover their costs for nursing home patients. In aggregate, Medicare payments made up 20 percent of total payments to facilities providing skilled nursing facility services in 2004. Medicare is an important source of revenue for providers, however. According to providers, Medicare payments are critical to their financial bottom lines because Medicare rates are better than those of Medicaid.

To the extent that nursing facilities may have difficulty accessing capital, raising Medicare payments may do little to alleviate this problem given the small share of patients with a Medicare-covered stay. In addition, using Medicare payments to compensate for any perceived inadequacies in Medicaid payments would be inefficient. If Medicare were to pay still higher rates to subsidize low Medicaid payments, states might be encouraged to reduce Medicaid payments even further. In addition, payments would be directed to the wrong facilities. Facilities with low Medicare shares and high Medicaid shares—presumably the facilities that need revenues the most—would receive the least if subsidies were provided in the form of higher Medicare payments.

Because hospital-based SNFs access capital through their parent hospital organizations and because they are a small proportion of all SNFs (Table 4A-1, p. 171), our assessment of access to capital focuses on freestanding SNFs. Information on the financial performance of publicly traded, for-profit chains that operate freestanding nursing facilities is relatively accessible. In 2003, the 11 largest chains represented 15 percent of all facilities and 17 percent of Medicare-covered stays. On the other hand, information about the non-publicly traded chains and nonprofit facilities’ access to capital is more difficult to obtain.

The large, publicly traded companies operating skilled nursing facilities also have other lines of business—long-

term care hospitals, hospices, institutional pharmacies, and assisted living facilities. As a result, a company's overall financial performance may not be entirely attributable to its SNF business. That said, evidence suggests that these chains have access to capital. In November 2005, analysts reported a positive forecast for the long-term care sector, including SNFs (Standard & Poor's 2005). Increased demand for services, diversification of operations, and stabilization (or possible declines) of labor and supply costs and malpractice expenses will all contribute to improved profitability.

In aggregate, stock performance for the large chains over the past year has been solid. An index of seven publicly traded companies operating SNFs increased 32 percent in the year ending September 2005, outperforming the Standard & Poor's 500 index, which increased 11 percent during this period (Cain Brothers 2005). Four of the largest chains have seen their stock prices climb between 15 percent and 38 percent in the past year. Chains also report new facility construction and renovation.

One analyst of the SNF industry described another type of transaction that has recently been a source of capital for several large chains operating SNFs. Private equity investors have financed acquisitions of nursing facility chains by borrowing heavily against the underlying facilities. The facility mortgages are bundled into collateralized mortgage obligations and sold on the bond market at a slight premium relative to comparable debt. These financial arrangements have been pursued in the last couple of years in a booming real estate market and an environment of relatively low interest rates. Typically, the operator of each individual facility and the landlord become separate entities, which enhances the value of the transaction because the real property and the landlord are protected from malpractice lawsuits that may be brought against the facility operator (van der Walde 2006).

In contrast, according to FitchRatings, the overall industry outlook for freestanding nonprofit nursing facilities remains negative in 2005. As it reported for 2004, the "negative outlook is due to the significant challenges in the industry, which will continue to pressure already weak financial performance" (FitchRatings 2005). These challenges are identified as "inadequate Medicaid reimbursement; rising insurance, labor, and benefits expense; and increased capital needs." FitchRatings also notes that "[c]apital needs continue to increase due to deferred spending on plant" which they explain "is usually

**TABLE  
4A-3**

**Rehospitalization for five conditions increased slightly**

Measure	1999	2000	2001	2002
Electrolyte imbalance	3.7%	3.7%	4.1%	4.0%
Respiratory infection	3.0	2.9	3.1	3.2
Congestive heart failure	3.2	3.3	3.7	3.7
Sepsis	1.2	1.2	1.3	1.3
Urinary tract infection	2.1	2.2	2.4	2.4

Note: Data for 2002 are for January through June 2002. Rehospitalizations are mean rates and are adjusted for patient risk factors.

Source: MedPAC analysis of Medicare skilled nursing facility stay file, using a program developed by Andrew M. Kramer, MD, and Ron Fish, MBA, at the Center on Aging, University of Colorado Health Sciences Center.

the result of weak financial performance and limited free cash flow."

From a peak exceeding \$2 billion dollars in 1998, annual public debt issuance for nonprofit nursing homes has declined to about half a billion in 2002. Bond issuance for nursing homes dropped yet again from \$388 million in 2003 to \$382 million in 2004. FitchRatings expects that there will not be many investment grade nursing homes and that the "credits that have obtained investment-grade ratings typically have additional support through an endowment or affiliation with a large health system" (FitchRatings 2005). To the extent they are part of a larger organization with assisted living or continuing care retirement communities, they may have more sources of capital. In addition, recent low interest rates mean that facilities may be able to access relatively cheap funds through mortgages and other bank loans.

Access to capital for nursing facilities is also facilitated by a program operated by the Department of Housing and Urban Development (HUD). HUD's Section 232/223(f) program insures mortgages through HUD-approved lenders for construction and rehabilitation of nursing facilities and assisted living facilities. In fiscal year 2004, the programs insured new loans for nursing facilities totaling \$1.2 billion for 196 facilities with 26,788 beds (HUD 2004). In fiscal year 2005, new lending to nursing homes totaled \$821 million for 128 loans (HUD 2005).

**Payments and costs for 2006**

Another indicator of the adequacy of Medicare payments is the aggregate Medicare margin for SNFs. The margin is

**TABLE  
4A-4**

**Freestanding skilled nursing facility Medicare margin, by facility group, 2004**

Facility type	Facilities	Medicare margin
All facilities	11,049	13.5%
Urban	7,606	12.8
Rural	3,432	16.6
Large chain	2,043	18.2
Not large chain	9,006	12.0
For profit	8,374	16.1
Nonprofit	2,304	3.8
Government	371	-1.1

Note: Eleven facilities had missing urban or rural designations.

Source: MedPAC analysis of Medicare cost report and Provider of Services file from CMS.

the difference between Medicare SNF payments and costs, divided by Medicare payments to SNFs.

When modeling 2006 payments and costs using 2004 data, we incorporate policy changes that went into effect in 2005 and 2006. We also take into account payment changes, other than the scheduled update, scheduled to be in effect in 2007. This year's assessment of SNF payment adequacy occurs in the context of several changes to the payment system that will be effective in 2006. SNFs received a full market basket update of 3.1 percent for fiscal year 2006. However, due to other payment policy changes, CMS estimates that all SNFs in aggregate will receive a 0.1 percent payment increase in fiscal year 2006 (CMS 2005). These payment policy changes are:

- the addition of nine groups to the patient classification system used to adjust payments for differences in case mix;
- the expiration of two temporary payment add-ons—the 6.7 percent add-on for the 14 rehabilitation RUGs and the 20 percent add-on for the 12 extensive care, special care, and clinically complex RUGs; and
- uniform increases to the nursing weights associated with each case-mix group.

The distributional impact of these changes differs by type of facility. For example, CMS estimates that hospital-based SNFs will have payment increases—the expected

impact of these changes for urban hospital-based SNFs is an increase of 4.6 percent and for rural hospital-based SNFs it is 4.1 percent. Freestanding SNFs in aggregate are estimated to see payments reduced in fiscal year 2006.

Under the prospective payment system, SNFs have an incentive to decrease the costs of providing each day of care. Analysis of SNFs' reported costs found that cost growth slowed since the implementation of the PPS in 1998. Freestanding SNFs' average annual per day cost growth for Medicare patients was 3.7 percent between 2000 and 2004.<sup>9</sup> At the 25th percentile, total per day Medicare cost growth was 1 percent, and at the 75th percentile, average annual cost growth was 7.2 percent. For-profit facilities have had lower average annual cost growth between 2000 and 2004 (3.5 percent) than nonprofit (4.4 percent) or government facilities (4.5 percent). Cumulative cost growth for freestanding SNFs has generally tracked the market basket increases in payment between 2000 and 2004.

Based on 2004 cost report data, we estimate that the 2006 aggregate Medicare margin for freestanding SNFs is 9.4 percent.<sup>10</sup> This estimate includes the impact of a provision in the Deficit Reduction Act of 2005 that reduces bad debt payment from 100 percent to 70 percent; bad debt for dually-eligible beneficiaries will still be reimbursed at 100 percent. The Congressional Budget Office estimates that this will reduce Medicare SNF payments by less than \$50 million in 2007. The 2006 margins represent a decline from 2004 base year margins of 13.5 percent (Table 4A-4). This margin indicates that in aggregate, payments cover the costs of caring for Medicare beneficiaries in a Medicare-covered SNF stay. However, variation in Medicare margins persists among different types of freestanding skilled nursing facilities. As the Commission and the GAO found in past years, margins differ by provider type (GAO 2003). For example, nonprofit facilities had lower margins (3.8 percent) than for-profit facilities (16.1 percent) in 2004.

The hospital-based SNF margin was -86 percent in 2004. Interpreting the consistently negative Medicare margin for hospital-based SNFs is difficult. Hospitals may have higher cost structures than freestanding nursing homes or may serve different patients (based on observed and unobserved characteristics). One study that looked at cost and patient differences in hospital-based and freestanding SNFs found that hospital-based SNFs had total costs per day that were twice as high as freestanding SNFs' cost per day in 1999 (Liu and Black 2003). It found that hospital-



based SNFs had higher routine (including nursing and overhead) costs, higher nontherapy ancillary costs, and lower therapy costs. Patients in hospital-based SNFs had shorter lengths of stay and greater use of NTA services such as IV therapy and respiratory therapy. Hospital-based SNFs discharged a higher share of patients to other Medicare-financed providers, suggesting that they are “oriented toward providing care for the early stage of post-acute care.” The study concluded that in the absence of risk-adjusted outcomes data to compare facilities, it is unclear whether higher costs in hospital-based SNFs result in better quality and whether they should, therefore, receive differential payments.

Another recent study for this Commission examined outcome differences on three measures—length of stay, discharge within 30 days, and preventable rehospitalizations—between hospital-based and freestanding SNFs (Dalton et al. 2004). This research found that without controlling for selection of patients, hospital-based SNFs have better average outcomes on these measures. However, controlling for selection eliminated much of the difference between freestanding and hospital-based SNF outcomes. For example, controlling for selection reduced three-quarters of the difference between hospital-based and freestanding SNFs in the share of patients discharged to home or community within 30 days from a 41.6 percentage point difference to an 8.9 percentage point difference. The length of stay difference was similarly reduced from an 18.3 day difference to a 4.1 day difference, and the preventable hospital readmission difference was reduced by two-thirds, from a 6.2 percentage point difference to a 2.1 percentage point difference. These findings suggest that much of the difference in outcomes between hospital-based and freestanding SNFs is a function of patient selection rather than provider efficiency. Even after controlling for selection, differences in outcomes remain, but the analysis could not definitely determine the “extent to which the final adjusted differences identified in these models are still attributable to unmeasured patient selection factors rather than underlying institutional differences in care patterns” (Dalton et al. 2004).

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## **How should Medicare payments change in 2007?**

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Our indicators of payment adequacy suggest continued access to SNF care, but evidence on quality continues to

be limited. We find that the overall supply of providers remained stable in 2005. Total days, total stays, and total payments all grew from 2002 to 2003, the latest period for which we have data. The limited available measures suggest that quality of SNF care has not changed in the most recent year. The scant evidence on SNF quality argues for the development of additional measures for monitoring quality. Access to capital shows a somewhat mixed picture with large chain providers appearing to have good access to capital, but nonprofits facing more limited access to capital. Analysis of SNFs’ Medicare payments and costs found that payments will more than cover SNFs’ costs of caring for Medicare patients in 2006.

Although evidence suggests that SNFs can more than accommodate the cost of caring for Medicare beneficiaries in 2007 without an increase in the base rate, the case-mix system that distributes payments needs to be refined. In past years, the Commission has recommended that the Secretary develop a new classification system to be used to adjust payments to SNFs because of concerns about the current payment system’s method for classifying and paying for patients with different care needs. Although CMS changed the payment system, the changes do not refine the distribution of payment for nontherapy ancillary costs, one of the Commission’s chief concerns. Payments for extensive services patients who also need therapy were increased with the creation of a separate payment category for these patients; the increase is a function of higher nursing weights for the new RUGs. However, payments for extensive services patients who do not receive therapy were actually reduced, absolutely and relative to other payment groups, under the new payment system.<sup>11</sup> Patients who qualify for the extensive service category had, on average, the highest NTA costs (Fries et al. 2000, White et al. 2002).

The Commission will be exploring ways that the SNF payment system could be modified to pay for nontherapy ancillary services more accurately. We will consider whether the system could better pay for these services by basing payment on the patient characteristics associated with using them. We will also consider carving out these services from the payment bundle, which covers all routine, ancillary, and capital costs of furnishing SNF care, including services that were covered under Part B prior to the implementation of the PPS.<sup>12</sup> Currently, the SNF PPS excludes some services—such as ambulatory surgery performed in operating rooms, certain chemotherapy agents, and customized prosthetic devices—from the SNF

payment bundle, and Medicare pays separately for these items. In a study of excluded services, the GAO outlined three criteria that currently excluded services meet; they are “high cost, infrequently provided during a SNF stay, and not likely to be overprovided” (GAO 2001). The GAO concluded that questions remain about whether additional services should also be excluded and how to modify the exclusions over time. The GAO recommended that the program:

- exclude services from the PPS if they meet the three exclusion criteria, and
- develop a strategy to collect and analyze cost and use data on all services provided to Medicare beneficiaries during a SNF stay.

As we consider refinements to the SNF prospective payment system, we will investigate whether data exist or should be collected to evaluate whether other nontherapy ancillary services meet these criteria and determine the implications of excluding services from the payment bundle.

Two other issues with the SNF payment system were also not addressed by the revised RUGs. The new system continues to pay for the amount of therapy provided or estimated to be provided. It also continues to rely on a costly method for determining the case-mix weights using time studies that must be updated periodically to remain current. The data that were used to develop the current case-mix weights are from time studies conducted in 1990, 1995, and 1997—prior to the implementation of the PPS. The weights have not been recalibrated since the implementation of the PPS. However, CMS plans to conduct a new nursing facility time study in 2006.

## Update and distributional recommendations

SNFs should be able to accommodate cost changes in 2007 with the Medicare margin they have in 2006.

### RECOMMENDATION 4A-1

**The Congress should eliminate the update to payment rates for skilled nursing facility services for fiscal year 2007.**

### RATIONALE 4A-1

The evidence generally indicates that Medicare beneficiaries continue to have access to skilled nursing facility services. Under policies in current law for 2006 and 2007, we project the Medicare margin for freestanding SNFs will be 9.4 percent in fiscal year 2006. Given these circumstances, SNF payments appear more than adequate to accommodate cost growth; thus no update is needed.

### IMPLICATIONS 4A-1

#### Spending

- This recommendation reduces Medicare spending relative to current law by \$200 million to \$600 million for fiscal year 2007 and by \$1 billion to \$5 billion over five years.

#### Beneficiary and provider

- No adverse impact on beneficiary access is expected. This recommendation is not expected to affect providers’ willingness and ability to provide care to Medicare beneficiaries.

Although in aggregate payments appear more than adequate, the payment system should be refined to distribute payments more equitably across SNF services using more current data and to encourage the provision of services based on patient need.

### RECOMMENDATION 4A-2

**The Secretary should modify the PPS for skilled nursing facilities to more accurately capture the cost of providing care to different types of patients. This new system should:**

- **reflect clinically relevant categories of patients;**
- **more accurately distribute payments for nontherapy ancillary services;**
- **improve incentives to provide rehabilitation services based on the need for therapy; and**
- **be based on more contemporary, representative data than the current system based on time study data from 1990, 1995, and 1997.**

### RATIONALE 4A-2

The Commission remains concerned that the current SNF patient classification system does not appropriately distribute resources among patients with different resource needs, in spite of CMS’s refinement of the payment system in 2006. The Commission’s long-standing concerns with the payment system were not addressed by the refinements to the payment system:

- The RUG-based classification system does not directly capture differences in patient costs that arise from nontherapy ancillary services, such as prescription drugs and respiratory therapy.
- Payments for rehabilitation services are based on the actual or estimated number of minutes of therapy, rather than on a patient's clinical characteristics.
- Payment rates for the RUGs are based on relative weights derived from old data that are expensive and time-consuming to update.

SNFs that care for more patients with expensive nonrehabilitation therapy needs may not be able to operate as profitably under the prospective payment system for SNFs as those that care for a higher proportion of patients with short-term rehabilitation needs. This recommendation would provide a more equitable distribution of resources among patients with different resource needs.

#### IMPLICATIONS 4A-2

##### Spending

- This recommendation would not affect federal program spending relative to current law because it would be implemented in a budget neutral manner.

##### Beneficiary and provider

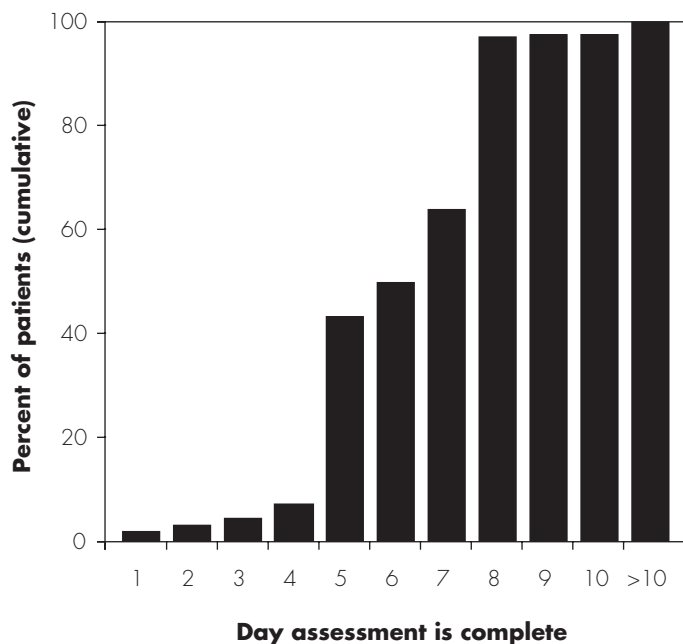
- This recommendation is expected to improve beneficiary access and could have redistributive effects on providers.

### Improving measurement of skilled nursing facility quality

Last year we began work to identify ways to improve the SNF-specific information available to assess quality because currently reported SNF quality measures are limited in number and their ability to assess the quality of SNF care. We recommended additional measures to the three currently reported MDS-derived measures and concluded that further work was needed to determine whether additional measures are needed to assess SNF quality and pay facilities based on the quality of care they provide. This year, we reviewed the literature and discussed with experts the possibility of developing process measures of SNF quality. Broad process measures that reflect the care of all patients as well as narrower diagnosis-specific measures could distinguish between

**FIGURE 4A-4**

**Most SNF patients are not assessed at admission**



Note: SNF (skilled nursing facility).

Source: MedPAC analysis of 2004 Minimum Data Set data.

SNFs that have good processes and those that do not when based on effective clinical processes. However, even with the development of additional quality measures, a potential barrier to measuring SNF quality at the facility level is the small SNF patient population and the still smaller population of patients with any given diagnosis.

#### Limitations of the MDS data

The three current MDS-derived measures are limited in number and in their ability to capture the experience of a large share of SNF patients and facilities. Currently, SNF patients are not assessed at admission to or discharge from the SNF. The lack of data at admission and discharge impairs our ability to measure patients' changes in the SNF setting and our ability to compare patients across post-acute settings.

The admission assessment information is recorded on the five-day assessment, which can be conducted any time during the first eight days of a stay. In 2003, only 4 percent of patients were assessed within three days of being admitted to a SNF (Figure 4A-4). Assessing patients

later in a stay, instead of at admission, may understate the improvement patients achieve during their stay. The lack of consistency in when the five-day assessment is conducted affects our ability to compare patients—differences on the patient assessment can be a function of actual differences or the timing of the assessment. The lack of discharge information means that patient improvements are measured only for those patients who stay long enough to have a second assessment completed. We do not have this information for up to 45 percent of patients because they stayed 14 or fewer days (MedPAC 2005a).

In addition to impairing our ability to assess patients in the SNF setting, the lack of information at admission and discharge makes it impossible to compare SNF patient outcomes to outcomes in other post-acute care settings. Because we do not know how SNF patients changed during the SNF stay, we cannot compare their improvements (or deteriorations) with the changes achieved by similar patients in other settings. We cannot assess the extent to which various post-acute settings are substitutes or compare the cost of achieving outcomes in different settings.

An additional complication of patient assessment for quality measurement purposes is the “look-back period” used in many of the MDS measures (Mathematica 2001). The MDS instructs the assessor to consider the patient’s condition over the past 7 or 14 days, which can extend back into the hospital stay. Particularly for the first assessment, these 7-day and 14-day look-back periods will capture a patient’s condition prior to the SNF admission and may not reflect the patient’s condition at admission. Although patient history is important for care planning, the initial MDS assessment does not capture the patient’s condition upon admission, thereby confounding the measurement of changes that occurred during the SNF stay and the comparability of patients. For example, the physical functioning section asks about the patient’s most dependent state during the past seven days, which may have been while the patient was still in the hospital. The look-back periods can also result in an overstatement of the improvement achieved during the SNF stay if it includes any improvement that actually occurred while the patient was still in the hospital.

We have commented that the MDS is not reliable and that quality measures based on it may not reflect the quality of care provided in a SNF (MedPAC 2005c). In addition to the look-back periods and the timing of the assessments,

important portions of the survey are susceptible to misunderstandings and errors. GAO and the OIG found that errors arose in part because the assessors interpreted the MDS definitions differently (GAO 2002a and OIG 2000b). For example, MDS coordinators interviewed by the OIG said that section G of the MDS (which assesses the activity of daily living (ADL) status of patients) was the most difficult to complete (GAO 2002b). They explained that capabilities are viewed very differently, and they would like the tool to be less subjective and include more specific measures. Post-acute care experts told us that the MDS measures were too ambiguous and that much narrower, more explicit measures should be used to assess quality of care. For example, one expert noted that in assessing ADLs, the amount of help required by a patient is influenced by the physical ability of the caregiver to provide assistance such as lifting.

As we noted last year, the shortcomings of the MDS and inconsistency with the patient assessment tools used in the other post-acute settings require a new patient assessment tool (MedPAC 2005b). We recognize that the development of such a tool is a complicated, multiple-year undertaking, which CMS has started. In the interim, we considered how the SNF quality measures might be improved to better reflect the care furnished to short-stay patients.

### **Additional quality measures for short-stay patients**

We recommended last year that CMS expand its measures for short-stay patients and discussed available measures such as rehospitalization and discharge to the community (MedPAC 2005c). Perhaps most importantly, we recommended collecting data on functional status at admission and discharge so that we can assess how all patients changed during the SNF stay. Given the widespread provision of therapy services, a measure focused on beneficiaries’ ability to perform ADLs is key to assessing SNF care. Measuring the improvements a patient was able to achieve between admission and discharge and the amount of time it took to attain improvements could facilitate evaluation of differences in the amount of therapy provided to achieve similar patient outcomes (Jette et al. 2005a, Jette et al. 2005b). Adequate risk adjustment is crucial to making accurate comparisons.

### **Process measures**

In addition to the outcome measures we recommended last year, we considered whether process measures could be used to measure the quality of care furnished in SNFs.

While outcomes measures are the ideal quality measures because they tell whether a patient's condition changed while under the care of a provider, measures of whether a provider followed well-established clinical processes in caring for patients can also assess important dimensions of quality. Risk adjustment is also less of a barrier to the validity of process measures than outcome measures.

Because patient outcomes may be due to the severity of the patient's condition or to factors unrelated to a SNF stay, process measures could provide a quality of care metric that is under the control of the provider. Experts in SNF quality told us that for some dimensions of care, outcomes might not be clearly identified or attributable to the care furnished by the SNF. Particularly with short stays, it may be difficult to know whether outcomes are the direct result of the care provided in the SNF. Process measures also instruct providers on how to change their practices. Clinicians often support using process measures to evaluate quality because they measure aspects of care that the provider can control and are based on evidence linking specific provider activities to positive patient outcomes.

We reviewed literature on guidelines applicable to aspects of SNF care and spoke with experts about process measures for SNF care. We found that practice guidelines are available for key aspects of SNF care and experts with whom we spoke said that certain care processes should be followed in SNFs. Some of these processes—such as pressure ulcer prevention and management, pain management, and depression screening—are broad. Others, such as glucose monitoring for diabetics, are more narrowly focused on patients with particular conditions. CMS has changed the MDS to capture one process measure in the nursing facility—immunization rates for influenza and pneumonia. Here we provide some options for exploring process measures that could provide valuable information about the quality of care provided in SNFs. However, additional work to assess the strength of the clinical evidence and the level of consensus for process measures for SNF care is still needed.

**Generally applicable process measures** Quality experts noted that multiple measures of the same clinical domain help capture the multiple dimensions of quality. Process measures could be developed to assess the same dimensions of care as existing publicly reported SNF outcomes measures—pain management and pressure ulcers.

- **Pain management**—Because the vast majority of SNF patients experience pain, experts thought pain management was an important dimension to capture. The current measure is narrow because it flags only certain levels of pain and it measures pain at only one point in time. Experts told us that assessors can be confused about how to code a patient with considerable pain that was successfully managed. One study found that the quality of MDS documentation of pain was better at nursing homes with large hospice populations (Wu et al. 2005). Our interviewees thought that an indicator focused on appropriate pain management techniques would be a useful measure. For example, the measure could ask how consistently the SNF evaluated patients for pain and whether pain management protocols were followed.
- **Pressure ulcers**—Experts we interviewed thought that process measures—such as, did the staff follow well-established guidelines for preventing, identifying, and treating pressure sores?—would be a valuable measure of quality care for pressure ulcers. Outcome and process measures might complement each other by indicating whether the care process could be improved. However, the identification of effective processes for avoiding pressure ulcers is critical to the development of valid process measures. One study found no relationship between process and outcome measures for pressure sores—facilities with low and high prevalence of sores were equally poor at preventing and managing pressure sores (Bates-Jensen et al. 2003). This finding points to the need to measure processes that demonstrably increase the likelihood of improved patient outcomes.

Clinical experts said that measuring processes that were known to be beneficial, particularly narrowly defined ones, would indicate that SNFs were taking appropriate preventive measures to avoid declines in health. Some experts recommended a measure recording whether weekly visits by a physician, a physician's assistant, or a nurse practitioner had occurred as a way to ensure adequate medical supervision of care. Experts also noted that the measures should be simple enough for trained staff who do not necessarily have advanced degrees to assess and document. Simple measures are more likely to be recorded accurately.

**Condition-specific process measures** Evidence-based guidelines are available for many types of patients treated in SNFs, including measures for hip fracture, stroke,

congestive heart failure, pneumonia, diabetes, and urinary incontinences (Mathematica 2001). Diagnosis-specific measures could provide useful feedback information to the SNFs about their care processes for diagnoses and conditions common among SNF patients. Such measures, if implemented in multiple post-acute care settings, would have the additional benefit of enabling comparison of care provided to patients with similar diagnoses across these settings.

Claims data and tailored use of the MDS could be used to develop certain diagnosis-specific measures, but other measures would require a new data collection instrument. Hospital claims could be combined with MDS information to assess whether stroke patients with dysphagia received a swallowing evaluation and speech therapy. (This and other examples of potential diagnosis-specific process measures are given in Table 4A-5.) MDS questions could be used to evaluate whether patients' ability to speak and swallow improved. Certain MDS questions on the ability to walk, rather than the entire section evaluating a patient's ability to perform ADLs, could assess improvement in post-hip surgery patients. In addition, patients with significant comorbidities could have additional measures such as:

- patients with end-stage renal disease: measures of dialysis adequacy and anemia management;
- patients with dehydration, weight loss, or malnutrition: a nutritional consult;
- patients with depression or dementia: a psychiatric evaluation; and
- patients with dysphagia: a swallowing evaluation.

While some experts thought that diagnosis-specific measures would provide SNFs with information on evidence-based processes of care, all noted that the poor state of diagnosis coding on the MDS by SNFs presented a serious obstacle. In our June 2005 report, we noted the limitations of the MDS in recording diagnoses (MedPAC 2005c). Using only check-off lists, the MDS does not use ICD-9-CM (International Classification of Diseases, Ninth Revision, Clinical Modification) codes and does not require identification of the primary versus secondary diagnoses. Before diagnosis-specific process measures could be used in this setting to measure quality or be used to compare patients across post-acute settings, the coding of diagnoses needs to improve so that all patients with a particular diagnosis during their SNF stay can be identified.

One expert noted that caregiver documentation is key to improving the quality of care in SNFs. Until documentation is part of the care planning and patient assessment processes that caregivers already do on the floors (such as the charting certified nurse assistants and other caregivers document every shift regarding each patient's fluid intake, activities, medications, and toileting), stand-alone documentation activities are likely to be inaccurate. This expert noted that once SNFs integrate care planning, patient assessment, and documentation activities in a way that facilitates caregiver activities, not only does documentation (and therefore measurement) improve, but the caregivers clamored for feedback data (and the information technology it required) in a real-time basis. These efforts can improve the quality of care: The expert noted that clearly linking documentation of conditions related to the development of pressure ulcers to patient assessment and care planning resulted in a 30 percent reduction in high-risk pressure sores compared with previous levels and to national averages.

### **Evaluating individual SNF performance**

Further work is still needed to determine whether the additional outcome and process measures we recommend are appropriate for paying skilled nursing facilities based on the quality of care they provide. Further work should assess the strength of the clinical evidence and the level of consensus for various process measures.

In addition, for any measure, the relatively small share of any skilled nursing facility's patients that are Medicare-covered SNF patients raises issues about adequate patient population to produce stable quality measures at the facility level. This concern is compounded when considering quality measures that apply to rare events or subpopulations of patients in the facility. Medicare beneficiaries make up, on average, 11 percent of a SNF's patients and when spread across various diagnoses, the individual measures would reflect the care of an even smaller number of patients. For example, the five most frequent diagnoses (based on the patients' prior hospital stays) account for less than 30 percent of SNF admissions. To ensure that the quality measures reflect the SNF care provided by a facility, individual measures may need to be combined into a composite measure. We currently have work under way to explore the extent to which low frequency and small patient populations affect our ability to compare individual facilities using measures of avoidable rehospitalizations and discharge to the community after 30 days. Another way to increase

**TABLE  
4A-5**

**Examples of diagnosis-specific goals and potential quality measures**

Diagnosis	Diagnosis-specific goals	Potential measures
Stroke	<ul style="list-style-type: none"> <li>• Improved ambulation, range of motion, speech and cognitive functioning.</li> <li>• For patients with dysphasia, patients taught to swallow.</li> <li>• Prevention of recurrent stroke.</li> </ul>	Percent of patients: <ul style="list-style-type: none"> <li>• on anticoagulation and cholesterol-lowering drugs.</li> <li>• with dysphasia who have a swallowing evaluation and receive SLP services.</li> </ul>
Fracture of femur	<ul style="list-style-type: none"> <li>• Improved ambulation and range of motion.</li> <li>• Successful pain management.</li> </ul>	Percent of patients: <ul style="list-style-type: none"> <li>• whose pain is frequently assessed and treated.</li> <li>• with surgical wounds who are receiving surgical wound care.</li> </ul>
Pneumonia	<ul style="list-style-type: none"> <li>• Successful treatment of disease.</li> </ul>	Percent of patients: <ul style="list-style-type: none"> <li>• on antibiotics.</li> <li>• receiving full course of antibiotics.</li> </ul>
Heart failure	<ul style="list-style-type: none"> <li>• Heart condition successfully managed.</li> </ul>	Percent of patients: <ul style="list-style-type: none"> <li>• on ACE inhibitors.</li> <li>• who have weekly blood work to evaluate electrolyte balance and renal function.</li> <li>• who have weight monitoring.</li> </ul>

Note: SLP (speech language pathology), ACE (angiotensin-converting enzyme)

Source: MedPAC interviews with quality experts and Mathematica Policy Research, Inc. 2001.

the patient population included in a quality measure is to develop and use measures that capture important dimensions of care for all patients—short-stay and long-term care—in a facility.

### Quality measurement recommendation

We are reiterating our recommendation from last year for CMS to develop additional SNF quality measures and adding additional recommendations to develop process measures and collect diagnosis data.

#### RECOMMENDATION 4A-3

**To improve quality measurement, the Secretary should:**

- **collect information on activities of daily living at admission and at discharge;**
- **develop and use more quality indicators, including process measures, specific to short-stay patients in skilled nursing facilities; and**
- **put a high priority on developing appropriate quality measures for pay for performance.**

#### RATIONALE 4A-3

Currently, CMS has only three quality measures for SNF patient care, all of them limited. These measures—delirium, pain, and pressure ulcers—are too limited to be the only set of quality measures that CMS uses for SNFs. One way to improve the SNF measure set would be to collect ADLs at admission and discharge. However, this does not address all the shortcomings of the current measures nor expand the set of quality measures for SNF care. Other quality indicators—rehospitalization, discharge to the community, ADL improvement, and process measures—should be developed because they measure important aspects of care for SNF patients and could apply to all SNF stays. Medicare urgently needs quality indicators that allow the program to assess whether patients benefit from SNF care and to distinguish between facilities. Rehospitalization and discharge to the community measures are currently calculable from administrative data. Process measures should be developed for those areas where well-accepted, evidence-based guidelines exist.

**Spending**

- This recommendation would not affect federal program spending relative to current law.

**Beneficiary and provider**

- This recommendation is expected to support quality improvement efforts. It also would minimally increase the administrative burden on providers if the assessment of ADLs at admission could be substituted for the first assessment and only a few items were assessed for quality purposes at discharge.

Although we do not anticipate changes to benefit spending, CMS would likely incur administrative costs in calculating and developing quality measures. ■



## Endnotes

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- 1 Medicare covers up to 100 SNF days in a spell of illness. Medicare pays 100 percent of the payment rate for the first 20 days of a SNF stay. From the 21st to the 100th day, beneficiaries are responsible for a copayment equal to one-eighth of the hospital deductible, or \$114 per day in fiscal year 2005.
- 2 With approval from CMS, certain Medicare-certified hospitals—typically small, rural hospitals and critical access hospitals—may also provide extended care skilled nursing services in the same hospital beds they use to provide acute care services. These are called swing bed hospitals. We do not include an analysis of swing beds in this report. On July 1, 2002, Medicare began paying swing bed hospitals that are not critical access hospitals according to the SNF prospective payment system for SNF services provided to Medicare beneficiaries. Critical access hospitals continue to be paid for care in their swing beds based on their costs.
- 3 The SNF per diem payment rates do not cover the costs of physician services or services of certain other practitioners (such as qualified psychologists). Medicare Part B covers these services. The per diem rates do cover the costs of physical, occupational, and speech therapies, even if a physician supervises.
- 4 Medicare does not typically reimburse SNFs for the last three RUG categories because they do not usually require skilled care. CMS's decision to reimburse for these last three RUG categories is made on a case-by-case basis.
- 5 The Balanced Budget Act of 1997 instructed CMS to set the Medicare SNF payment rates at a level equal to a weighted mean of freestanding costs plus 50 percent of the difference between the freestanding mean and a weighted mean of all SNF costs (hospital-based and freestanding) combined.
- 6 Rates for the extensive services RUGs were reduced relative to the 2005 rates for these groups and relative to other RUGs in 2006.
- 7 Data on this pressure ulcer measure were published beginning in 2004.
- 8 Examples of specific covariates used for risk adjustment include age, dysphagia, bedfastness, and renal failure.
- 9 This analysis included freestanding SNFs with complete cost report data in each year between 2000 and 2004.
- 10 When calculating SNFs' aggregate costs in the base year, we increase the estimated nursing share of routine costs reported on the cost reports by the additional nursing costs of caring for Medicare SNF patients. This adjustment has the effect of increasing Medicare costs and thus reducing the Medicare margin.
- 11 The extensive services groups include patients who have received intravenous medications or tracheostomy care, have required a ventilator/respirator or suctioning in the past 14 days, or have received intravenous feeding in the past 7 days.
- 12 To limit SNFs' liability for services typically outside the scope of SNF care, the Congress excluded payments for certain high-cost, low-probability ancillary services from the SNF per diem rates. Thus, Medicare pays separately when SNF patients receive emergency room care, outpatient hospital scans, imaging and surgeries, and certain high-cost chemotherapy agents and prosthetic devices.

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SECTION  
4 B

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**Home health services**

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# R E C O M M E N D A T I O N

The Congress should eliminate the update to payment rates for home health care services for calendar year 2007.

**COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2**

# SECTION 4B

## Home health services

### Section summary

Access to home health services for most beneficiaries continues to be good, though some beneficiaries experience difficulties. Nearly 90 percent of all beneficiaries who sought home health services reported little or no problem with accessing care. The number of home health users grew again this year from 2.6 million in 2003 to 2.8 million in 2004. In 2004, 99 percent of all Medicare beneficiaries lived in an area served by at least one home health agency (HHA); most beneficiaries lived in areas served by two or more HHAs. The supply of HHAs has increased.

Quality has generally improved slightly. More patients improved their ability to accomplish activities of daily living such as bathing or walking. The rate of use of the hospital or the emergency room during a home health episode stayed the same.

The HHA margin for 2004 is 16.0. The Deficit Reduction Act of 2005 eliminates the update to the home health base rate for 2006.

### In this section

- Are Medicare home health payments adequate in 2006?
- How should Medicare payments change in 2007?
- Should the prospective payment system's structure change?

Our projection of the 2006 margin is 14.7. Between 2001 and 2004, average costs per episode grew at an average annual rate of 0.6 percent.

Data regarding access, volume, and quality—along with more than adequate margins—suggest that agencies should be able to accommodate cost increases over the coming year without an increase in base payments.

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## **Recommendation 4B**

**COMMISSIONER VOTES:**

**YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2**

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*The Congress should eliminate the update to payment rates for home health care services for calendar year 2007.*

Evidence continues to grow that payments are not being distributed accurately within the system. The number of visits per episode and the mix of the type of visits (therapy, skilled nursing, and aide) have changed so substantially since the payment system was developed that it is unlikely that the relative costliness of episodes is still accurately predicted by the case-mix system. The variation in minutes per episode within payment groups suggests that the costs of episodes within the same payment group are not uniform. In another report we found that case mix had a small but statistically significant relationship with margins, although this result was within the context of a model that did not predict variation in margins well. Ideally, case mix should bring payments closer to costs and have no relationship to margin (MedPAC 2005b). ■



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## Are Medicare home health payments adequate in 2006?

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Indicators suggest that current payments are adequate. Beneficiaries' access to home health care is unchanged from last year, and incremental improvements in quality have continued. The number of beneficiaries using home health, the amount of services they use, and the number of home health agencies (HHAs) have all increased over the past year. The aggregate average Medicare margin for freestanding HHAs was 16.0 in 2004.

### Background: What is home health and the home health payment system?

Medicare home health care consists of skilled nursing, physical therapy, occupational therapy, speech pathology, aide service, or medical social work provided to beneficiaries in their homes. To be eligible for Medicare's home health benefit, beneficiaries must need part-time (fewer than eight hours per day) or intermittent (temporary but not indefinite) skilled care to treat their illness or injury and must be unable to leave their homes without considerable effort. Beneficiaries have no copayments or deductibles for Medicare home health services.

Medicare pays for home health service in 60-day units called episodes. Episodes begin when patients are admitted to home health care. Most patients complete their course of care and are discharged before 60 days have passed. If they do not complete their care within 60 days, another episode will start—and hence Medicare makes another episode payment—without a break in care.

Agencies receive one payment per episode for home health services. Medicare adjusts this payment based on measures of patients' clinical and functional severity, the use of certain health services preceding the home health episode, and the use of therapy during the home health episode. Payment also is adjusted for differences in local wages using the pre-floor, pre-reclassification hospital wage index. Medicare makes additional adjustments to some episodes under special circumstances:

- An outlier payment can offset some of the excess cost of an episode if the imputed cost for the number of visits furnished exceeds the payment.
- A low utilization payment adjustment (LUPA) requires payment by the visit if a patient receives four or fewer visits during an episode.

- A significant change in condition adjustment can increase—or potentially decrease—the payment for days remaining in the episode following a major, unexpected change in the patient's health.
- A partial episode payment requires the initiating agency to split the payment for a patient who transfers from one agency to another during an episode.

More information on the home health prospective payment system (PPS) can be found at [http://www.medpac.gov/publications/other\\_reports/Dec05\\_payment\\_basics\\_HHA.pdf](http://www.medpac.gov/publications/other_reports/Dec05_payment_basics_HHA.pdf).

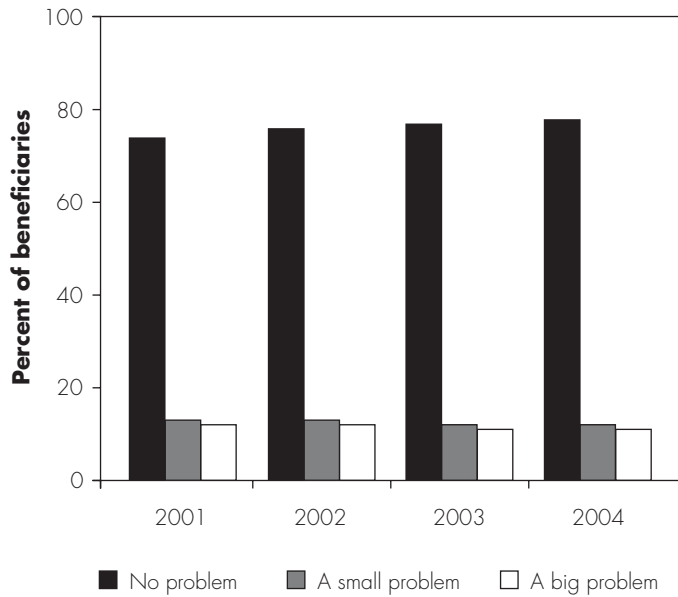
In the early 1990s, both the number of users and the amount of service they used grew rapidly. At the same time, the home health benefit increasingly began to resemble long-term care and look less like the medical services of Medicare's other post-acute care benefits (MedPAC 2005b).

The trends of the early 1990s prompted stricter enforcement of integrity standards, refinements to eligibility standards, and the replacement of the cost-based payment system in the mid-1990s. Following these changes, beneficiaries received fewer visits, and skilled nursing and therapy became a greater share of services. The number of beneficiaries using home health fell by about one million, and one-third of agencies providing services left the program. Spending decreased by about half. In this decade, these trends have changed direction. The total number of beneficiaries using the benefit grew for the first time in several years between 2001 and 2002, and has continued to grow. Spending is also projected to grow at an average annual rate of 5.2 percent from 2005 to 2015 (Office of the Actuary 2005).

Assessing these historical trends is difficult because this service lacks clear, practical guidelines to identify beneficiaries whose characteristics suggest they would benefit from receiving the service and what services they ought to receive. Suggesting that more home health is better and less home health is worse oversimplifies the case (see "Is more home health service better?" (MedPAC 2005a)). The Commission expects to pursue a research agenda to help develop clinical guidelines. Such guidelines for home health services would be consistent with our stated goal across post-acute care: to base decisions about where beneficiaries receive post-acute care services on patient characteristics and resource needs. In other words, post-acute care will have its greatest impact when appropriate patients receive appropriate care.

**FIGURE  
4B-1**

**Most beneficiaries had little or no problem accessing home health care**



Note: Percentages are proportions of those who answered the question. Missing responses were not included.

Source: Consumer Assessment of Health Plans Survey for Medicare fee-for-service 2001–2004.

**Beneficiaries’ access to care**

In the home health setting we ask two questions: Do communities have providers? Do beneficiaries obtain care?

Most communities have more than one home health agency. In the 12 months preceeding September 2005, 99 percent of all Medicare beneficiaries lived in an area that was served by at least one HHA; 97 percent of beneficiaries lived in areas served by two or more HHAs. These numbers suggest that no substantially populated areas of the country lack HHAs. These percentages vary little from state to state, though rural states tend to have more areas served by only one HHA or areas not served by an HHA in the past 12 months.

Our geographic measure of access is based on data collected and maintained as part of CMS’s “Home Health Compare” database as of September 2005. The service areas listed in the database are postal ZIP codes where an agency provided service in the past 12 months. This definition may overestimate access because agencies need not serve the entire ZIP code to be counted as serving

it. On the other hand, this definition may underestimate access if HHAs are willing to serve certain ZIPs but did not receive any requests from those areas in the preceding 12 months.

An annual survey of fee-for-service beneficiaries gives us some information about whether beneficiaries can obtain home health care. Nearly 90 percent of the beneficiaries who responded to the Consumer Assessment of Health Plans Survey for Medicare fee-for-service (CAHPS–FFS) about their home health experiences in 2004 reported that they had little or no difficulty accessing home health services when they sought them (Figure 4B-1).<sup>1</sup> The 2004 results do not differ significantly from those in 2003.

The CAHPS–FFS measures include all beneficiaries who sought care, whether they received home health or not. Also, the CAHPS–FFS question is not restricted to beneficiaries who sought care following a hospitalization, as some prior surveys’ questions were. However, unlike similar surveys of hospital discharge planners or home health agencies, CAHPS–FFS cannot differentiate beneficiaries who are eligible for the home health benefit from those who are not. Thus CAHPS–FFS may overestimate the difficulties of eligible beneficiaries by including some beneficiaries who were ineligible and had a big problem getting home health because they were not qualified for the Medicare home health benefit.

CAHPS–FFS gives us some additional information about those 11 percent of beneficiaries who had big problems accessing home health care. Between a quarter and a third of these beneficiaries also had problems accessing prescription drugs, doctors, or specialists. We also find that beneficiaries who had home health access problems were more than proportionally represented among the beneficiaries who had access difficulties in other areas of health care. They constitute about one-third of all of the beneficiaries who had big problems accessing prescription drugs, doctors, or specialists. This pattern might indicate that the big problems faced by some beneficiaries accessing home health care are not unique to home health; rather, their home health access difficulties are symptomatic of more general access difficulties. To the extent that home health access problems are symptoms of wider issues, the issues cannot be addressed by changing the level of the home health PPS base payment rate.

CAHPS–FFS also allows us to compare rural and urban beneficiaries’ experiences. As was the case in 2003, rural beneficiaries in 2004 report better access to care than their

urban counterparts: 82 percent of rural beneficiaries had no problem with access, compared to 77 percent of urban beneficiaries.

### Changes in the volume of services

We considered three measures of volume: the number of beneficiaries using home health, the number of episodes provided, and the number of visits within an episode. The numbers of users and episodes continued to rise in 2004. The amount of service within an episode remained the same between 2003 and 2004.

- Nearly 2.8 million beneficiaries used home health in 2004—a 6 percent increase since 2003. This growth rate is higher than the growth in the number of beneficiaries.
- Over the same period, the number of episodes rose from 4.3 million to 4.6 million (about 7 percent).
- The average number of visits per episode was 18.4 in 2003 and in 2004.

The length of stay—the number of days between admission and discharge from home health services—also increased from 62 days to 65 days between 2003 and 2004. The average number of episodes per beneficiary in 2004 was 1.7. The average length of stay was longer than a single payment episode because many beneficiaries used two or more episodes of care during their home health care stay. More beneficiaries are using multiple episodes than they were at the inception of the PPS; in 2001, there were 1.5 episodes per beneficiary. We will investigate the second and subsequent episodes to determine whether they are systematically different from initial episodes and, if so, why.

### Changes in quality

The maintenance or gradual improvement of indicators of patients’ ability to function, frequency of pain, and use of hospital or emergency care suggest that the quality of home health care has not diminished over the previous year.

The first five rows in Table 4B-1 represent the percentage of patients who improved out of the total number who were admitted with some level of limitation. The final two rows represent the percentage of patients who used the hospital or the emergency room while under the care of a home health agency; the lower the percentage, the better. The increases among the percentages in the first five rows

**TABLE  
4B-1**

**Share of patients achieving positive outcomes continues to increase**

Measure	June 2002– May 2003	June 2003– May 2004	June 2004– May 2005
Improvement in:			
Walking around	34%	36%	38%
Getting out of bed	49	51	52
Bathing	57	60	61
Managing oral medications	35	38	39
Patients have less pain	57	59	61
Any hospital admission	28	28	28
Any unplanned ER use	21	21	21

Note: ER (emergency room).

Source: MedPAC analysis of CMS Home Health Compare data.

are indicative of improving or stable quality. The final two rows show no change. These quality indicators are risk adjusted to account for patients’ diagnoses, comorbidities, and functional limitations. Thus, to the extent possible, the improvements over time measure small increases in the quality of care from home health agencies rather than changes in patient characteristics. However, improvements in coding could also influence the results.

### Changes in the supply of agencies

Over the past 10 years the number of home health agencies in the program has risen, fallen, and risen again. Under the earlier cost-based payment system, hundreds of agencies entered the Medicare program. At the peak in 1997, more than 10,000 agencies had Medicare certification. The trend switched under the interim payment system of cost limits, which began in 1997. Between 1997 and 2000, about 3,000 agencies left the program. For a couple of years after the PPS was implemented, the number of agencies remained at about 7,000.

The number of agencies began growing again in 2003. By October 2004, there were 7,530 agencies; 8,082 agencies were in the program as of October 2005. This growth represents a 7 percent increase in the most recent year (compared to only about a 1.5 percent increase in the size of the beneficiary population) and a 14 percent increase in the total number of agencies since 2000.

**TABLE  
4B-2****Freestanding home health Medicare margin, by agency group, 2004**

Agency group	Number of agencies	2004 margin
All agencies	3,979	16.0%
Caseload		
Urban	2,546	15.9
Mixed	985	17.0
Rural	448	11.8
Type of control		
Voluntary	686	12.4
Private	3,047	18.1
Government	246	8.1
Volume group, lowest to highest		
First quintile	843	13.1
Second quintile	781	10.5
Third quintile	794	12.9
Fourth quintile	792	15.9
Fifth quintile	769	17.5

Note: Some freestanding agencies were omitted because of data integrity concerns.

Source: MedPAC analysis of Medicare Cost Report data from CMS.

The growth in HHAs is not uniform across the country. For example, 379 new agencies—about one-third of the new HHAs—are located in Texas. Florida also had many new entrants. In contrast, some states had no new entrants over the same period.

Substantial growth in the number of agencies in the program is consistent with the positive margins we have noted over the past several years. However, the number of HHAs is not an indicator of system capacity. Agencies range in size from very small HHAs serving fewer than 100 beneficiaries annually to much larger ones serving more than 5,000 beneficiaries in a year. Also, the flexible structure of a home health agency does not fit the typical concept of capacity: HHAs are not restricted by bed size or other physical plant considerations (e.g., number of exam rooms or operating rooms). Even the number of employees is not a capacity measure because many HHAs use contracted therapists, aides, or nurses to meet their patients' additional needs.

**Home health agencies' access to capital**

Few home health agencies access capital through publicly traded shares or public debt. Access to capital for the overwhelming majority of HHAs appears to be largely determined by size: Most agencies are too small for commercial capital markets. Investor analyses of the leading publicly traded companies are confounded for two reasons. First, Medicare home health care has a small share of the entire "home care" market that they analyze, which includes nonskilled Medicaid and private duty nursing, nurse staffing services, home infusion, and home oxygen services. Second, publicly traded companies are a small portion of the total number of agencies in the industry.

**Payments and costs for 2006**

The Commission considers the relationship between Medicare payments and costs in the current year, fiscal year 2006. We assess the adequacy of Medicare's payments to cover the costs of caring for Medicare beneficiaries. Our model of home health agencies' margins is based on data from freestanding home health agencies. We exclude provider-based HHAs from the margin analysis because the wide divergence of margins between provider-based and freestanding HHAs cannot be accounted for by factors that could cause efficient providers' margins to differ (MedPAC 2004).

In modeling 2006 payments and costs, we incorporate policy changes that went into effect between the year of our most recent data, 2004, and the year of margin projection in 2006, as well as those changes scheduled to be in effect in 2007. These include:

- *The expiration of the 5 percent rural add-on for services provided to beneficiaries living outside metropolitan areas on April 1, 2005.* The expiration of the rural add-on removed some payments from the system for rural providers and for those providers who served both urban and rural beneficiaries. The Deficit Reduction Act of 2005 restarts the 5 percent add-on for one year in 2006. This will increase payments to HHAs that serve rural beneficiaries.
- *An update of 2.3 percent in 2005.* The regular update increased payments to reflect increases in the prices for a "basket" of inputs to home health, including nurses' wages and transportation. The Deficit Reduction Act will freeze the 2006 base payment at the 2005 level.

- *The decrease in the fixed dollar loss (FDL) amount for outlier episodes that is projected to increase outlier payments.* In an analysis of claims from 2002 and 2003, CMS found that about 3 percent of episodes qualified for additional outlier payments under the higher FDL; under the new, lower FDL implemented in 2005, 5.9 percent of episodes will qualify for the higher payments.
- *The transition to a new definition of metropolitan areas in 2006.* This change raises payments to rural providers somewhat more than urban providers and changes the distribution of payments; it is budget neutral once it is applied to all HHAs.

The aggregate margin in 2004 for freestanding home health agencies was 16.0 percent (Table 4B-2). This margin indicates that payments more than cover the costs of caring for Medicare beneficiaries. The distribution of margins in 2004 was similar to previous years; about 20 percent of HHAs reported negative margins. At the 25th percentile, the margin was 4.2 percent. The median agency margin was 15.9 percent, and at the 75th percentile, the margin was 27.4 percent.

Agencies vary by the location of beneficiaries they serve (rural, urban, or mixed), their type of control (voluntary, private, or government), and size as measured by the annual number of episodes provided. In this analysis, more than a quarter of HHAs provided fewer than 150 episodes. Another quarter of agencies provided more than 1,000 episodes; some of the largest agencies provide 5,000 episodes in a year. Margins among the smallest agencies were 13.1 percent compared with 17.5 percent among the larger agencies. The aggregate cost of providing an episode of home health care has increased very little over the past several years. Between 2001 and 2004, the reported average cost per episode had an average annual growth of 0.6 percent. Because the average cost per episode is rising more slowly than the price of inputs—the market basket grew about 3 percent per year from 2001 to 2004—and the average number of visits has remained about the same, it would appear that the cost per visit has decreased. Agencies might be reducing the length of visits, reducing overhead costs, or making other changes that reduce the cost of visits.

As the average visits per episode have remained about the same, the outcomes of care have stayed the same or

improved slightly. Agencies appear to vary in terms of their ability to increase productivity. One-quarter of the agencies experienced high cost growth, with an average annual rate of 3.4 percent. Over the same period, a quarter of agencies had costs decline at an average annual rate of 0.7 percent. Generally, government agencies have had the greatest rate of cost growth, voluntary agencies somewhat slower cost growth, and private agencies have had cost declines. Cost growth does not appear to be related to size. In each case, there is more variation within each of these categories (type of control or size) than among the categories.

## How should Medicare payments change in 2007?

We consider the current market basket as well as recent trends in costs per episode and technology to determine how costs may change.

The most recent estimate of the projected increase in the market basket for home health for 2007 is 3.4 percent. Increases in the cost of transportation, wages, and other inputs determine the market basket increase.

Evidence regarding the current level or rate of technological advance in this industry is anecdotal and sometimes contradictory. The key technologies that we have identified—point-of-care electronics, new wound treatments, telemonitoring—seem likely to generate their own financial return by reducing the number of visits necessary in an episode. If they are able to provide their own return, additional payment is not necessary to promote their adoption.

### RECOMMENDATION 4B

**The Congress should eliminate the update to payment rates for home health care services for calendar year 2007.**

### RATIONALE 4B

Our evidence suggests that access to care is good. Communities across the country have providers and more providers are entering the program. The quality of care continues to improve slightly. The number of users and the amount of service that they use are rising. These factors, along with more than adequate margins,

suggest that agencies should be able to accommodate cost increases over the coming year without an increase in base payments.

## IMPLICATIONS 4B

### Spending

- This recommendation decreases federal program spending relative to current law by between \$200 million and \$600 million in one year and between \$1 billion and \$5 billion over five years.

### Beneficiary and provider

- No adverse impacts are expected. This recommendation is not expected to affect providers' ability to provide care to Medicare beneficiaries.

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## Should the prospective payment system's structure change?

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We have noted in several past reports that the change in incentives facing home health agencies after the prospective payment began in 2000 may have changed the relationship between case mix and costs upon which the system was built. If the case-mix system is not accurate, it should be changed; a trio of reports from the Office of Inspector General (OIG) suggests that the therapy threshold could be a part of the problem. The Commission has developed an agenda to further explore the case-mix system.

Evidence continues to grow that the current case-mix system may be inaccurate:

- The current home health product includes fewer visits and a higher proportion of therapy than it did when the system was created.
- The variation in minutes of service within case-mix groups suggests that care within case-mix groups is not homogenous.
- When we explored the correlations of agency characteristics (e.g., size and type of control) and agency margins, we found no evidence of any substantial, strong relationships. However, we found that agencies' average case mix had a small but statistically significant relationship with HHA margins. Ideally agencies' case mix and margin would be unrelated because the case-mix adjustment would accurately match payments to costs on average.

The weights in the current case-mix system are based on the relationship between care provided and patient characteristics that appeared in data collected in 1997 and 1998. At that time, agencies had an incentive to provide as many visits as the home health intermediary would approve. Both patterns of care and patient characteristics have changed since then.

At the end of 1998, the incentives changed as CMS introduced an interim payment system that was intended as a bridge between the cost-based system and the prospective system. Under the interim system, agencies had a financial incentive to reduce visits wherever possible. Medicare coverage for patients whose only skilled care need was the drawing of blood was eliminated. Also, greater oversight provided an incentive for agencies to limit use that might be inappropriate. Research suggests that the smallest declines in use of home health occurred among the types of beneficiaries who usually use home health; beneficiaries whose diagnosis was related to infrequent use of home health experienced larger declines in use (MedPAC 2004). High-use states had greater declines than low-use ones.

The current PPS also has incentives to reduce the number of visits provided during an episode. Case-mix groups with many visits, and thus high weights and high payments, could have offered the greatest scope to reduce visits. On average, the number of visits per episode has remained about the same under the PPS; we will explore whether certain case-mix groups lost a greater proportion of visits than others. To the extent that greater percentage reductions in care occurred in highly weighted case-mix groups, a positive relationship between case mix and margin would be expected to emerge.

Our examination of the average number of minutes of care per episode by case-mix group (MedPAC 2005b) also found indications that this system may need refinement. In that work, we found large variation in the minutes of service per episode provided to patients in the same case-mix group. If the number of minutes are related to the cost of the episode, then the variation in minutes within case-mix groups could suggest that the system is not accurately predicting costs.

Even more recently, the Congress asked the Commission to investigate the relationship between home health agencies' case mix and their margin of profit or loss on Medicare patients (MedPAC 2005a). We found that neither case mix nor other key variables explain much

of the variation in margins among HHAs. However, we also found evidence of a small but statistically significant relationship between margin and case mix. The presence of a statistically significant relationship, in a predictive model that is weak, suggests further research is needed.

Some change in the home health product is good. The intent behind changing the home health payment from a cost-based system to a prospective payment system is to provide an incentive for providers to reach good outcomes with more efficient use of resources. However, three reports from the Office of Inspector General indicate some agencies are providing more therapy than is medically necessary (OIG 2005a, 2005b, 2005c). The OIG selected an agency each from Florida, California, and Connecticut for a review of claims that just met the 10-visit threshold for higher payments based on therapy service provision. At two agencies, the therapy provided failed a record review for medical necessity of services (64 out of 74 claims failed in one case; 19 out of 40 claims failed in the other). In the third case, all of the 100 claims sampled met the test for medical necessity.<sup>2</sup> The third case proves that overuse of therapy is not universal; however, the first two cases suggest that overuse of therapy may be an issue.

Overuse of therapy is consistent with the incentives of the payment system. Episodes with 10 or more visits for physical therapy, occupational therapy, or speech pathology (therapy) satisfy the 10-visit threshold for increased payments under the PPS. Medicare pays about \$2,500 more for an episode that meets the therapy threshold than for a similar episode with nine or fewer therapy visits. We see relatively more episodes that just meet the therapy threshold and fewer episodes with eight or nine therapy visits (Wardwell and Thompson 2005).

The OIG reports suggest that rethinking the therapy threshold could be a good place to start restructuring this system. The Commission plans to explore the relationship between case mix and cost at the episode level. Work at the episode level could point the way toward refinements of the case-mix system if we identify a subset of resource groups that are particularly misaligned. For example, we might find that payments for episodes that meet the therapy threshold are particularly misaligned with costs, which would suggest that the therapy threshold policy

should be refined. CMS is also pursuing work in this area, researching case-mix models that could predict therapy costs instead of relying on a threshold. A case-mix system with multiple, graduated thresholds might be more accurate than a single-threshold system; a case-mix system without any thresholds could perform even better if therapy could be predicted accurately.

In our work on outliers last year, we found that some patient characteristics that were not included in the payment system appeared to be related to the frequency of very high cost episodes. Those characteristics were:

- unable to self-administer injectable medications
- manages self-injectable medication if prompted
- history of rehospitalization
- lacks informal support
- behavioral problems

Although we suspected these characteristics could in fact cause patients to be systematically less profitable because these characteristics are not accounted for in case mix, our research did not find such a relationship. If behavioral problems, for example, made care more costly but did not generate higher payments, then agencies with caseloads that included more beneficiaries with behavioral problems should have lower profit margins, all else equal. We tested these beneficiary characteristics in the regression model we used to respond to the Congressionally mandated study. Using the regression model allowed us to compare agencies with caseloads that included larger than average numbers of beneficiaries with these characteristics and hold other agency characteristics equal. However, we found that none of these beneficiary characteristics was associated with margin to a statistically significant degree. This finding in a weak model does not lead us to a definite conclusion.

At a broader level, we plan to continue our examination of alternatives to the prospective payment system. Perhaps a single payment system is not suited to the task of paying accurately for both short-stay and long-stay care. ■

## Endnotes

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- 1 Of all beneficiaries surveyed in 2004, 8.8 percent indicated that they needed home health.
- 2 Out of 100 claims, 22 claims failed other federal requirements not related to medical necessity, such as proper authorization for therapy, services not provided as ordered, or medical records incomplete.



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SECTION  
4C

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**Long-term care  
hospital services**

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**R E C O M M E N D A T I O N**

The Congress should eliminate the update to payment rates for long-term care hospital services for 2007.

**COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2**

# SECTION 4C

## Long-term care hospital services

### Section summary

The Medicare Payment Advisory Commission (MedPAC) assesses the adequacy of payment for long-term care hospitals (LTCHs) and recommends an update for the coming year for the first time. LTCHs provide care to patients with clinically complex problems, such as multiple acute or chronic conditions, who need hospital-level care for relatively extended periods of time. Medicare is the predominant payer for long-term care hospital services. Spending for LTCHs was \$3.3 billion in 2004, and Medicare accounted for 73 percent of discharges.

We find that Medicare payments for LTCH services are more than adequate. Our conclusion is based on the following measures:

- *Access to care*—We have no direct indicators of access to LTCH care. However, the number of beneficiaries who used long-term care hospitals rose 13 percent per year from 2001 to 2004.

### In this section

- Are Medicare payments adequate in 2006?
- How should Medicare payments change in 2007?
- Update recommendation

- *Supply of facilities*—The supply of LTCHs increased by 9 percent per year from 2001 to 2004. During the same years, the supply of LTCHs organized as hospitals within hospitals (HWHs) rose more than twice as fast (14 percent per year) as freestanding facilities (6 percent per year).
- *Volume of services*—From 2001 to 2004, the volume of services increased by 12 percent annually, while Medicare spending for these facilities went up at more than double that pace—25 percent per year. In 2004 alone, spending increased almost 38 percent.
- *Quality*—The evidence on changes in quality is mixed: Deaths in LTCHs and readmissions to acute care hospitals decreased from 2001 to 2004, but patient safety measures—as indicated by decubitus ulcers, infection due to medical care, postoperative pulmonary embolism or deep vein thrombosis, and postoperative sepsis—suggest that quality may have worsened.
- *Access to capital*—Long-term care hospitals appear to have adequate access to capital, as demonstrated by for-profit LTCHs’ ability to borrow and the rapid entry of both for-profit and nonprofit facilities into the program.
- *Payments and costs*—The Medicare margin for 2004 was 9.0 percent and is projected to be 7.8 percent for 2006 (reflecting 2007 policy except the update). This does not include proposed rulemaking.

Long-term care hospitals should be able to accommodate cost changes in 2007. This finding as well as the other factors the Commission considers leads us to recommend that the Congress should eliminate the update to payment rates for LTCH services for 2007.

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## Recommendation 4C

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**COMMISSIONER VOTES:**

**YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2**

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*The Congress should eliminate the update to payment rates for long-term care hospital services for 2007.*

We make our recommendation to the Congress. We recognize that the Secretary also has the authority to update payment rates for long-term care hospitals. However, the Secretary has no obligation to act; thus we make this recommendation to the Congress, which if it acts, has the force of law. ■





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## Background

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Patients with clinically complex problems, such as multiple acute or chronic conditions, may need hospital-level care for relatively extended periods. Some of these patients are treated in long-term care hospitals (LTCHs). Because these facilities are not distributed evenly throughout the nation, policymakers have questioned how beneficiaries who need this type of care are treated in areas where there are no LTCHs. Medicare Payment Advisory Commission (MedPAC) studies have found that acute care hospitals and skilled nursing facilities are the principal alternatives to LTCHs (MedPAC 2004).

Medicare payments to LTCHs have increased rapidly—from \$398 million in 1993 to about \$3.3 billion in 2004—and continue to rise. This spending represents less than 1 percent of Medicare spending, although Medicare accounts for a substantial share of LTCHs' business—73 percent of discharges, on average, in 2004.

To qualify as a long-term care hospital for Medicare payment, a facility must meet Medicare's conditions of participation for acute care hospitals. In addition, an LTCH must also have an average length of stay (ALOS) greater than 25 days for its Medicare patients.

In our 2004 study, we found that before the prospective payment system (PPS) for these facilities was implemented, patients using LTCHs cost Medicare more than similar patients using alternative settings. In the analysis, the cost differences narrowed considerably when LTCHs targeted care to patients who were most likely to need this level of care. We recommended defining LTCHs by facility and patient criteria to ensure patients admitted to these facilities are medically complex and have a good chance of improvement. We also recommended that quality improvement organizations (QIOs) review LTCH admissions for medical necessity and monitor whether facilities comply with the criteria. The urgency of implementing criteria for LTCHs is underscored by results of a QIO medical record review which found that 29 percent of 1,400 randomly selected LTCH Medicare admissions in 2004 did not need hospital-level care (Votto 2005). CMS is assessing the feasibility of implementing our recommendations.

Since October 2002, Medicare has paid LTCHs predetermined per discharge rates based primarily on the

patient's diagnosis and the facility's wage index.<sup>1</sup> Before that, long-term care hospitals were paid under the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) on the basis of their average costs per discharge, subject to an annually adjusted limit calculated for each facility. As of May 2005, CMS estimates that 97 percent of LTCHs are paid entirely at PPS rates.

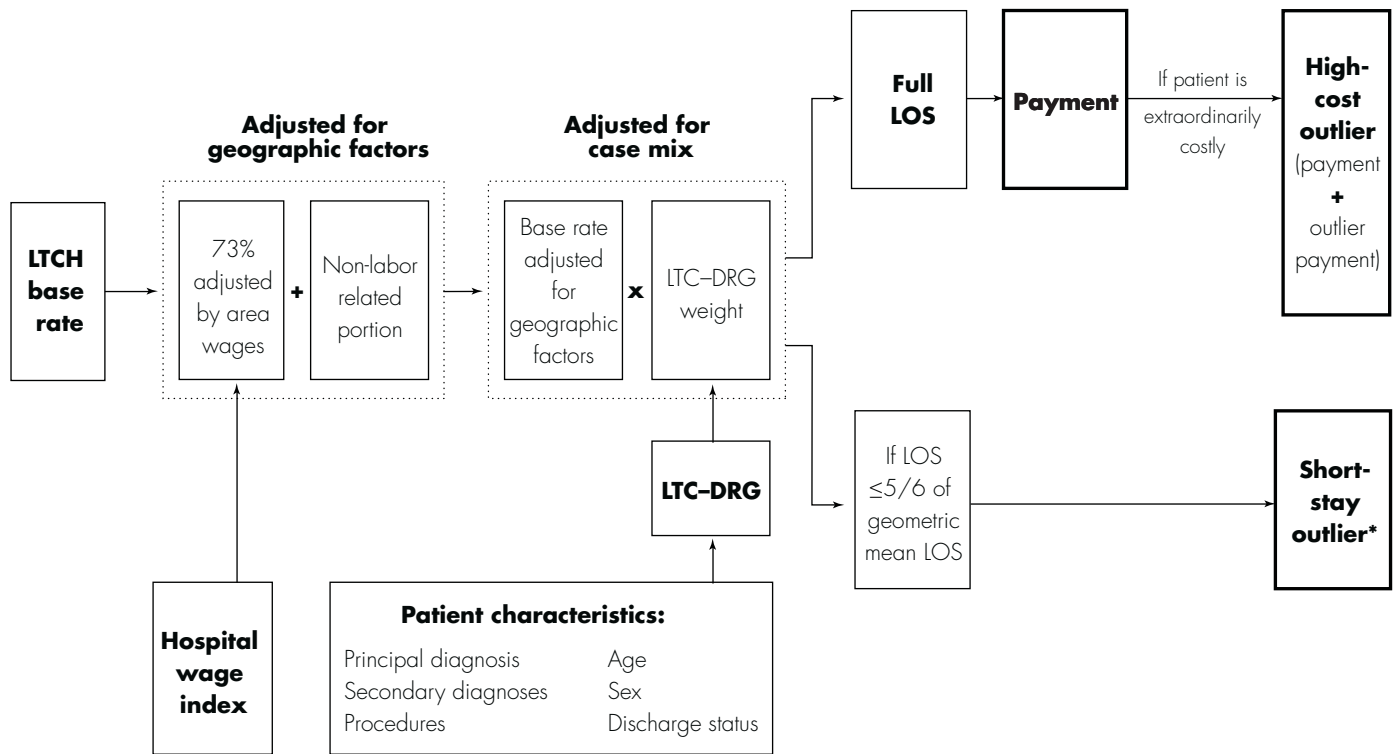
Under the LTCH PPS, patients are assigned to one of more than 500 long-term care diagnosis related groups (LTC-DRGs) based on their characteristics. The LTCH PPS uses the same DRGs as those used to classify patients for the acute inpatient PPS, although the relative weights differ. To calculate a rate, the base rate (\$38,086 for the 2006 rate year) is adjusted for geographic factors (Figure 4C-1, p. 212).<sup>2</sup> The labor-related portion is adjusted by the facility's area wage index and added to the nonlabor-related portion. The resulting base rate is then multiplied by the relative weight for the patient's LTC-DRG assignment to create the payment rate. Weights range from 0.4113 to 3.1869 for fiscal year 2006 payments. For an LTCH with a wage index of 1.0, payment rates range from \$15,665 to \$121,376. Medicare also adjusts payments for high-cost or short-stay outliers.

Long-term care hospitals typically specialize in providing care to patients with complex conditions and multiple comorbidities—for example, a ventilator-dependent patient requiring ongoing treatment for several underlying diagnoses or a patient with severe skin ulcers generally resulting from prolonged bed confinement acquired during treatment for an unrelated principal diagnosis. The top 15 diagnoses made up almost two-thirds of all discharges from these facilities in 2004; 5 of the top 15 LTC-DRGs were respiratory related (Table 4C-1, p. 213). However, LTCH cases are widely dispersed—only two DRGs had more than 5 percent of cases in 2004.

LTCHs can be either freestanding facilities or located within hospitals, when they are called hospitals within hospitals (HWHs). CMS established a new policy intended to protect the integrity of the inpatient PPS by attempting to ensure that HWHs do not function as step-down units of host hospitals and that decisions about admission, treatment, and discharge patterns are made for clinical rather than financial reasons (the text box on p. 214 describes this policy).

**FIGURE  
4C-1**

**Long-term care hospital prospective payment system**



Note: LTCH (long-term care hospital), LTC-DRG (long-term care diagnosis related group), LOS (length of stay).  
 \*LTCHs are paid for short-stay outliers the least of: 120% of the cost of the case, 120% of the LTC-DRG specific per diem amount multiplied by the length of stay for that case, or the full LTC-DRG payment.

**Are Medicare payments adequate in 2006?**

We examine the following factors in determining the adequacy of Medicare payments to LTCHs:

- access to care
- supply of facilities
- volume of services
- quality
- access to capital
- payments and costs

We have no direct evidence on beneficiaries' access to LTCH care, although we do find increasing use of LTCH care by beneficiaries. Long-term care hospitals continue to enter the Medicare program, suggesting that payment

rates are attractive. The increasing supply of LTCH beds results in increases in volume of discharges, the number of beneficiaries using these facilities, and Medicare spending. The rapid increase in LTCHs and beds suggests that LTCHs have adequate access to capital. Medicare margins are 9 percent in 2004 and an estimated 7.8 percent in 2006. Overall, our analysis finds that payments to LTCHs are more than adequate.

**Changes in beneficiaries' access to care**

Unlike for home health or physicians, we have no direct indicators of beneficiaries' access to LTCH care. However, the number of beneficiaries using LTCHs has continued to increase since the implementation of the PPS in fiscal year 2003. From 2001 to 2004, the number of beneficiaries who used LTCH care increased 13 percent per year and the number of cases went up a similar amount. The supply of LTCHs rose 9 percent annually during the same period while the number of beds per beneficiary rose by 5 percent.

**TABLE  
4C-1****The top 15 LTC-DRGs in 2004 made up almost two-thirds of LTCH discharges**

LTC-DRG	Description	Discharges	Percentage
475	Respiratory system diagnosis with ventilator support	13,007	10.6%
249	Aftercare, musculoskeletal system and connective tissue	6,212	5.1
12	Degenerative nervous system disorders	5,802	4.7
271	Skin ulcers	5,594	4.6
462	Rehabilitation	5,072	4.1
88	Chronic obstructive pulmonary disease	4,980	4.1
87	Pulmonary edema and respiratory	4,960	4.1
89	Simple pneumonia and pleurisy with CCs	4,826	3.9
466	Aftercare without history of malignancy as secondary diagnoses	4,497	3.7
79	Respiratory infections and inflammations with CCs	4,449	3.6
416	Septicemia	4,144	3.4
263	Skin graft and/or debridement for skin ulcer with CCs	3,739	3.1
127	Heart failure and shock	3,699	3.0
316	Renal failure	2,360	1.9
430	Psychoses	2,355	1.9
<b>Total discharges</b>		<b>122,320</b>	<b>61.9</b>

Note: LTCH (long-term care hospital), LTC-DRG (long-term care diagnosis related group), CC (complication or comorbidity).

Source: MedPAC analysis of MedPAR data from CMS.

The increase in beds per beneficiary between 2001 and 2004 varied geographically. The largest increases in beds per beneficiary were in the East South Central (13 percent per year), Middle Atlantic (10 percent per year), and West South Central (9 percent per year) census regions.

### Changes in supply of facilities

The number of LTCHs participating in the Medicare program has increased substantially. We examine growth in LTCHs from a historical perspective and also from a pre-PPS versus post-PPS perspective.

From 1990 to 2004, the number of LTCHs quadrupled from 90 to 357 (Figure 4C-2, p. 215). The growth in the number of long-term care hospitals has accelerated in recent years. From 2002 to 2004, 71 new facilities entered the program.

The number of long-term care hospitals rose in both urban and rural areas following the implementation of the PPS in fiscal year 2003. The rate of increase was greater in rural areas, which had fewer of these facilities to begin with (Table 4C-2, p. 215). The number of rural LTCHs grew by 18 percent per year from 2001 to 2004, compared with an overall annual growth rate of 9 percent.

The numbers of HWHs and freestanding LTCHs both increased following implementation of the PPS in 2003. During the same period, the rate of growth in HWHs was more than twice the rate for freestanding LTCHs. Both nonprofit and for-profit long-term care hospitals increased from 2001 to 2004, but nonprofits grew more slowly than for profits.

### Changes in volume of services

The ALOS for LTCHs declined after PPS implementation, while the volume of discharges and Medicare spending increased (Table 4C-3, p. 216). Specifically, from 2001 (pre-PPS) to 2004 (post-PPS):

- The number of cases increased 12 percent annually.
- Medicare spending increased 25 percent per year. In 2004 alone, spending increased almost 38 percent.
- The average Medicare payment per case increased 10 percent annually.
- ALOS decreased by 4 percent per year, although the rate of decrease was somewhat slower under PPS.

## The new rule for hospitals within hospitals limits admissions from host hospitals

The new 25 percent rule affects hospitals within hospitals (HWHs) (and 10 satellites that are treated the same as HWHs).<sup>3</sup> This rule establishes a threshold for Medicare patients admitted from the host hospital each year. The policy will be phased in over three years beginning in October 2005. HWHs will be paid long-term care hospital (LTCH) prospective payment system (PPS) rates for patients admitted from the host acute care hospital when those patients are within the applicable threshold. Patients from the host hospital who are outliers under the acute inpatient PPS before their transfer to the HWH do not count towards the threshold. For patients admitted from the host hospital above the applicable threshold, the LTCH will be paid the lesser of the LTCH PPS rate or an amount equivalent to the acute hospital PPS rate. The threshold is:

- 75 percent for fiscal year 2006
- 50 percent for fiscal year 2007
- 25 percent for fiscal year 2008

For example, in 2006, if a HWH admits 80 percent of its cases from its host hospital, the HWH will be paid the LTCH PPS rate for 75 percent of all cases admitted. In retrospective settlement at the end of its cost-reporting year, the HWH will be paid an amount equivalent to the acute inpatient PPS rate (if it is lower than the LTCH rate) for the remaining 5 percent.<sup>4</sup> For patients who are outlier cases in the host acute care hospital, the HWH will receive LTCH rates regardless of whether they exceed the 75 percent threshold.

There are some exceptions to the 25 percent rule. For rural HWHs, the applicable threshold is 50 percent. For HWHs that are located in the only hospital in their metropolitan statistical area (MSA) or in an MSA-dominant hospital—defined as having one-quarter or more of all acute care cases in the MSA—the threshold is between 25 percent and 50 percent, depending on the share of Medicare patients attributable to the host hospital. ■

### Changes in quality

We use three different types of quality measures for LTCHs that can be calculated from routinely collected administrative data: deaths in the LTCH, readmissions to acute care hospitals, and selected Agency for Healthcare Research and Quality (AHRQ) patient safety indicators (PSIs). While not unambiguous, the proportion of patients who died in a facility or were readmitted to a hospital are frequently used as gross indicators of quality.

The results for the three types of quality measures are mixed. From 2001 to 2004, the percentage of LTCH patients who died in long-term care hospitals or were readmitted to acute care hospitals decreased. These data are not risk adjusted, so the differences could be explained by healthier patients being admitted to LTCHs. Of the four PSIs, risk-adjusted rates were worse for three, and relatively stable for the fourth.

The share of patients who died in an LTCH and the share of patients who were readmitted to an acute care hospital were 16 percent and 13 percent, respectively, in 2001

(Figure 4C-3, p. 216). Each share declined by 2 percentage points by 2004.

To supplement the above quality indicators, we investigated whether the AHRQ PSIs developed for acute care hospitals might be useful to assess patient safety for LTCHs. AHRQ has 25 hospital-level PSIs to identify potentially preventable adverse events resulting from acute hospital care (AHRQ 2003). We used all LTCH claims for 2003 and 2004 to calculate these PSIs for LTCHs. Four PSIs had enough observations for the two years and were thought to be relevant to the type of care LTCHs deliver—decubitus ulcers, infection due to medical care, postoperative pulmonary embolism (PE) or deep vein thrombosis (DVT), and postoperative sepsis. Patients in LTCHs frequently have lengthy stays and without appropriate care may develop decubitus ulcers. Because of these lengthy stays, postoperative PE or DVT also appears to be a risk for patients who had surgery in the acute care hospital. Interestingly, the PSI for postoperative respiratory failure did not have enough cases to make this indicator useful for identifying patient safety issues for

LTCH patients, despite the emphasis on respiratory-related conditions in these facilities.

We used all LTCH claims to identify patients with the four PSIs. To distinguish patients who developed a PSI diagnosis in the acute care hospital from those who developed the diagnosis in the LTCH, we included in the analysis only patients who did not have the pertinent diagnosis in the acute care hospital. Therefore, changes in rates should not be a result of LTCHs admitting more patients who had these conditions in the acute hospital. The PSIs are also risk adjusted so these indicators should not reflect a changing LTCH patient population over time. Changes in the PSI risk-adjusted rates per 1,000 Medicare LTCH patients are shown in Table 4C-4, p. 217. These rates suggest that for three of the PSIs, safety for LTCH patients under PPS payment has deteriorated. The rates for all four PSIs increased from 2003 to 2004, although the rate for postoperative PE or DVT increased only by 1 percent. Nevertheless, we need to be cautious about the interpretation of the PSIs—they were not developed for long-term care hospitals, and CMS has frequently

**TABLE 4C-2**

**The number of most types of long-term care hospitals has grown**

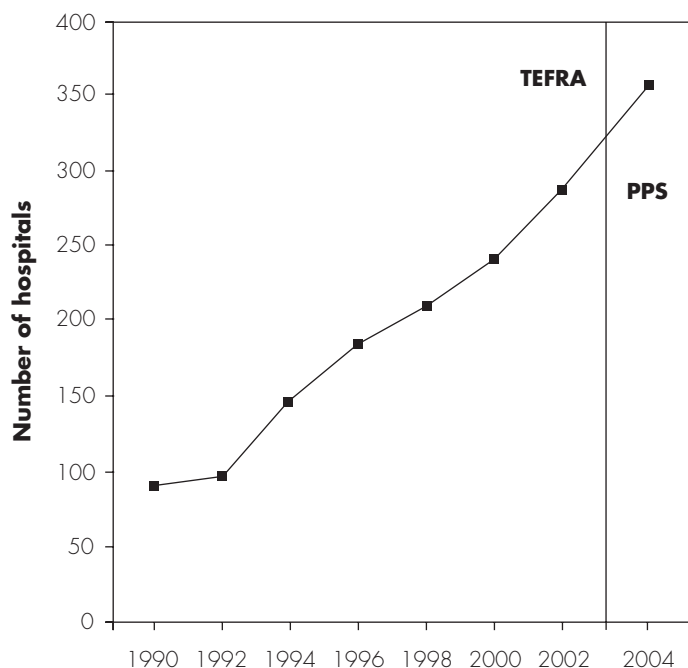
LTCH group	TEFRA		PPS		Average annual change 2001-2004
	2001	2003	2004		
All LTCHs	273	319	357		9%
Urban	253	293	324		9
Rural	20	26	33		18
Freestanding	159	172	190		6
HWHs	114	147	167		14
Nonprofit	84	100	117		12
For profit	152	189	208		11
Government	37	30	32		-5

Note: TEFRA (Tax Equity and Fiscal Responsibility Act of 1982), PPS (prospective payment system), LTCH (long-term care hospital), HWH (hospital within hospital).

Source: MedPAC analysis of Provider of Service files from CMS.

**FIGURE 4C-2**

**The number of long-term care hospitals has grown rapidly since 1990**



Note: TEFRA (Tax Equity and Fiscal Responsibility Act of 1982), PPS (prospective payment system).

Source: MedPAC analysis of Provider of Service files from CMS.

discussed LTCHs' changes in coding, consistent with the incentives of the PPS.

Better measures of quality for long-term care hospitals are needed. Additional measures of quality at the hospital-specific level, probably not available from administrative data, may come from the LTCH industry. One association and a large chain report independent efforts to develop quality indicators. If the data for these indicators were available, CMS might use them to monitor LTCH care. For example, both organizations plan to measure rates of weaning from ventilators, pneumonia contracted while on a ventilator, decubitus ulcers acquired in the LTCH, blood stream infections, falls, and use of restraints. However, the specific measures for these indicators differ widely between the two organizations.

In June 2004, the Commission recommended that the Congress and CMS define LTCH care by facility and patient criteria. One of the goals we outlined for the criteria was to encourage long-term care hospitals to provide high-quality care and to require these facilities to provide information about the quality of care they provide to patients. A standard patient assessment tool would facilitate measurement of outcomes. We are encouraged that the industry is starting to develop new quality indicators. Some next steps are CMS involvement, greater validation of the measures, and decisions on a data collection strategy.

**TABLE  
4C-3**

**Volume of cases and Medicare spending increased under the LTCH prospective payment system**

	TEFRA	PPS		Average annual change 2001-2004
	2001	2003	2004	
Number of cases	86,049	110,509	122,320	12%
Medicare spending	\$1.7 billion	\$2.4 billion	\$3.3 billion	25
Payment per case	\$22,452	\$25,076	\$30,180	10
Length of stay (in days)	32.1	29.2	28.7	-4

Note: LTCH (long-term care hospital), TEFRA (Tax Equity and Fiscal Responsibility Act of 1982), PPS (prospective payment system).

Source: MedPAC analysis of MedPAR data from CMS.

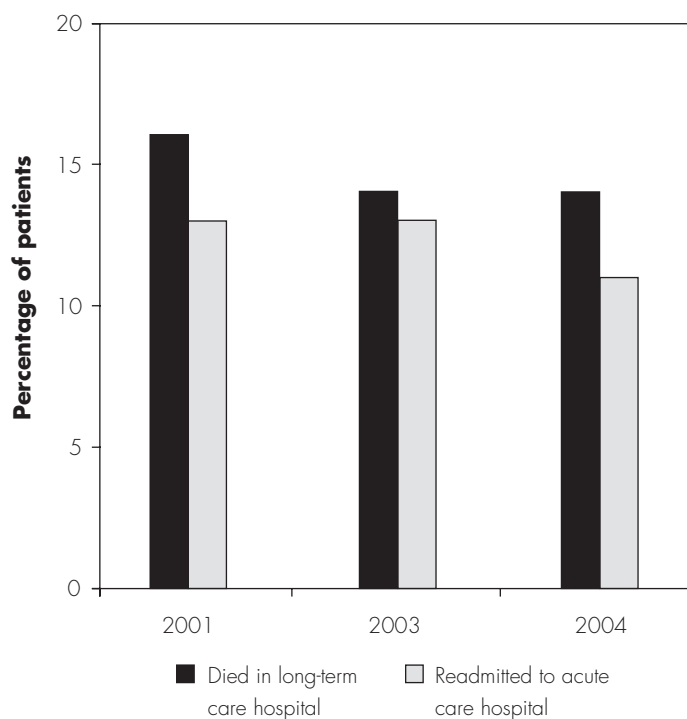
**Long-term care hospitals' access to capital**

Almost 60 percent of LTCHs are for-profit concerns, two-thirds of which are owned by two chains, Kindred Healthcare and Select Medical. For-profit chains can access capital through the equity market as well as by

borrowing. Both firms appear to have adequate access to capital. For example, one of the firms plans to repurchase \$100 million of its shares and purchase 19 facilities, including 6 LTCHs. The other borrowed \$1.4 billion to finance its buyout by venture capitalists to take the company private (Select Medical 2005). The continued rapid expansion of both for-profit and nonprofit LTCHs demonstrates good access to capital for this sector as a whole.

**FIGURE  
4C-3**

**Selected outcomes for long-term care hospital patients have improved**



Note: Data are not risk adjusted.

Source: MedPAC analysis of MedPAR data from CMS.

**Payments and costs**

To assess the adequacy of Medicare payment, we examine payments and costs. We also calculate an aggregate Medicare margin for LTCHs.

Under TEFRA, the change in payment per case was at or below the change in cost per case (Figure 4C-4). The year before PPS (2002), the change in payment per case was above zero for the first time since 1998.

After PPS implementation, payment per case rose rapidly: it increased 5.5 percent in 2003 and 13.2 percent in 2004. In 2004 alone, Medicare payments to LTCHs increased almost 38 percent. The case-mix index (CMI) also appears to be increasing for LTCH patients, but CMS points out that CMI increases are at least partially due to coding improvement with a comparatively larger number of cases being assigned to LTC-DRGs with higher relative weights (CMS 2005). Combinations of real CMI increases and coding improvements can result in large payment increases.

Evidence from cost reports suggests that the reported cost per case decreased in 2003, the first year of PPS

**TABLE  
4C-4**

**Changes in safety of care for long-term care hospital patients, 2003-2004**

Patient safety indicator	Risk-adjusted rates per 1,000 eligible discharges			Observed adverse events 2004	Total number of patients
	2003	2004	Change in rate		
Decubitus ulcer	128.6	148.3	15%	14,624	94,368
Infection due to medical care	19.9	28.9	45	3,129	108,458
Postoperative PE or DVT	53.5	54.1	1	747	13,801
Postoperative sepsis	125.3	164.0	31	1,378	8,016

Note: PE (pulmonary embolism), DVT (deep vein thrombosis).

Source: MedPAC analysis of 100% of long-term care hospital MedPAR data from CMS.

(by -0.1 percent), then jumped dramatically in the second year (by 8.9 percent). This 2004 increase is not easily explained, especially since the average length of stay decreased compared with 2003 and a decrease in ALOS generally is associated with a decrease in costs. More complicated LTCH patients could account for at least part of the increase in cost per case. However, the rapid rate of growth in costs could also be attributable to the rapid rate of increase in payments under the PPS which would have allowed LTCHs to spend more than under TEFRA.

The Medicare margin is the difference between Medicare payments and providers' costs, as a percentage of Medicare payments. Conceptually, this margin represents the percentage of revenue the providers keep. LTCHs' Medicare margin under TEFRA remained below or slightly above zero (Table 4C-5, p. 218). The TEFRA margins are consistent with the payment system, which linked payments to costs. In the year before PPS was implemented (2002), margins became positive. After CMS implemented the PPS in 2003, margins rose rapidly for almost all groups of LTCHs. Only government-owned LTCHs had negative margins once the PPS was implemented, and these types of facilities frequently have few Medicare patients.

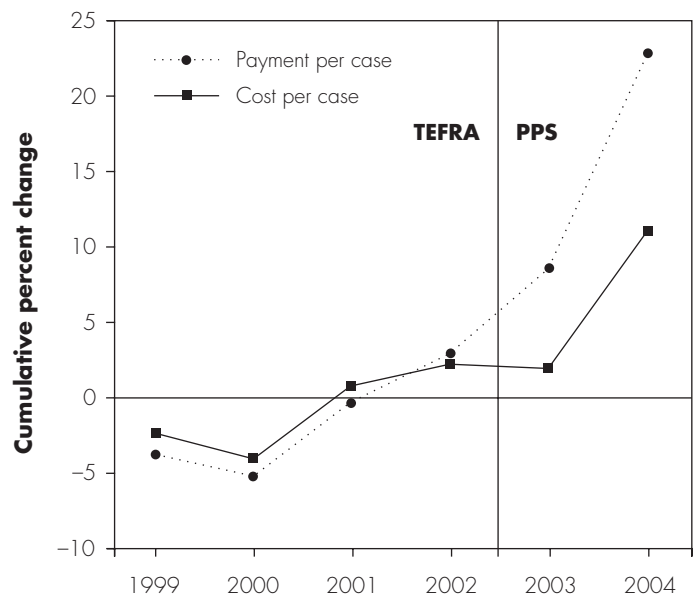
Our projection of the 2006 Medicare margin is affected by a number of payment policy changes. These changes do not include proposed administrative actions. The changes include:

- for 2005, a full market basket update of 3.1 percent minus a budget neutrality adjustment of 0.5 percent for a total increase of 2.6 percent;

- for 2006, a full market basket update and an increase resulting from changes in the outlier threshold for an estimated total increase of 5.7 percent; and
- for 2006, an adjustment of an estimated -4.2 percent to payment that results from changes to the case-mix groups and relative weights, implemented in a non-budget neutral manner.<sup>5</sup>

**FIGURE  
4C-4**

**Comparison of changes in LTCH payment and cost per case, 1999-2004**



Note: LTCH (long-term care hospital), TEFRA (Tax Equity and Fiscal Responsibility Act of 1982), PPS (prospective payment system). Data are from consistent two-year cohorts of LTCHs.

Source: MedPAC analysis of cost reports from CMS.

**TABLE  
4C-5****Long-term care hospitals' Medicare margin, by group, 1998-2004**

LTCH group	TEFRA					PPS	
	1998	1999	2000	2001	2002	2003	2004
All LTCHs	0.2%	-1.7%	-1.7%	-1.7%	-0.4%	5.4%	9.0%
Urban	0.6	-1.6	-1.6	-1.7	-0.3	5.5	9.0
Rural	-18.8	-5.7	-3.3	-3.1	-4.5	0.8	8.6
Freestanding	-0.1	-1.4	-1.4	-1.1	0.3	5.2	8.7
HWHs	1.2	-2.6	-2.4	-3.4	-1.9	5.8	9.6
Nonprofit	-0.8	-1.4	-2.9	-1.7	-0.1	1.6	6.0
For profit	2.6	-0.9	-0.9	-1.6	-0.3	6.7	10.3
Government	-19.8	-15.7	-7.6	-4.8	-3.7	-1.9	-2.8

Note: LTCH (long-term care hospital), TEFRA (Tax Equity and Fiscal Responsibility Act of 1982), PPS (prospective payment system), HWH (hospital within hospital).

Source: MedPAC analysis of cost reports from CMS.

As discussed previously, between 2005 and 2007, CMS will phase in the 25 percent rule to limit the share of cases HWHs can admit from their host hospital. We cannot foresee how HWHs' behavior will change in response to this rule. CMS has discussed several scenarios (CMS 2005). For example, patients admitted to an HWH from the host hospital after becoming an outlier are not counted in the limit, thus HWHs may admit more outlier cases under this rule. Alternatively, host hospitals may discharge fewer patients to their HWHs because of constraints from the 25 percent rule, in which case HWHs' volume might fall. In cities where there is another LTCH, an acute care hospital might discharge patients to a different long-term care hospital than the one on its grounds. The Office of Inspector General or the QIOs may want to monitor acute care hospitals' and HWHs' behavior in response to the 25 percent rule. Rural HWHs and urban HWHs that have only

one acute care hospital in their market area have a less stringent target, but probably will have a more difficult time attracting patients from farther away. Because we have no evidence of how HWHs will react, we have not modeled margins incorporating this policy change.

Using policies discussed above and 2007 policy (except the update), we project that LTCHs' aggregate margin for 2006 will be 7.8 percent (Table 4C-6).

### How should Medicare payments change in 2007?

For LTCHs, the update in current law for 2007 is a market basket update. CMS's latest forecast of the market basket for 2007 is 3.5 percent. However, evidence from the indicators we have examined suggests that LTCHs can accommodate the cost of caring for Medicare beneficiaries in 2007 without an increase in the base rate.

### Update recommendation

Long-term care hospitals should be able to accommodate cost changes in rate year 2007 with the Medicare margin they have in 2006.

**TABLE  
4C-6****Long-term care hospitals' Medicare margin, 2004 and estimated 2006**

LTCH group	2004	2006
All LTCHs	9.0%	7.8%

Note: LTCH (long-term care hospital).

Source: MedPAC analysis of cost reports from CMS.



## RECOMMENDATION 4 C

**The Congress should eliminate the update to payment rates for long-term care hospital services for 2007.**

### RATIONALE 4 C

Although we have no direct indicators of beneficiaries' access to LTCHs, beneficiaries' increased use of long-term care hospitals suggests increases in their access to care. Long-term care hospitals continue to enter the Medicare program rapidly, consistent with payment rates being attractive. The increasing supply of LTCHs and beds results in increases in volume of discharges and Medicare spending. Spending grew almost 38 percent in 2004 alone. The rapid increase in LTCHs and beds suggests that LTCHs have adequate access to capital. Medicare margins are 9 percent in 2004 and an estimated 7.8 percent in 2006. Therefore, we conclude that payments to LTCHs are more than adequate.

We make our recommendation to the Congress. We recognize that the Secretary also has the authority to update payment rates for long-term care hospitals. However, the Secretary has no obligation to act; thus we make this recommendation to the Congress, which if it acts, has the force of law.

### IMPLICATIONS 4 C

#### Spending

- This recommendation decreases federal program spending relative to current law by between \$50 million and \$200 million in one year and less than \$1 billion over five years.

#### Beneficiary and provider

- We do not expect this recommendation to affect providers' ability to provide care to Medicare beneficiaries. ■

## Endnotes

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- 1 LTCHs began receiving payments under the new PPS at the beginning of their 2003 cost reporting periods. During a five-year transition period, Medicare pays LTCHs a blend of the PPS rate and their updated facility-specific rate. For example, in the first year of PPS, payments were made up of 20 percent PPS rates and 80 percent facility-specific rates; in the second year, payments were to be made up of 40 percent PPS rates and 60 percent facility-specific rates. LTCHs also could choose to be paid at 100 percent of the PPS rate; CMS estimates that 94 percent of LTCHs chose this option. Adjustment for geographic differences using the area wage index also was phased in over five years. For more detail on the PPS for long-term care hospitals, see [http://www.medpac.gov/publications/other\\_reports/Dec05\\_payment\\_basics\\_LTCH.pdf](http://www.medpac.gov/publications/other_reports/Dec05_payment_basics_LTCH.pdf).
- 2 LTCHs are paid on the basis of a rate year, from July 1 through June 30. Policy changes for the LTCH PPS, including the base rate, affect the rate year. Changes in the LTC–DRGs or the relative weights affect the federal fiscal year because the LTC–DRGs are the same DRGs used for the acute care hospital PPS.
- 3 Hospitals within hospitals are subject to few restrictions. They are required to have a governing body, chief executive officer, chief medical officer, and medical staff separate from the host hospital and are subject to limits on admissions transferred from their host hospital.
- 4 The threshold during the transition period is the lesser of the specified annual percentage or the percentage of Medicare patients admitted by an HWH from its host hospital in 2003 (the so-called “base year”) that were not high-cost outliers for the host.
- 5 In developing the case-mix groups and relative weights for the LTCH PPS in 2006, CMS found that payments in aggregate would decrease by 4.2 percent in 2007 (CMS 2005). In examining this phenomenon, CMS found that 30 percent of the 115 regularly used LTC–DRGs had a real decrease in the average charge per case on which the relative weights are based. The agency attributed this change to a greater number of cases with relatively lower charges being assigned to LTC–DRGs with higher relative weights, which would bring the averages down, consequently decreasing the relative weights. In addition, 45 percent of the 115 LTC–DRGs had an increase in charges that was less than the 16 percent average overall increase in charges. Because the LTC–DRG relative weights are determined by dividing the average charge for each group by the average overall charge (across all groups), the relative weights for these groups also decreased. These changes in relative values were not budget neutral.

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SECTION  
4D

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**Inpatient rehabilitation  
facility services**

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# R E C O M M E N D A T I O N

The Congress should eliminate the update to payment rates for inpatient rehabilitation facility services for fiscal year 2007.

**COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2**

# SECTION 4D

## Inpatient rehabilitation facility services

### Section summary

The Medicare Payment Advisory Commission (MedPAC) assesses the adequacy of payment for inpatient rehabilitation facilities (IRFs) and recommends an update to the prospective payment system (PPS) payment rates for the coming year for the first time. IRFs provide intensive rehabilitation services—such as physical, occupational, or speech therapy—in an inpatient setting. Beneficiaries generally must be able to tolerate and benefit from three hours of therapy per day to be eligible for treatment in an inpatient rehabilitation facility. Medicare is the principal payer for IRF services, accounting for about 70 percent of discharges. Medicare payments to inpatient rehabilitation facilities were \$6 billion in 2004.

An important issue affecting IRFs is CMS’s 2004 modification of the 75 percent rule, which requires IRFs to have 75 percent of admissions with one or more of a specified list of conditions. To clarify arthritis conditions CMS thought appropriate for treatment in IRFs, the modification removed the condition for the largest category of IRF

### In this section

- Prospective payment system for IRFs
- Are Medicare payments adequate in 2006?
- How should Medicare payments change in 2007?
- Update recommendation

admissions from the list and substituted three more precise conditions. At the same time CMS modified the 75 percent rule, it created a four-year transition. This change in policy is one factor that reduced the volume of patients admitted to IRFs in 2005.

We have a mix of data for examining payment adequacy. Some data go up to 2004, before the new 75 percent rule, and patient assessment data provide a preliminary examination of 2005, the first year of the phase-in of the new rule.

To assess payment adequacy, we examine six factors for changes that can be attributed to the adequacy of Medicare payments for inpatient rehabilitation facilities. The factors we examine are:

- ***Access to care***—We have no direct indicators of beneficiaries’ access to IRF care and analysis is complicated because IRFs provide a specialized service and determining who needs intensive rehabilitation in an inpatient setting is difficult. Until the new 75 percent rule was implemented, IRFs’ patient volume increased, but it has decreased in 2005, as discussed below. If patients who need intensive rehabilitation are still getting it, the drop in volume may not be an access issue. Moreover, patients no longer treated in an IRF can receive care in other settings, such as outpatient, home health, or skilled nursing facilities. However, we are unable to judge whether patients are treated in the appropriate setting.
- ***Supply of facilities***—The number of inpatient rehabilitation facilities increased 4 percent from 2000 to 2001, before implementation of the PPS, and grew 2 percent per year from 2002 to 2004, following PPS implementation. This slower growth applies to all types of IRFs, whether they are freestanding, hospital-based, or located in urban or rural areas.



- **Volume of services**—Trends in volume that began before the implementation of the per discharge PPS—increasing number of cases and declining length of stay—tended to persist in the first year after implementation. Since introduction of the new 75 percent rule in 2005, however, volume has dropped an estimated 9 percent (eRehabData<sup>®</sup> 2005) to 14 percent (MedPAC analysis of IRF–Patient Assessment Instrument (IRF–PAI) data) and the average length of stay has increased due to the drop in volume of cases, primarily cases with a shorter length of stay.
- **Quality**—Evidence suggests that quality has remained steady under the PPS. Patients are making similar gains in their ability to function (e.g., walk, bathe) in 2004 compared with 2002.
- **Access to capital**—Inpatient rehabilitation facilities appear to have adequate access to capital. Eighty percent of IRFs are hospital-based and have access to capital through their parent institutions, which have good access (see Section 2A).
- **Payments and costs**—Total Medicare spending increased at a faster pace post-PPS (15 percent per year from 2002 to 2004) compared with pre-PPS (3 percent from 2000 to 2001). Higher spending was due primarily to a combination of payment updates and case-mix changes that may have been at least partly due to coding improvement. The IRF Medicare margin was 16.3 percent in 2004. Our estimate of the margin for 2006 is 9.2 percent, with the reduction tied to implementation of the new 75 percent rule.

The number of IRFs entering the Medicare program increased following PPS implementation, quality has remained stable, and IRFs appear to have good access to capital. Until recently, inpatient rehabilitation facilities experienced an increase in the number of patients and spending. Our indicators of payment adequacy are generally positive, although we see reduced admissions for the industry due to the new 75 percent rule. This new rule narrowed the categories considered to be appropriate for IRFs.

The effect was to reduce the number of cases, which impacts Medicare margins. However, we estimate margins will remain more than adequate.

Our analysis of payment adequacy suggests that IRFs can accommodate changes in input costs over the coming year without an increase in payments. Therefore, we recommend that the Congress should eliminate the update to payment rates for inpatient rehabilitation facility services for fiscal year 2007. ■

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## **Recommendation 4D**

**COMMISSIONER VOTES:**

**YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2**

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*The Congress should eliminate the update to payment rates for inpatient rehabilitation facility services for fiscal year 2007.*

## Background

After an illness, injury, or surgery, some patients receive intensive rehabilitation services—such as physical, occupational, or speech therapy—in an inpatient setting. Relatively few Medicare beneficiaries use intensive rehabilitation therapy because they generally must be able to tolerate and benefit from three hours of therapy per day to be eligible for treatment in an inpatient rehabilitation facility (IRF). IRFs may be freestanding hospitals or specialized, hospital-based units.

Medicare is the principal payer for IRF services, accounting for about 70 percent of discharges. Medicare payments to inpatient rehabilitation facilities were \$6 billion in 2004 and represent about 2 percent of total Medicare spending.

The most common rehabilitation condition for Medicare beneficiaries in 2004 was joint replacement, followed by stroke and hip fracture (Figure 4D-1). These three conditions make up about half of IRF cases.

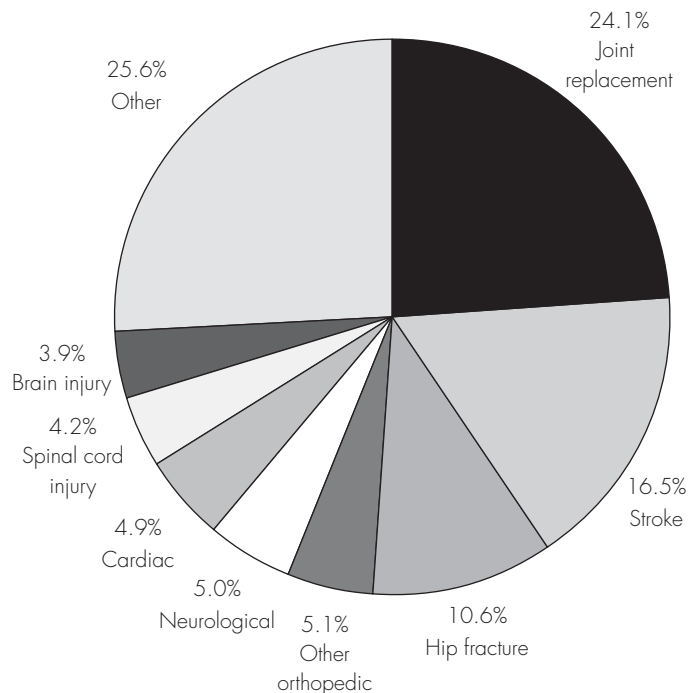
To qualify as an IRF for Medicare payment, facilities must meet the Medicare conditions of participation for acute care hospitals and must meet all of the following additional criteria:

- have a preadmission screening process to determine that each prospective patient is likely to benefit significantly from an intensive inpatient rehabilitation program;
- have close medical supervision by a physician with experience or training in rehabilitation;
- have a director of rehabilitation, with training or experience in rehabilitation of patients, who provides services in the facility on a full-time basis;<sup>1</sup>
- provide 24-hour rehabilitation nursing;
- use a coordinated multidisciplinary team approach;
- expect significant practical improvement for patients;
- have realistic goals for treatment aims; and
- each year, have no fewer than 75 percent of all patients admitted with 1 or more of 13 specified conditions, such as stroke or burns.

For 20 years, from 1984 to 2004, the diagnoses included in the last criterion, known as the 75 percent rule,

**FIGURE 4D-1**

**Distribution of most common types of cases in inpatient rehabilitation facilities, 2004**



Note: Other includes conditions such as amputation, pain syndrome, and pulmonary.

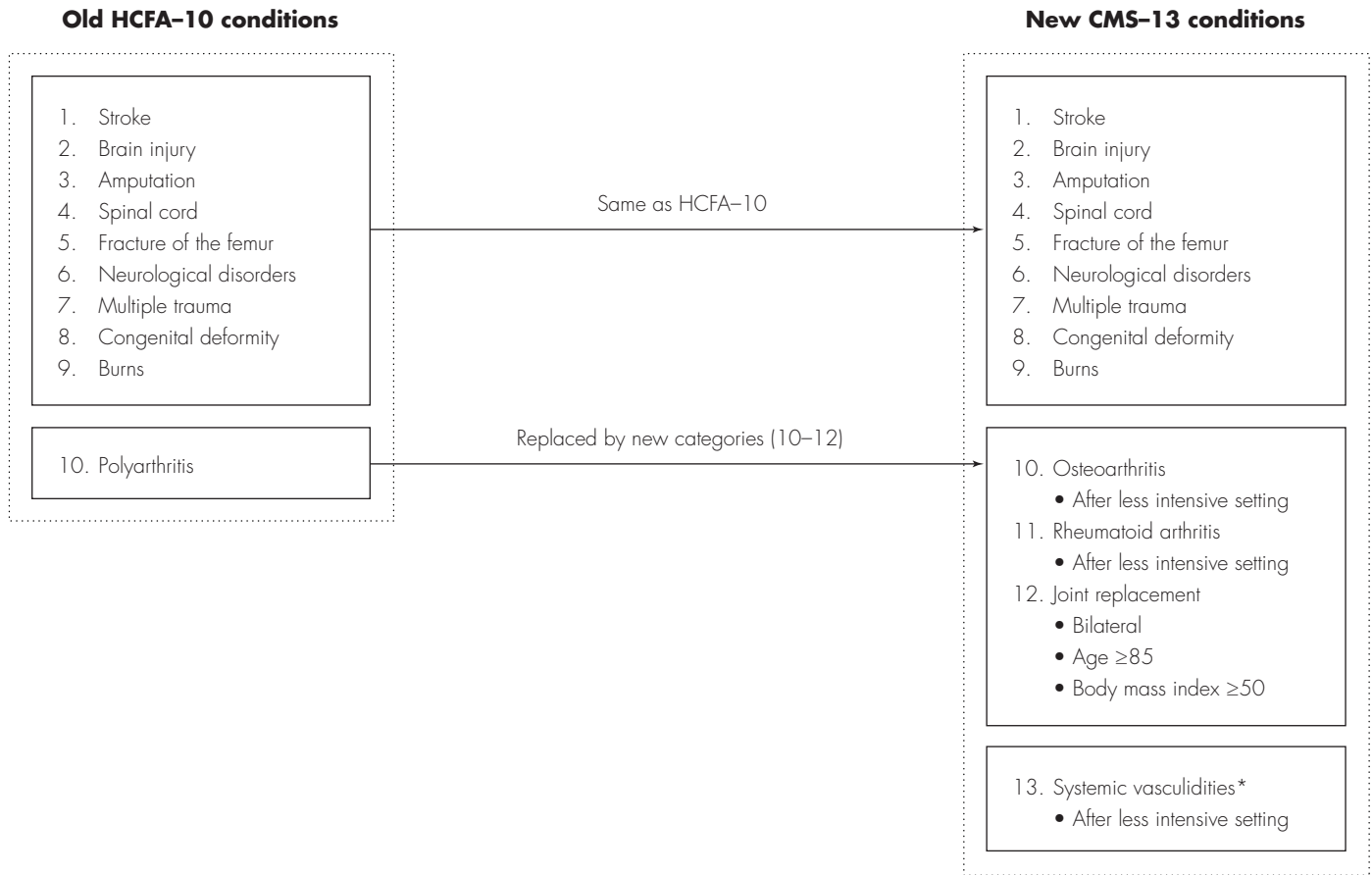
Source: MedPAC analysis of Inpatient Rehabilitation Facility–Patient Assessment Instrument data from CMS.

remained constant. These diagnoses were also known as the Healthcare Financing Administration–10 (HCFA–10) (Figure 4D-2, p. 230).<sup>2</sup> In 2002, CMS discovered that fiscal intermediaries were using inconsistent methods to enforce the 75 percent rule. As a result, CMS suspended enforcement of the rule until the agency could examine it and determine whether the regulation should be modified.

In 2004, CMS redefined arthritis conditions it thought appropriate for treatment in IRFs by removing from the 75 percent rule the condition for the largest category of IRF admissions and substituting three more precise conditions. This change contributed to the reduction in the volume of patients admitted to IRFs. CMS excluded polyarthritis, which was used previously as the diagnosis for admitting patients with single joint replacements to IRFs. Patients with lower extremity joint replacements accounted for the largest share of inpatient rehabilitation facility cases in 2004—24 percent. Instead of polyarthritis, CMS substituted three arthritis conditions limited to cases where

**FIGURE  
4D-2**

**Change in the inpatient rehabilitation facility criteria**



Note: HCFA-10 (Health Care Financing Administration-10).

\*Systemic vasculidities are relatively rare inflammations of the arteries, frequently autoimmune, that involve a variety of systems, including joints.

appropriate, aggressive, and sustained outpatient therapy had failed in other settings. The agency also included joint replacements in the list of appropriate conditions when both knees or hips are replaced in surgery immediately preceding the IRF admission, when the patient's body mass index equals or is greater than 50, or when the patient is age 85 or older. The 75 percent rule allows inpatient rehabilitation facilities to admit 25 percent of cases without the specified diagnoses, so IRFs may treat some cases with diagnoses not compliant with the rule without financial penalty. Inpatient rehabilitation facilities that do not comply with the threshold are declassified and paid acute hospital rates for all patients in the next cost reporting period.<sup>3</sup>

CMS created a four-year transition period for compliance with the new 75 percent rule. The Deficit Reduction Act of 2005 modified the transition. The final policy is:

- 50 percent of the IRF's total patient population must meet the new regulations in cost reporting years beginning on or after July 2004,
- 60 percent in cost reporting years beginning on or after July 2005 through June 2007,
- 65 percent in cost reporting years beginning on or after July 2007.<sup>4</sup>

For cost reporting periods beginning on or after July 2008, the threshold returns to 75 percent.

The Commission commented twice in response to CMS's rulemaking for the new 75 percent rule for IRFs. We noted that we appreciated CMS's efforts to try to distinguish the services provided in different post-acute care settings and recommended that the agency convene an expert panel of clinicians to reach consensus on diagnoses to be included in the new 75 percent rule as well as appropriate clinical criteria for patients within the respective diagnoses. We also suggested that CMS publicly report the results of the panel. CMS has not yet convened an expert panel.

In 2004, for the first time, CMS also issued program memoranda to fiscal intermediaries that contained a list of specific International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) codes considered compliant with the conditions specified in the new 75 percent rule (CMS 2004). This list excludes some diagnoses that appear to be compliant, based on the conditions allowed under the rule. For example, while the 75 percent rule states that patients with amputations are considered compliant, the diagnoses codes for fingers, toes, and foot amputations are noncompliant. Spinal stenosis and injury to nerve roots and spinal plexes also are noncompliant based on the list of ICD-9-CM codes, although spinal cord issues are listed as compliant in the 75 percent rule.

The new 75 percent rule is controversial. Even though a 75 percent rule has been in place since 1984, CMS has not consistently enforced it, as noted earlier. CMS says that the rapid growth in single lower extremity joint replacement cases caused the agency to begin examining the polyarthritis diagnosis. CMS concluded that most joint replacement patients did not need the intensive rehabilitation services provided by IRFs and could receive them instead from alternative providers, such as acute hospitals, skilled nursing facilities, long-term care hospitals, outpatient rehabilitation providers, or home health agencies.

A key issue has been whether diagnoses alone are enough to predict need for IRF-level care. The Government Accountability Office (GAO) (2005) studied the clinical appropriateness of the new 75 percent rule and determined that condition alone was insufficient for identifying appropriate types of patients for inpatient rehabilitation facilities. GAO suggested that additional criteria (such as functional status) be used to identify patients appropriate for IRFs and to classify these facilities, especially since

not all patients with a given diagnosis require intensive rehabilitation.

The new rule is also controversial because it clarifies that a large category of admissions is not appropriate for IRF care. IRFs not in compliance with the new rule will be declassified and paid acute inpatient prospective payment system rates for all cases. For example, for beneficiaries who have had a stroke, the acute inpatient rate in 2006 would be \$4,010 while the IRF rate would range from \$8,104 to \$33,516, depending on the age, functional status, and cognitive status of the stroke patient.

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### **Prospective payment system for IRFs**

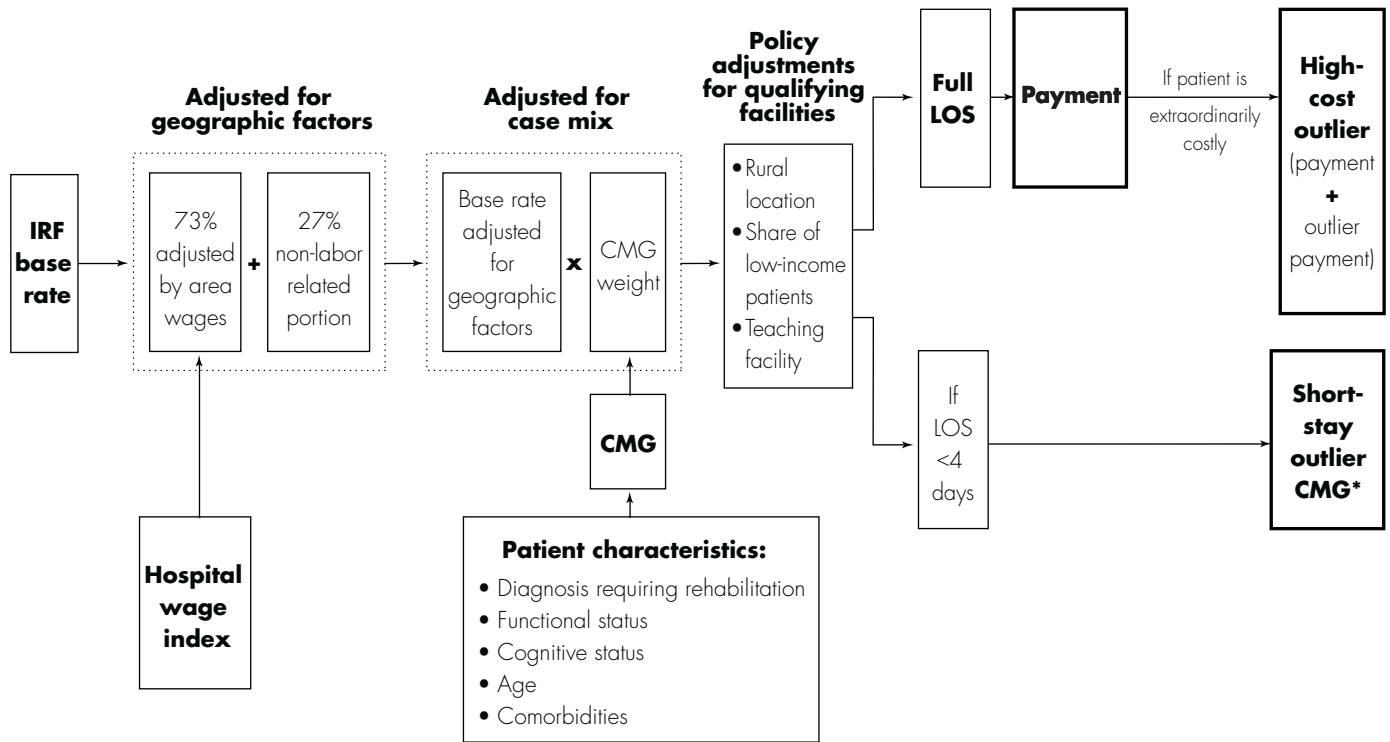
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Beginning in January 2002, Medicare pays inpatient rehabilitation facilities predetermined per discharge rates based primarily on patient characteristics, the facility's wage index, and facility characteristics. Before January 2002, Medicare paid IRFs under the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA), on the basis of their average costs per discharge, up to an annually adjusted facility-specific limit. As of 2004, these facilities are paid entirely at prospective payment system (PPS) rates.

The inpatient rehabilitation facility PPS bases payment on discharges. Patients are assigned to one of more than 300 case-mix groups (CMGs) based on their characteristics—a diagnosis that requires rehabilitation, functional status, cognitive status, age, and comorbidities—as recorded in the IRF patient assessment instrument. To calculate a rate, the base rate (\$12,762 for fiscal year 2006) is geographically adjusted by the facility's area wage index (Figure 4D-3, p. 232). This geographically adjusted base rate is then adjusted for case mix—multiplied by the relative weight for the CMG—to create the payment rate. Weights range from 0.4596 to 3.4784 for fiscal year 2006 payments. For an IRF with a wage index of 1.0, rates range from \$5,868 to \$44,409. Payments are also increased for facilities in rural areas, teaching institutions, and for the proportion of low-income patients treated. IRFs receive additional payments for patients that are high-cost outliers. Medicare pays inpatient rehabilitation facilities special lower rates for patients who have very short stays (fewer than four days) or who die in an IRF.

**FIGURE  
4D-3**

**Inpatient rehabilitation facility prospective payment system**



Note: IRF (inpatient rehabilitation facility), CMG (case-mix group), LOS (length of stay).  
\*IRFs with a wage index of 1.0 are paid \$2,809 for short-stay outliers.

**Are Medicare payments adequate in 2006?**

We examine the following factors for changes that can be attributed to the adequacy of Medicare payments to IRFs:

- access to care
- supply of facilities
- volume of services
- quality
- access to capital
- payments and costs

Our indicators of payment adequacy are generally positive although we have no standard with which to directly assess beneficiaries' access to IRF care. Our most recent data show inpatient rehabilitation facilities entering the Medicare program. The volume of discharges and the

number of beneficiaries using these facilities increased until 2004, with the volume of cases decreasing in 2005. IRFs also appear to have good access to capital. IRFs' Medicare margins were 16.3 percent in 2004 and we estimate 2006 margins to be 9.2 percent under the Deficit Reduction Act of 2005. Overall, our analysis finds payments for inpatient rehabilitation facilities are more than adequate.

**Changes in access to care**

Unlike for home health care or physicians, we have no direct indicators of beneficiaries' access to IRF care. Our analysis is complicated because IRFs provide a specialized service. Clinical appropriateness—who needs intensive rehabilitation in an inpatient setting—is an issue because rehabilitation can be provided less expensively in other settings.

Beneficiaries' use of IRFs grew until the new 75 percent rule was implemented. However, the industry now is going through a major change in the patients they see. In the first

**TABLE  
4D-1****Change in types of cases in inpatient rehabilitation facilities**

Type of case	2004 cases	Difference in cases, 2005 v. 2004	Percentage change
Nontraumatic brain injury	5,662	938	16.6%
Neurological	12,200	588	4.8
Traumatic brain injury	3,818	434	11.4
Burns	182	2	1.1
Guillain-Barré	345	-16	-4.6
Multiple major trauma with brain or spinal cord injury	528	-39	-7.4
Traumatic spinal cord injury	1,378	-51	-3.7
Amputation, upper extremity	647	-251	-38.8
Amputation, lower extremity	6,578	-516	-7.8
Multiple major trauma no brain or spinal cord injury	2,762	-717	-26.0
Nontraumatic spinal cord injury	8,984	-724	-8.1
Stroke	41,793	-780	-1.9
Hip fracture	32,629	-938	-2.9
Rheumatoid arthritis	2,655	-1,007	-37.9
Pain syndrome	4,925	-1,488	-38.2
Pulmonary	5,896	-1,667	-28.3
Other orthopedic	13,007	-1,786	-13.7
Osteoarthritis	4,879	-2,941	-60.3
Cardiac	14,072	-4,126	-29.3
Miscellaneous	32,077	-8,096	-25.2
Joint replacement	61,563	-13,439	-21.8
Total	256,580	-36,620	-14.3

Note: Cases are defined by case-mix group.

Source: MedPAC analysis of Inpatient Rehabilitation Facility–Patient Assessment Instrument data from CMS.

year of the new rule, volume fell.<sup>5</sup> This drop in volume may not indicate an access problem if patients who need IRF-level care are still getting it. However, we are unable to judge this.

CMS's intention in changing the 75 percent rule was to narrow the categories considered to be appropriate for IRFs. The effect was to reduce the number of cases. IRF admissions of patients with joint replacements decreased by 22 percent in 2005 (Table 4D-1).

### Changes in supply of facilities

We examined growth in the supply of inpatient rehabilitation facilities before (2000–2001) and after the implementation of the PPS (2002–2004). The number of IRFs rose more slowly following PPS implementation than in the years before the prospective payment system

under TEFRA (Table 4D-2, p. 234). This slower growth after the PPS applies to all types of IRFs, whether they are freestanding, hospital-based, or located in urban or rural areas.

The number of for-profit and government-owned IRFs also rose more slowly after the PPS than before its implementation. Nonprofit IRFs grew at a slower pace and the pattern of growth was different from for-profit and government-owned inpatient rehabilitation facilities: The number of nonprofit IRFs did not increase from 2000 to 2001, and rose at 1 percent after the PPS. In contrast, for-profit IRFs grew at 13 percent under TEFRA and 3 percent after the PPS.

**TABLE  
4D-2**

**The number of all types of inpatient rehabilitation facilities has grown**

Type of IRF	TEFRA		PPS			Change 2000-2001	Annual change 2002-2004	Annual change 2000-2004
	2000	2001	2002	2003	2004			
All IRFs	1,117	1,157	1,188	1,211	1,227	4%	2%	2%
Urban	950	971	988	1,001	1,009	2	1	2
Rural	167	186	200	210	218	11	4	7
Freestanding	195	214	215	215	217	10	0	3
Hospital-based	922	943	973	996	1,010	2	2	2
Nonprofit	731	733	755	765	772	0	1	1
For profit	240	271	277	290	294	13	3	5
Government	146	153	156	156	161	5	2	2

Note: IRF (inpatient rehabilitation facility), TEFRA (Tax Equity and Fiscal Responsibility Act of 1982), PPS (prospective payment system).

Source: MedPAC analysis of Provider of Service information from CMS.

**Changes in the volume of services**

Trends in volume that began before implementation of the PPS tended to persist after the PPS implementation. However, the change in the 75 percent rule seems to have stopped these trends. The average length of stay (ALOS) was decreasing before the PPS was implemented in 2002 (Table 4D-3). The ALOS continued to go down (albeit at a slower rate) from 2002 to 2004. Preliminary evidence for 2005, not shown in the table, indicates that length of stay rose to 13.8 days, about 3 percent, due to a change in patient mix resulting from the new 75 percent rule and consistent with less intensive patients receiving rehabilitation elsewhere. Patients with one of the conditions listed in the rule have a much higher case-mix index compared with patients without a condition listed in the rule (1.34 versus 0.93).

The number of Medicare admissions to inpatient rehabilitation facilities increased by 8 percent under TEFRA between 2000 and 2001. Medicare admissions grew more slowly from 2002 to 2004, following PPS implementation—6 percent per year. Preliminary evidence for 2005 suggests that the number of Medicare discharges decreased an estimated 9 percent (eRehabData® 2005) to 14 percent (MedPAC analysis of IRF–Patient Assessment Instrument (IRF–PAI) data) after the new 75 percent rule phase-in began (not shown in Table 4D-3).<sup>6</sup>

IRFs have increased admissions of beneficiaries with some specified conditions considered compliant with

the listing of conditions in the 75 percent rule, such as traumatic and nontraumatic brain injury, and reduced admissions of beneficiaries who have other conditions considered compliant (Table 4D-1, p. 233). During the first half of 2005, compared with the same period in 2004 (before the rule changed), the number of beneficiaries with amputations of upper extremities admitted to IRFs decreased about 39 percent, and the number of patients with multiple major trauma (no brain or spinal cord injury) decreased about 26 percent. These latter declines are unexpected. The reason for the reductions in admissions of cases still compliant with the 75 percent rule is unclear. The new CMS list of compliant ICD–9–CM codes may have been a contributor or acute care hospitals and IRFs may have misunderstood the new 75 percent rule. Nevertheless, decreases in patients with apparently compliant conditions raise questions, suggesting a need for more research and monitoring.

**Change in quality**

Our indicators of the quality of care provided by IRFs under the PPS show little change. To assess changes, we use a measure commonly tracked by the industry: the difference between discharge and admission scores for the commonly used Functional Independence Measure (FIM™), incorporated in the IRF–PAI. The 18-item FIM™ measures level of disability in physical and cognitive functioning and burden of care for patients’ caregivers (Deutsch et al. 2005). Scores for each item



**TABLE  
4D-3**

**Volume of cases and Medicare spending increased under the IRF prospective payment system**

	TEFRA			PPS			Average annual change 2002-2004
	2000	2001	Change 2000-2001	2002	2003	2004	
Number of cases	384,207	415,579	8%	438,631	478,723	496,695	6%
Medicare spending	\$3.6 billion	\$3.7 billion	3	\$4.5 billion	\$5.7 billion	\$6.0 billion	15
Payment per case	\$10,312	\$9,982	-3	\$11,152	\$12,952	\$13,275	9
Length of stay (in days)	14.6	14.0	-4	13.3	12.8	12.7	-2

Note: IRF (inpatient rehabilitation facility), TEFRA (Tax Equity and Fiscal Responsibility Act of 1982), PPS (prospective payment system).

Source: MedPAC analysis of MedPAR data from CMS.

range from one (independence) to seven (complete dependence). The actual differences in scores are less important in this case than whether the items are stable, increasing (indicating improvement), or decreasing (indicating deterioration). To compare quality on a national basis, we use the average difference in FIM™ at discharge versus admission for Medicare patients in two ways (Figure 4D-4):

- for all Medicare patients treated in an IRF, and
- for Medicare patients discharged home from an IRF.<sup>7</sup>

We find that differences are stable from 2002 to 2004, suggesting that quality has not deteriorated under the PPS.

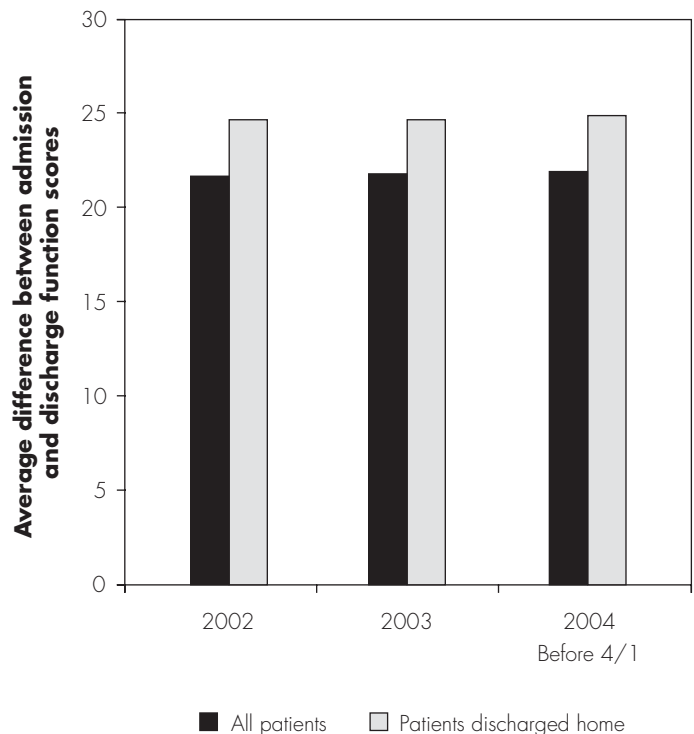
We use a summary score for comparing functional improvement. In the future, the Commission and CMS might want to investigate whether using more detail to compare admission and discharge function scores might provide more information about quality of care. For example, comparing scores by case-mix group may be another way of examining the quality of IRF care.

CMS also has begun a process to develop outcomes measures from the IRF-PAIs. A forthcoming CMS report will:

- review the literature,
- consider the appropriateness of existing measures,

**FIGURE  
4D-4**

**IRF patients' improvement in function has remained stable**

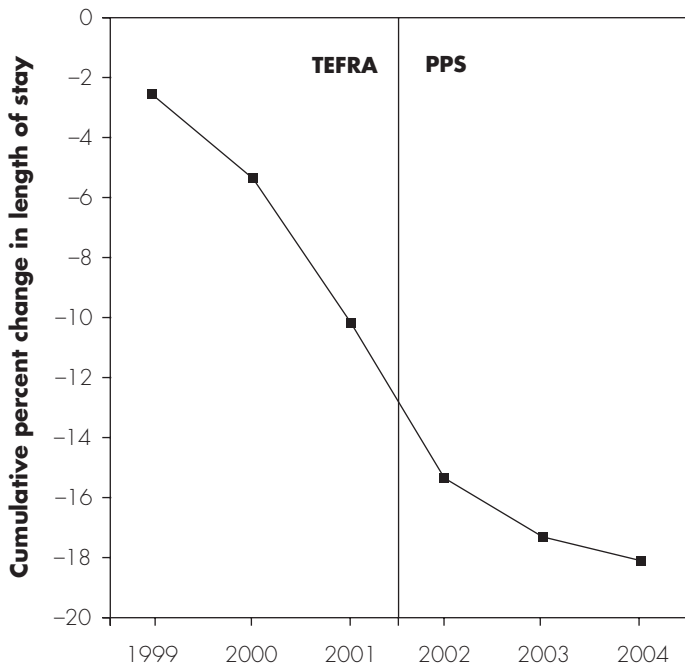


Note: IRF (inpatient rehabilitation facility).

Source: MedPAC analysis of Inpatient Rehabilitation Facility-Patient Assessment Instrument data from CMS.

**FIGURE 4D-5**

**IRFs' length of stay has declined**



Note: IRF (inpatient rehabilitation facility), TEFRA (Tax Equity and Fiscal Responsibility Act of 1982), PPS (prospective payment system).

Source: MedPAC analysis of cost report data from CMS.

- assess the completeness of voluntary IRF-PAI items,
- report the results from a pilot test of items in nine IRFs,
- model risk adjustment for the measures, and
- recommend next steps.

The Commission will monitor the agency's work and consider including any measures CMS develops among our measures of quality.

**IRFs' access to capital**

IRFs appear to have adequate access to capital. Four out of five IRFs are hospital-based units and have access to capital through their parent institution. Because acute hospitals generally have good access to capital, we expect that their IRF units do as well. (See discussion of hospitals' access to capital in chapter 2A.)

Capital appears to be available for freestanding IRFs as well. For example, a new company has obtained \$40

million in private equity funding and announced plans to build 36 IRFs throughout the western states over the next 5 years, starting in cities that currently have no IRFs (*New Mexico Business Weekly* 2004).

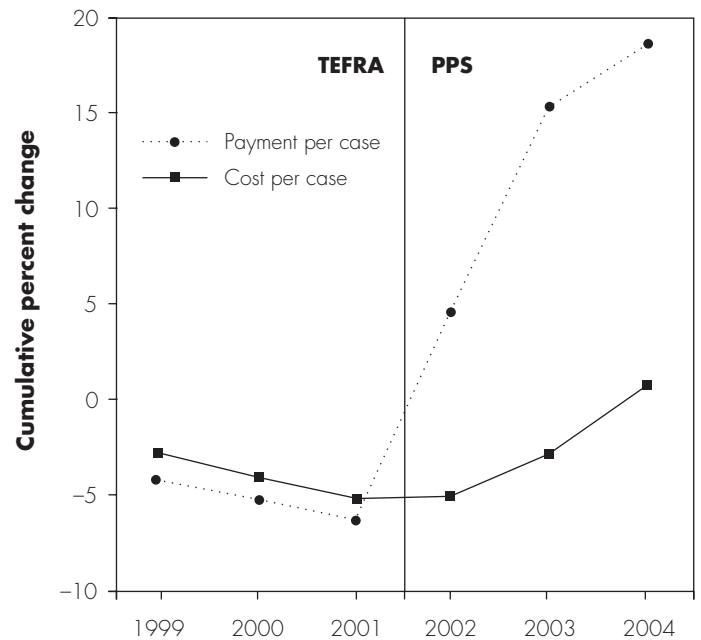
A large chain that owns one-third of the freestanding IRFs may represent a special situation with respect to access to capital because of lawsuits over accounting issues (*Birmingham Business Journal* 2004). This company was headed toward bankruptcy but was able to avoid filing for bankruptcy. It reported restated financial figures for 2001 to 2003 showing positive cash flow and growth in revenue from \$1.5 billion in 2001 to \$2 billion in 2003 for a consistent group of its IRFs (HealthSouth 2005). These positive changes appear to be a result of the IRF PPS. Recently, some stock market analysts have recommended buying the chain's stock (Stifel Nicolaus 2005), which also suggests that freestanding IRFs have access to capital.

**Payments and costs**

The last component of our update framework examines changes in payments and costs. We find that payments

**FIGURE 4D-6**

**Payments have risen faster than costs, post-PPS**



Note: TEFRA (Tax Equity and Fiscal Responsibility Act of 1982), PPS (prospective payment system).

Source: MedPAC analysis of cost report data from CMS.

**TABLE  
4D-4****Inpatient rehabilitation facilities' Medicare margins, by group, 1998-2004**

IRF group	TEFRA				PPS		
	1998	1999	2000	2001	2002	2003	2004
All IRFs	2.9%	1.1%	1.3%	1.5%	11.1%	17.7%	16.3%
Urban	2.9	1.1	1.3	1.5	11.7	18.4	16.9
Rural	2.5	0.9	1.0	1.1	4.6	10.3	10.6
Freestanding	3.3	1.2	1.2	1.5	18.2	23.0	24.2
Hospital-based	2.6	1.1	1.3	1.4	6.7	14.6	12.0
Nonprofit	2.8	1.2	1.5	1.6	6.7	14.3	12.6
For profit	3.1	1.0	0.9	1.3	19.3	24.2	24.4
Government	2.5	0.8	1.2	1.5	1.0	9.5	8.6

Note: IRF (inpatient rehabilitation facility), TEFRA (Tax Equity and Fiscal Responsibility Act of 1982), PPS (prospective payment system).

Source: MedPAC analysis of cost report data from CMS.

and costs increased rapidly following implementation of the PPS, from 2002 to 2004. Total Medicare spending increased more quickly post-PPS than it had before—15 percent versus 3 percent. Payment per case increased after PPS implementation by 9 percent per year, compared with a decrease of 3 percent pre-PPS.

### Changes in costs per case, 1998-2004

Reductions in lengths of stay generally are associated with decreases in costs per case. From 1998 to 2004 IRFs reduced average lengths of stay for Medicare patients every year (Figure 4D-5). The length of stay declines, however, slowed somewhat after PPS implementation in 2002.

From 1999 to 2001, Medicare reduced payments to IRFs. During the same period, IRFs reduced their costs per case, consistent with the incentives of the TEFRA payment system which paid bonuses to facilities with costs below their limits (Figure 4D-6). With the introduction of PPS, however, we saw a dramatic increase in payments per case—more than 10 percent per year in 2002 and 2003—as facilities transitioned into the IRF PPS. Along with this rapid rise in payments came an increase in costs per case that appears to have lagged the increase in payments by one year; costs increased 2.4 percent in 2003 and 3.6

percent in 2004, about the level of increase in input prices for 2004. Although costs accelerated, payments have far outpaced cost growth. The increases in payments in 2002 to 2004 led to a rapid rise in Medicare margins for IRFs.

### Medicare margins 1998-2004

We calculate an aggregate Medicare margin for IRFs for 2004 based on actual data which predate the change in the 75 percent rule. The margin is the difference between Medicare payments and costs, as a percentage of Medicare payments to IRFs. Conceptually, this margin represents profit or the percentage of revenue the providers keep.

IRFs' Medicare margin under TEFRA ranged from 2.9 percent in 1998 to 1.5 percent in 2001 (Table 4D-4). After the PPS was implemented in 2002, we see rapid increases in margins for all IRFs. Freestanding facilities and for-profit IRFs have particularly high margins, over 20 percent.

Some questions about the accuracy of the cost data have been raised. A chain that represents a large part of the IRF industry has had some data issues that could affect the margins for the industry.<sup>8</sup> If this chain's margins were excluded from our calculation, the aggregate IRF margin in 2004 would be about 3 percentage points lower.

## Medicare margins for 2006

To project the Medicare margin for 2006, we incorporate policy changes that went into effect between 2004—the year of our most recent data—and 2006, as well as policies (other than the update) scheduled to be in effect in 2007. This method allows us to consider whether current payments would have been adequate under all applicable provisions of current law that IRFs will face in 2007. The policies include:

- for fiscal year 2005, a market basket increase of 3.1 percent;
- for fiscal year 2006, a market basket increase of 3.6 percent, a 1.8 percent increase for change in the outlier policy, and a 1.9 percent decrease in payments to account for coding improvement, for a net increase of 3.4 percent; and
- for 2005 to 2007, the effect of the 75 percent rule.

The policy with the biggest impact on the projected margin over this period is the phase-in of the revised 75 percent rule, modified by the Deficit Reduction Act of 2005, which for IRFs with cost reporting periods beginning on or after July 1, 2006 through June 30, 2007 will require that 60 percent of cases in IRFs must be compliant (the text box describes our methods for accounting for the rule's effect on margins). Taking account of these assumptions, Medicare margins are projected to drop from 16.3 percent in 2004 to 9.2 percent in 2006. If we used less conservative assumptions about volume and cost changes, the Medicare margin could be 3 percentage points higher; with more conservative assumptions, the margin would be 2 percentage points lower.

## How should Medicare payments change in 2007?

For IRFs, the update in current law for 2007 is a full market basket update. CMS's latest forecast of the market basket for 2007 is 3.4 percent. However, evidence from the indicators we have examined suggests that IRFs can accommodate the cost of caring for Medicare beneficiaries in 2007 without an increase in the base rate.

## Update recommendation

Payments to IRFs are more than adequate to cover increases in costs so no update to payments for fiscal year 2007 is needed.

### RECOMMENDATION 4 D

**The Congress should eliminate the update to payment rates for inpatient rehabilitation facility services for fiscal year 2007.**

### RATIONALE 4 D

The evidence on payment adequacy is generally positive. Until the new 75 percent rule was implemented in 2005, inpatient rehabilitation facilities were entering the Medicare program, maintained a steady quality of care provided to beneficiaries, and had good access to capital. The trends in volume of patients have clearly changed in 2005 but we are unable to judge whether the volume decrease is affecting beneficiaries' access to appropriate care. The Medicare margin for 2006 is estimated to be 9.2 percent under the Deficit Reduction Act of 2005.

### IMPLICATIONS 4 D

#### Spending

- This recommendation decreases federal program spending relative to current law by between \$50 million and \$200 million in one year and less than \$1 billion over five years.

#### Beneficiary and provider

- We do not expect this recommendation to affect providers' ability to provide care to Medicare beneficiaries. ■

## Modeling the impact of the revised 75 percent rule

Medicare margins for inpatient rehabilitation facilities (IRFs) are expected to drop, as IRFs reduce the number of patients they treat in order to maintain compliance with the revised 75 percent rule as it phases in. IRFs have a strong incentive to remain compliant because otherwise they will be paid under the acute inpatient prospective payment system (PPS) rather than under the IRF PPS. The 75 percent rule requires that a specific percentage of patients have one or more of the conditions that CMS has determined require intensive therapy. As modified by the Deficit Reduction Act of 2005, that percentage is 50 for cost report periods that begin between July 2004 and June 2005, 60 for periods that begin July 2005 through June 2007, 65 for periods beginning July 2007, and 75 for periods beginning July 2008.

As discussed above, IRFs have reduced the number of Medicare cases they treat by an estimated 9 percent (eRehabData<sup>®</sup> 2005) to 14 percent (based on MedPAC's analysis of IRF–Patient Assessment Instrument (IRF–PAI) data) in 2005 while remaining compliant with the 50 percent standard. Based on analysis, we assume that facilities would need to lower patient volume by as much as 25 percent total to comply with the 60 percent standard in 2007 if additional

patients with qualifying conditions are not admitted (eRehabData<sup>®</sup> 2005). To be conservative in our estimate of the margin, we have assumed that no such additional patients will be admitted. Arguably, IRFs will have strong incentives to replace lost patients.

We expect IRFs' costs per case to rise in 2007 as facilities spread total costs over fewer patients. Although the cases that comply with the new 75 percent rule have a much higher case-mix index and thus are costlier than cases not on the list of specified diagnoses, we expect payments to generally match the higher costs that result from the higher case mix. However, IRFs will have to spread overhead costs over fewer cases and may not be able to completely adjust their direct patient care costs to reflect the reduced volume.

The net result, based on our assumptions, is that the Medicare margin will drop from 16.3 percent in 2004 to an estimated 9.2 percent in 2006. If discharge volume were to drop by only 20 percent instead of 25 percent, the Medicare margin estimate for 2006 would be 2 to 3 percentage points higher. If, on the other hand, facilities were unable to lower their overhead costs in response to the drop in patient volume, the Medicare margin could be 2 percentage points lower. ■

## Endnotes

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- 1 Medical directors for hospital-based units need to be at least half-time.
- 2 The Health Care Financing Administration (HCFA) was the agency that administered Medicare and the predecessor to CMS.
- 3 Declassified IRFs that are units in critical access hospitals (CAHs) would be paid CAH rates, which are 101 percent of costs.
- 4 Facilities establish their own cost reporting periods that are similar to their fiscal years.
- 5 CMS believes that part of the decrease in cases in 2005 resulted from fiscal intermediaries' local coverage decisions.
- 6 We use estimates from eRehabData<sup>®</sup>, an organization that transmits about 20 percent of IRF-PAIs to CMS. To determine whether data from this source are representative of the nation, we compared the distribution of IRF-PAIs among rehabilitation impairment categories (e.g., stroke) with the distribution from the Uniform Data System. We found the distributions to be very similar. In addition, we present a range of estimates of the decline in the number of IRF patients, one from eRehabData<sup>®</sup> and another from our own estimate based on 100 percent of IRF-PAIs for the first half of 2004 and 2005.
- 7 CMS changed the instructions for assessing functioning at discharge, effective April 1, 2004. Before this date, recording of patients' scores reflected their lowest functioning in the three days before discharge. Afterwards, patients' scores reflected functioning at discharge. The differences (discharge versus admission) increased after the change in April 2004 to 22.95 for all patients and 25.87 for patients discharged home.
- 8 Our Medicare margin estimates include data for HealthSouth, the largest chain of for-profit freestanding IRF facilities in the country, accounting for one-third of freestanding IRFs and one-sixth of total Medicare revenues in this sector. Our margin estimates for 2002 and 2003 include adjustments for missing depreciation and home office expense costs that were not claimed on the Medicare cost reports HealthSouth submitted to CMS. In 2004, problems potentially have persisted with these two sets of costs. Most of Medicare allowable depreciation expenses have not been claimed, as the company has had to restate the value of depreciable assets, a process that has not yet been completed. In addition, Medicare-allowable home office expenses have also likely been understated in 2004 reports, as the company has been guarded in how much of these expenses it has claimed as it has dealt with the aftermath of its accounting scandal.

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A P P E N D I X

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**Commissioners' voting  
on recommendations**

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## Commissioners' voting on recommendations

In the Medicare, Medicaid and SCHIP Benefits Improvement and Protection Act of 2000, the Congress required MedPAC to call for individual Commissioner votes on each recommendation, and to document the voting record in its report. The information below satisfies that mandate.

### Chapter 1: Context for Medicare payment policy

No recommendations

### Chapter 2: Assessing payment adequacy and updating payments in fee-for-service Medicare

#### Section 2A: Hospital inpatient and outpatient services

The Congress should increase payment rates for the acute inpatient and outpatient prospective payment systems in 2007 by the projected increase in the hospital market basket index less half of the Commission's expectation for productivity growth.

*Yes:* Bertko, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Hansen, Kane, Muller, Nelson, Reischauer, Scanlon, Smith, Stowers, Wolter

*Absent:* Burke, Milstein

#### Section 2B: Physician services

The Congress should update payments for physician services in 2007 by the projected change in input prices less the Commission's expectation for productivity growth.

*Yes:* Bertko, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Hansen, Kane, Muller, Nelson, Reischauer, Scanlon, Smith, Stowers, Wolter

*Absent:* Burke, Milstein

## Section 2C: Outpatient dialysis services

**2C-1** The Congress should update the composite rate in calendar year 2007 by the projected rate of increase in the end-stage renal disease market basket index less half the Commission's expectation for productivity growth.

*Yes: Bertko, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Hansen, Kane, Muller, Nelson, Reischauer, Scanlon, Smith, Stowers, Wolter*

*Absent: Burke, Milstein*

**2C-2** The Congress should direct the Secretary to: eliminate differences in paying for composite rate services between hospital-based and freestanding dialysis facilities; and combine the base composite rate and the add-on adjustment.

*Yes: Bertko, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Hansen, Kane, Muller, Nelson, Reischauer, Scanlon, Smith, Stowers, Wolter*

*Absent: Burke, Milstein*

## Chapter 3: Reviewing the work relative values of physician fee schedule services

**3-1** The Secretary should establish a standing panel of experts to help CMS identify overvalued services and to review recommendations from the RUC. The group should include members with expertise in health economics and physician payment, as well as members with clinical expertise. The Congress and the Secretary should ensure that this panel has the resources it needs to collect data and develop evidence.

*Yes: Bertko, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Hansen, Kane, Muller, Nelson, Reischauer, Scanlon, Smith, Stowers, Wolter*

*Absent: Burke, Milstein*

**3-2** The Secretary, in consultation with the expert panel, should initiate the five-year review of services that have experienced substantial changes in length of stay, site of service, volume, practice expense, and other factors that may indicate changes in physician work.

*Yes: Bertko, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Hansen, Kane, Muller, Nelson, Reischauer, Scanlon, Smith, Stowers, Wolter*

*Absent: Burke, Milstein*

**3-3** In consultation with the expert panel, the Secretary should identify new services likely to experience reductions in value. Those services should be referred to the RUC and reviewed in a time period as specified by the Secretary.

*Yes: Bertko, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Hansen, Kane, Muller, Nelson, Reischauer, Scanlon, Smith, Stowers, Wolter*

*Absent: Burke, Milstein*

**3-4** To ensure the validity of the physician fee schedule, the Secretary should review all services periodically.

*Yes: Bertko, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Hansen, Kane, Muller, Nelson, Reischauer, Scanlon, Smith, Stowers, Wolter*

*Absent: Burke, Milstein*

## Chapter 4: Post-acute care providers

### Section 4A: Skilled nursing facility services

**4A-1** The Congress should eliminate the update to payment rates for skilled nursing facility services for fiscal year 2007.

*Yes:* Bertko, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Hansen, Kane, Muller, Nelson, Reischauer, Scanlon, Smith, Stowers, Wolter

*Absent:* Burke, Milstein

**4A-2** The Secretary should modify the PPS for skilled nursing facilities to more accurately capture the cost of providing care to different types of patients. This new system should:

- reflect clinically relevant categories of patients;
- more accurately distribute payments for nontherapy ancillary services;
- improve incentives to provide rehabilitation services based on the need for therapy; and
- be based on more contemporary, representative data than the current system based on time study data from 1990, 1995, and 1997.

*Yes:* Bertko, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Hansen, Kane, Muller, Nelson, Reischauer, Scanlon, Smith, Stowers, Wolter

*Absent:* Burke, Milstein

**4A-3** To improve quality measurement, the Secretary should:

- collect information on activities of daily living at admission and at discharge;
- develop and use more quality indicators, including process measures, specific to short-stay patients in skilled nursing facilities; and
- put a high priority on developing appropriate quality measures for pay for performance.

*Yes:* Bertko, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Hansen, Kane, Muller, Nelson, Reischauer, Scanlon, Smith, Stowers, Wolter

*Absent:* Burke, Milstein

### Section 4B: Home health services

The Congress should eliminate the update to payment rates for home health care services for calendar year 2007.

*Yes:* Bertko, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Hansen, Kane, Muller, Nelson, Reischauer, Scanlon, Smith, Stowers, Wolter

*Absent:* Burke, Milstein

### **Section 4C: Long-term care hospital services**

The Congress should eliminate the update to payment rates for long-term care hospital services for 2007.

*Yes: Bertko, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Hansen, Kane, Muller, Nelson, Reischauer, Scanlon, Smith, Stowers, Wolter*

*Absent: Burke, Milstein*

### **Section 4D: Inpatient rehabilitation facility services**

The Congress should eliminate the update to payment rates for inpatient rehabilitation facility services for fiscal year 2007.

*Yes: Bertko, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Hansen, Kane, Muller, Nelson, Reischauer, Scanlon, Smith, Stowers, Wolter*

*Absent: Burke, Milstein*

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# **Acronyms**

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## Acronyms

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<b>AAP</b>	average acquisition payment	<b>ER</b>	emergency room
<b>ACE</b>	angiotensin-converting enzyme	<b>ESRD</b>	end-stage renal disease
<b>ACE-PRO</b>	Access to Care for the Elderly Project	<b>FDL</b>	fixed dollar loss
<b>ADA</b>	American Diabetes Association	<b>FFS</b>	fee-for-service
<b>ADL</b>	activity of daily living	<b>FIM™</b>	Functional Independence Measure™
<b>AHA</b>	American Heart Association	<b>GAO</b>	Government Accountability Office
<b>AHRQ</b>	Agency for Healthcare Research and Quality	<b>GDP</b>	gross domestic product
<b>ALOS</b>	average length of stay	<b>GI</b>	gastrointestinal
<b>AMA</b>	American Medical Association	<b>GP</b>	general practitioner
<b>APC</b>	ambulatory payment classification	<b>GPCI</b>	geographic practice cost index
<b>APR-DRG</b>	all patient refined diagnosis related group	<b>HCA</b>	Hospital Corporation of America
<b>ASP</b>	average sales price	<b>HCFA</b>	Health Care Financing Administration
<b>AV</b>	arteriovenous	<b>HCFA-10</b>	Health Care Financing Administration-10
<b>AWP</b>	average wholesale price	<b>HCPCS</b>	Healthcare Common Procedure Coding System
<b>BBA</b>	Balanced Budget Act of 1997	<b>HHA</b>	home health agency
<b>BIPA</b>	Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000	<b>HI</b>	Hospital Insurance (Medicare Part A)
<b>CABG</b>	coronary artery bypass graft	<b>HMO</b>	health maintenance organization
<b>CAD</b>	coronary artery disease	<b>HSA</b>	health savings account
<b>CAH</b>	critical access hospital	<b>HSC</b>	Center for Studying Health System Change
<b>CAHPS</b>	Consumer Assessment of Health Plans Survey	<b>HTN</b>	hypertension
<b>CAHPS-FFS</b>	Consumer Assessment of Health Plans Survey for Medicare fee-for-service	<b>HUD</b>	Department of Housing and Urban Development
<b>CAPD</b>	continuous ambulatory peritoneal dialysis	<b>HWH</b>	hospital within hospital
<b>CBO</b>	Congressional Budget Office	<b>ICD-9-CM</b>	International Classification of Diseases, Ninth Revision, Clinical Modification
<b>CC</b>	complication or comorbidity	<b>ICSI</b>	Institute for Clinical Systems Improvement
<b>CCPD</b>	continuous cycler-assisted peritoneal dialysis	<b>IME</b>	indirect medical education
<b>CHF</b>	congestive heart failure	<b>IOM</b>	Institute of Medicine
<b>CMG</b>	case-mix group	<b>IPPS</b>	inpatient prospective payment system
<b>CMI</b>	case-mix index	<b>IPS</b>	interim payment system
<b>CMS</b>	Centers for Medicare & Medicaid Services	<b>IRF</b>	inpatient rehabilitation facility
<b>COPD</b>	chronic obstructive pulmonary disease	<b>IRF-PAI</b>	Inpatient Rehabilitation Facility-Patient Assessment Instrument
<b>CPT</b>	Current Procedural Terminology	<b>IT</b>	information technology
<b>CT</b>	computed tomography	<b>LOS</b>	length of stay
<b>DME</b>	durable medical equipment	<b>LTC-DRG</b>	long-term care diagnosis related group
<b>DRA</b>	Deficit Reduction Act	<b>LTCH</b>	long-term care hospital
<b>DRG</b>	diagnosis related group	<b>LUPA</b>	low utilization payment adjustment
<b>DSH</b>	disproportionate share	<b>MA</b>	Medicare Advantage
<b>DVT</b>	deep vein thrombosis	<b>MACIE</b>	Medicare Ambulatory Care Indicators for the Elderly
<b>E&amp;M</b>	evaluation and management	<b>MDS</b>	Minimum Data Set
<b>EGHP</b>	employer group health plan	<b>MedPAC</b>	Medicare Payment Advisory Commission
<b>EKG</b>	electrocardiology	<b>MedPAR</b>	Medicare Provider Analysis and Review [file]

<b>MEI</b>	Medicare Economic Index	<b>PPS</b>	prospective payment system
<b>MMA</b>	Medicare Prescription Drug, Improvement, and Modernization Act of 2003	<b>ProPAC</b>	Prospective Payment Assessment Commission
<b>MRA</b>	magnetic resonance angiography	<b>PSI</b>	patient safety indicator
<b>MRI</b>	magnetic resonance imaging	<b>QALY</b>	quality-adjusted life year
<b>MSA</b>	metropolitan statistical area	<b>QIO</b>	quality improvement organization
<b>N/A</b>	not available	<b>RBRVS</b>	resource-based Relative Value Scale
<b>NAMCS</b>	National Ambulatory Medical Care Survey	<b>RUC</b>	Relative Value Scale Update Committee
<b>NCEP</b>	National Cholesterol Education Program	<b>RUG</b>	resource utilization group
<b>NCI</b>	National Cancer Institute	<b>RUG-III</b>	resource utilization group, version III
<b>NCQA</b>	National Committee for Quality Assurance	<b>RUG-44</b>	resource utilization group, 44-group model
<b>NHC</b>	Nursing Home Compare	<b>RUG-53</b>	resource utilization group, 53-group model
<b>NHQR</b>	National Health Quality Report	<b>RVU</b>	relative value unit
<b>NICE</b>	National Institute for Clinical Excellence (United Kingdom)	<b>S&amp;P</b>	Standard & Poor's
<b>NKF</b>	National Kidney Foundation	<b>SCH</b>	sole community hospital
<b>NTA</b>	nontherapy ancillary	<b>SCHIP</b>	State Children's Health Insurance Program
<b>OACT</b>	Office of the Actuary	<b>SCOD</b>	specified covered outpatient drugs
<b>OASIS</b>	Outcome and Assessment Information Set	<b>SCRIPT</b>	Study of Clinically Relevant Indicators of Pharmacologic Therapy
<b>OECD</b>	Organisation for Economic Cooperation and Development	<b>SGR</b>	sustainable growth rate
<b>OIG</b>	Office of Inspector General	<b>SLP</b>	speech language pathology
<b>OP</b>	outpatient	<b>SMI</b>	Supplementary Medical Insurance
<b>OSCAR</b>	Online Survey, Certification, and Reporting [system]	<b>SNF</b>	skilled nursing facility
<b>PAC</b>	post-acute care	<b>TBS</b>	Targeted Beneficiary Survey
<b>PE</b>	pulmonary embolism	<b>TEFRA</b>	Tax Equity and Fiscal Responsibility Act of 1982
<b>PLI</b>	professional liability insurance	<b>U.S.</b>	United States
<b>PPRC</b>	Physician Payment Review Commission	<b>USPSTF</b>	U.S. Preventive Services Task Force
<b>PPO</b>	preferred provider organization	<b>USRDS</b>	United States Renal Data System
		<b>VA</b>	Department of Veterans Affairs
		<b>VHA</b>	Veterans Health Administration
		<b>VNAA</b>	Visiting Nurse Associations of America

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## **More about MedPAC**

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**Sheila P. Burke, M.P.A., R.N., F.A.A.N.,** is the Smithsonian Institution's deputy secretary and chief operating officer. Before joining the Smithsonian, she was executive dean and lecturer in public policy at the John F. Kennedy School of Government, Harvard University, Cambridge. From 1986 to 1996, Ms. Burke was chief of staff for former Senate Majority Leader Bob Dole and was elected secretary of the Senate in 1995. She currently serves as the chair of the board of the Kaiser Family Foundation and is a member of the Kaiser Commission on Medicaid and the Uninsured, the American Board of Internal Medicine Foundation, WellPoint Health Networks, Chubb Insurance, and the University of San Francisco. She is a member of the National Academy of Public Administration and the Institute of Medicine (IOM) and chairs the IOM Committee on the Restructuring of the Food and Drug Administration. She is currently an adjunct lecturer in public policy at Harvard, a fellow of the Wiener Center, and an adjunct faculty member at Georgetown University. She has chaired the National Academy of Social Insurance's project on Restructuring Medicare for the Long Term. Ms. Burke holds a B.S. in nursing from the University of San Francisco and an M.P.A. from Harvard University.

**Francis J. Crosson, M.D.,** is executive director of the Permanente Federation of medical groups that make up the physician component of Kaiser Permanente. He also cochairs the Kaiser Permanente Partnership Group, the organization's management committee. He joined Kaiser Permanente in 1977. In 1988 he was appointed associate executive director of the Permanente Medical Group and

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**Autry O.V. "Pete" DeBusk** is chairman, chief executive officer, and founder of DeRoyal, a global supplier of medical products and services in the acute care, patient care, wound care, and original equipment manufacturing markets. Mr. DeBusk formed his first company in 1970 with a patent he received on an orthopedic product. In 1976 he consolidated his many product lines into one company, DeRoyal Industries. A member of several community organizations, Mr. DeBusk is also chairman of the Board of Trustees at Lincoln Memorial University in Harrogate, TN, as well as a founder of the Autry O.V. DeBusk facility, Boys and Girls Club, Powell, TN. As an innovative leader in the medical industry, he received a prestigious award from Duke University in 2000 recognizing his original contributions to orthopedic surgery. He received his B.S. degree from Lincoln Memorial University and attended graduate school at the University of Georgia.

**Nancy-Ann DeParle, J.D.,** is a senior adviser to JPMorgan Partners, LLC, and adjunct professor of health care systems at the Wharton School of the University of Pennsylvania. From 1997 to 2000, she served as administrator of the Health Care Financing Administration (HCFA), which is now the Centers for Medicare & Medicaid Services. Before joining HCFA, Ms. DeParle was associate director for health and personnel at the White House Office of Management and Budget. From 1987 to 1989, she served as the Tennessee Commissioner of Human Services. She has also worked as a lawyer in private practice in Nashville, TN, and Washington, DC. She is a trustee of the Robert Wood Johnson Foundation and a board member of Cerner Corporation, DaVita, Guidant Corporation, Triad Hospitals, and the National Quality Forum. Ms. DeParle received a B.A. degree from the University of Tennessee; B.A. and M.A. degrees from

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**David F. Durenberger, J.D.**, is president of Policy Insight, LLC; senior health policy fellow at the University of St. Thomas in Minneapolis, MN; and chairman of the National Institute of Health Policy. He is also president of the Medical Technology Leadership Forum, and a member of the Kaiser Foundation Commission on Medicaid and the Uninsured, the Board of the National Committee for Quality Assurance, and the National Commission for Quality Long-Term Care. From 1978 to 1995, he served as the senior U.S. Senator from Minnesota, as a member of the Senate Finance Committee, and chairman of its health subcommittee. He was a member of the Senate Environment Committee; the Government Affairs Committee; and the committee now known as the Health, Education, Labor, and Pensions Committee. He chaired the Senate Select Committee on Intelligence. Senator Durenberger is a graduate of St. John's University, received his J.D. degree from the University of Minnesota, and served as an officer in the U.S. Army.

**Glenn M. Hackbarth, J.D.**, chairman of the Commission, lives in Bend, OR. He has experience as a health care executive, government official, and policy analyst. He was chief executive officer and one of the founders of Harvard Vanguard Medical Associates, a multispecialty group practice in Boston that serves as a major teaching affiliate of Harvard Medical School. Mr. Hackbarth previously served as senior vice president of Harvard Community Health Plan. From 1981 to 1988, he held positions at the U.S. Department of Health and Human Services, including deputy administrator of the Health Care Financing Administration. Mr. Hackbarth received his B.A. from Pennsylvania State University and his M.A. and J.D. from Duke University.

**Jennie Chin Hansen, R.N., M.S.N., F.A.A.N.**, of San Francisco is a member of the AARP Board of Directors; a senior fellow at the University of California, San Francisco, chairing the Integrated Nurse Leadership Project; and a part-time nursing faculty member at San Francisco State University. Ms. Hansen was executive director of On Lok Senior Health Services, the prototype for the Program of All-Inclusive Care for the Elderly (PACE). She has practiced nursing in both urban and rural settings and taught in undergraduate programs. She currently serves in leadership roles with the AARP Foundation, the Agency for Healthcare Research and

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**Nancy M. Kane, D.B.A.**, is professor of management in the Department of Health Policy and Management at the Harvard School of Public Health. Dr. Kane directs the Masters in Healthcare Management Program, an executive leadership program for mid-career physicians leading healthcare organizations. She has taught health care accounting, payment systems, financial analysis, and competitive strategy. Her research interests include measuring hospital financial performance, quantifying community benefits and the value of tax exemption, the competitive structure and performance of hospital and insurance industries, and nonprofit hospital governance. Professor Kane consults with federal and state agencies involved in health system design, oversight, and payment. She is an outside director of the Urban Medical Group, a nonprofit physician group practice providing care to frail elderly in institutional and home settings. Prior to obtaining her business training, she practiced as a hospital-based physical therapist. Dr. Kane earned her Masters and Doctor of Business Administration degrees from Harvard Business School.

**Arnold Milstein, M.D., M.P.H.**, is medical director of the Pacific Business Group on Health (PBGH) and U.S. health care thought leader at Mercer Human Resource Consulting. PBGH is the largest employer health care purchasing coalition in the United States. Dr. Milstein focuses on health care purchasing strategy, clinical performance measurement, and the psychology of clinical performance improvement. He cofounded both the Leapfrog Group and the Consumer-Purchaser Disclosure Project, and heads performance measurement activities for both initiatives. Previously a Rosenthal Lecturer at the Institute of Medicine, the *New England Journal of Medicine* described Dr. Milstein as a "pioneer" in efforts to advance quality of care. In 2004 and 2005, World-at-Work, the largest global organization of human resource managers, awarded him its highest annual award, and the National Business Group on Health recognized him



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**Ralph W. Muller, M.A.**, is chief executive officer of the University of Pennsylvania Health System, one of the largest academic health systems in the country. Most recently he served as managing director of Stockamp & Associates, a hospital consulting firm, and as a visiting fellow at the King's Fund in London. From 1985 to 2001, he was president and chief executive officer of the University of Chicago Hospitals and Health Systems (UCHHS). Before joining the hospital, he held senior positions with the Commonwealth of Massachusetts, including deputy commissioner of the Department of Public Welfare. Mr. Muller is past chairman of the Association of American Medical Colleges, past chairman of the Council of Teaching Hospitals and Health Systems, and past vice chairman of the University Health System Consortium. He is past chairman of the National Opinion Research Center, a social service research organization, and serves on the board of the National Committee for Quality Assurance. Mr. Muller received his B.A. in economics from Syracuse University and his M.A. in government from Harvard University.

**Alan R. Nelson, M.D.**, is an internist-endocrinologist who was in private practice in Salt Lake City until he became chief executive officer of the American Society of Internal Medicine (ASIM) in 1992. After the merger of ASIM with the American College of Physicians (ACP) in 1998, Dr. Nelson headed the Washington office of ACP-ASIM until his semi-retirement in January 2000 and now serves as special adviser to the executive vice president and chief executive officer of ACP. He was president of the American Medical Association from 1989 to 1990. Dr. Nelson also serves as an advisor to the Board of Trustees of Intermountain HealthCare, a large integrated health system whose headquarters are in Salt Lake City. A member of the Institute of Medicine (IOM) of the National Academy of Sciences, he serves on the IOM Committee on Payment and Performance Improvement and was chairman of the Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care. Dr. Nelson received his M.D. from Northwestern University.

**Robert D. Reischauer, Ph.D.**, is vice chairman of the Commission and president of the Urban Institute. Previously, he was a senior fellow with the Brookings Institution, and from 1989 to 1995 he was the director of the Congressional Budget Office. Dr. Reischauer currently serves on the boards of the Academy of Political Sciences, the Center on Budget and Policy Priorities, and the Committee for a Responsible Federal Budget. He also is a member of the Institute of Medicine, the National Academy of Public Administration, and Harvard Corporation. Dr. Reischauer received his A.B. degree from Harvard College and his M.I.A. and Ph.D. from Columbia University.

**William J. Scanlon, Ph.D.**, is a senior policy advisor with Health Policy R&D. He is a consultant to the National Health Policy Forum and is a research professor with the Institute for Health Care Research and Policy at Georgetown University. Dr. Scanlon is a member of the National Committee on Vital and Health Statistics, the National Commission for Quality Long-Term Care, and the White House Conference on Aging Advisory Committee. Before his current positions, Dr. Scanlon was the managing director of health care issues at the U.S. Government Accountability Office. Previously, he was co-director of the Center for Health Policy Studies, an associate professor in the Department of Family Medicine at Georgetown University, and a principal research associate in health policy at the Urban Institute. Dr. Scanlon has a Ph.D. in Economics from the University of Wisconsin-Madison.

**David A. Smith, M.Ed.**, is a senior fellow at Demos, a New York-based public policy research center. He previously served as director of the Public Policy Department at the AFL-CIO. Prior to joining the AFL-CIO, he served as senior deputy budget director and as commissioner of economic development for the City of New York. Mr. Smith spent most of the 1980s in Washington as an aide to Massachusetts Senator Edward M. Kennedy and as a senior economist at the Joint Economic Committee. Mr. Smith has taught economics and public policy at the University of Massachusetts and the New School for Social Research, and he is a senior fellow at the Century Foundation. He is a member of the Board of Directors of Public Campaign and a fellow of the National Academy of Social Insurance. Mr. Smith attended Tufts University and received an M.Ed. from Harvard University.

**Ray E. Stowers, D.O.**, is vice president and dean of the College of Osteopathic Medicine at Lincoln Memorial University in Harrogate, TN. Previously, he was director of the Oklahoma Rural Health Policy and Research Center as well as associate dean of rural health in the Department of Family Medicine at Oklahoma State University Center for Health Sciences. He was in private rural practice for 25 years at Family Medicine Clinics, Inc., in Medford, OK, and serves on the Policy Board of the National Rural Health Association. Dr. Stowers is a member of the Board of Trustees of the American Osteopathic Association and has served that organization in many capacities, including several related to physician coding and reimbursement issues. He has been on the Physician Payment Review Commission and was a founding member of the American Medical Association's Relative Value Update Committee. Dr. Stowers received his B.S. and B.A. degrees from Phillips University in Oklahoma and his D.O. degree from the University of Health Sciences College of Osteopathic Medicine in Kansas City, MO.

**Nicholas Wolter, M.D.**, is a pulmonary and critical care physician who serves as chief executive officer for Billings Clinic in Billings, MT. Billings Clinic is a regional, nonprofit medical foundation consisting of a multispecialty group practice, a tertiary hospital, critical access hospital affiliates, a health maintenance organization, a research division, and a long-term care facility that serves a vast rural area in the northern Rockies. Dr. Wolter began his Billings Clinic practice in 1982 and served as medical director of the hospital's intensive care unit from 1987 to 1993. He began his leadership role with the successful merger of the clinic and hospital in 1993. Dr. Wolter is a diplomate of the American Board of Internal Medicine and serves on the boards of many regional and national health care organizations. He has a B.A. degree from Carleton College, an M.A. degree from the University of Michigan, and an M.D. degree from the University of Michigan Medical School.

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