

M A R C H 2 0 0 5

**REPORT TO THE CONGRESS**

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# Medicare Payment Policy

**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+Choice 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 outlet for Commission recommendations. This volume fulfills MedPAC’s requirement to submit an annual report on Medicare payment policy. 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, 2005

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 2005 *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 six payment systems in traditional Medicare. It provides additional recommendations on measuring physicians' resource use, managing the use of imaging, incorporating pay for performance in Medicare, and encouraging the diffusion of clinical information technology in health care.

Sincerely,

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

Glenn M. Hackbarth, J.D.  
Chairman

Enclosure



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March 1, 2005

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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Enclosure

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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 six sectors: hospital inpatient, hospital outpatient, physician, skilled nursing, home health, and outpatient dialysis. 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 of care.

The Commission has concluded that it is time for the Medicare program to start to differentiate among providers when making payments. Currently, Medicare pays providers the same regardless of their quality. We recommend that Medicare pay more for higher quality performance. Last year we recommended pay for performance for Medicare Advantage plans and dialysis providers. This year we add hospitals, home health agencies, and physicians. As another example of differentiating among providers, the Commission recommends for the first time that providers who perform imaging studies and physicians who interpret them meet quality standards as a condition of Medicare payment. This will help control the volume of imaging services as well as improve quality. Further, the Commission recommends measuring the resource use of physicians who treat Medicare beneficiaries and providing information about practice patterns confidentially to physicians. These are all important steps to improving quality for beneficiaries and laying the groundwork for obtaining better value in the Medicare program.

Some of our recommendations will place further demands on CMS, which is already implementing the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA). As many of our recommendations are intended to improve the quality of care and lay the groundwork for getting better value for Medicare spending, the Congress should provide CMS with the financial resources and the administrative flexibility to undertake them.

The Commission will discuss the Medicare Advantage (MA) program later this spring; thus this report does not include recommendations on it. Last year, MedPAC recommended that CMS not continue to offset the impact of risk adjustment on overall plan payments; beneficiaries with end-stage renal disease be allowed to enroll in private plans; and Congress establish a quality pay-for-performance system for private plans. We also found that Medicare payments on behalf of beneficiaries in private plans often exceed those for beneficiaries under the traditional program. MedPAC supports choice of private plans in Medicare, as private plans are flexible and potentially innovative options for beneficiaries. MedPAC's general principle for MA payment policy is that Medicare should pay the same amount for beneficiaries in private plans and the traditional program. The Commission intends to explore how pending payment policies will influence financial neutrality in the MA program, as it moves closer to a bidding system.

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.

### **Medicare at a crossroads**

Health care spending has been a growing part of the U.S. economy for the past several decades, and all indications suggest it will continue to grow faster than national income. In Chapter 1 we describe trends that are increasing spending by the Medicare program and other public and private payers. Analysts believe that technological change has been the dominant driver of growth in health care spending. Many advances have brought valuable improvements in the length and quality of our lives. Yet, at the same time, not all new technologies are worth their expense, and there is considerable evidence that, in general, we do not use health care resources very efficiently. Near-term budgetary

pressures and concerns about the Medicare program's long-term financing could lead decision makers to consider more explicitly how much they value health care spending relative to other uses of resources.

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

In Chapter 2 we recommend payment updates for 2006 and other policy changes for fee-for-service Medicare. We use a framework to develop our update recommendations. The framework calls for us first to 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 the relationship of Medicare payments to providers' costs. Our assessment of the relationship between Medicare's payments and providers' costs is influenced by whether current costs approximate those of efficient providers. The second part of MedPAC's approach is to account for expected cost changes in the next payment year, such as changes in input prices. As part of this step, we also assess whether to apply a policy goal for improvement in productivity to create an incentive for efficiency.

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

The evidence on payment adequacy for hospitals is mixed. Beneficiaries' access to care, volume of services, and access to capital present a positive picture, while the results on quality are mixed. Unusually large cost increases in recent years, however, have led to a downward trend in Medicare margins—our measure of the relationship of payments to costs. 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. In prior periods when financial pressure from private payers was lacking, hospital costs also grew rapidly. In addition, hospitals with consistently negative Medicare margins have higher costs and higher cost growth, as well as lower occupancy, than their competitors, raising questions about their efficiency. Hospitals with a combination of high costs and high cost growth played a significant role in pulling down the industry-wide margin. The Commission recommends updates of market basket minus 0.4 percent for both inpatient and outpatient payments, which will balance an incentive for fiscal discipline with concern for the trend in Medicare margins.

Payment for performance, which we discuss in detail in Chapter 4, 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 initially be set at around 1 percent of aggregate payments. As a result, most hospitals would receive a net increase in payments from the update and pay for performance that would be lower than the update alone, sending a strong signal to restrain cost growth. At the same time, high-quality hospitals would receive a net increase in payments higher than the update alone, reinforcing the incentive to improve quality.

In our forthcoming report to the Congress on physician-owned specialty hospitals, MedPAC recommends several refinements to the acute inpatient prospective payment system (IPPS). These changes will improve the accuracy of payments at the case level and encourage hospitals to compete with one another based on cost and quality, not the types of patients they treat. Our recommendations for the update, pay for performance, and IPPS refinements taken together will align IPPS payments more closely with the costs of efficient providers.

We also recommend that Congress maintain outpatient hold-harmless payments for small and isolated rural hospitals for a year. This will give the Commission time to consider the reasons some rural hospitals are projected to perform poorly under Medicare when this policy ends.

### **Physician services**

Medicare beneficiaries' access to physician care, the supply of physicians, and the relationship of private to Medicare fees for physicians are all stable. At the same time, the volume of physician services Medicare beneficiaries use is still increasing. In consideration of expected growth in physicians' costs and our payment adequacy analysis, the Commission recommends that payments for physician services be updated by the projected change in input prices, less an adjustment of 0.8 percent for productivity growth.

### **Skilled nursing facility services**

The number of facilities providing skilled nursing facility (SNF) care to Medicare beneficiaries remained almost unchanged in the past year, and most beneficiaries appear to have access to SNF care. The volume of SNF services increased. Access to capital for the for-profit SNFs that

dominate the industry seems to have improved in recent years, but nonprofit SNFs continue to have limited access to capital. We estimate the aggregate Medicare margin for freestanding SNFs will be 13 percent in 2005, which is large enough to accommodate the projected increase in costs in 2006. The Commission recommends that the Congress eliminate the update to payment rates for skilled nursing facility services this year.

To address the concern that payments for patients who need nontherapy ancillary services may not be aligned with their resource use, we again recommend that the Congress take steps to reallocate Medicare payments until the SNF payment system is refined.

Evidence on changes in the quality of SNF care since the prospective payment system (PPS) began is mixed, with most measures trending down. To better assess the quality of care Medicare SNF patients receive, the Commission recommends that CMS improve quality measurement for SNF services. Currently, CMS has only three SNF quality indicators, and they do not focus on determining whether Medicare patients benefit from SNF care or whether the goals for a SNF patient's care are achieved. Medicare urgently needs quality indicators that allow the program to assess whether patients benefit from SNF care.

### **Home health services**

Access to home health services for most beneficiaries is good, and quality has improved overall. The number of certified agencies increased in the past year. The numbers of users and episodes have risen, but the amount of service within an episode continues to fall. We estimate the Medicare margin for home health services in 2005 as 12.1 percent, which is large enough to accommodate the projected increase in costs in 2006. Thus, the Commission recommends that the Congress eliminate the update to payment rates for home health care services this year.

The Commission remains concerned that the payment system may not be distributing payments accurately, affecting access to care for some types of eligible beneficiaries. We plan to continue examining the design of the PPS, including its case-mix adjustment.

### **Outpatient dialysis services**

Most of our indicators of payment adequacy for outpatient dialysis services are positive. Beneficiaries are not facing systematic problems in accessing care, providers have

sufficient capacity to meet demand, quality is improving for some measures, and providers' access to capital is good. However, the Medicare margin for composite rate services and injectable drugs declined between 1999 and 2003, and we project it will be around zero in 2005. The Commission recommends that the Congress update the composite rate by the projected rate of increase in the end-stage renal disease market basket index less 0.4 percent for 2006 to balance expectations for continued productivity gains with concerns about the trend in the Medicare margin and the uncertainty in payments due to recent changes in law and regulation.

Although the MMA mandates substantial changes to outpatient dialysis payment policy, the law does not call for broadening the payment bundle, a necessary component for modernizing this payment system. In addition, freestanding and hospital-based facilities will continue to be paid differently for providing the same services—composite rate services and injectable drugs—which could lead to financial incentives inappropriately affecting decisions regarding where care is provided. The Commission plans to address these issues in the coming months.

### **Issues in physician payment policy**

In Chapter 3 we examine ways to reduce inappropriate use of physician services and to improve the quality of services beneficiaries receive. The Commission recommends that Medicare measure physician resource use so that physicians can compare their practice patterns with those of their peers. We also make recommendations specific to imaging services, an area that has seen a rapid increase in volume and spending. We recommend that CMS improve Medicare's coding edits to better detect improper billing patterns and to pay less for multiple imaging studies. To ensure that Medicare beneficiaries receive high-quality imaging services, and to help control the rapid growth of imaging spending, we recommend that CMS set standards for providers who perform and interpret imaging tests. We recognize that this is a new direction for the Medicare program, but we believe it is warranted by the rapid growth of imaging services, their migration from the hospital setting to physician offices, and differences in the quality of imaging providers. In addition, CMS should strengthen the physician self-referral rules to minimize financial incentives that might affect clinical decisions to order imaging studies. More generally, we also discuss potential ideas for creating

incentives for more collaborative and cost-effective delivery of physician services in accordance with clinical standards of care.

### **Pay for performance and information technology**

The Congress should adopt pay-for-performance programs for hospitals, home health agencies, and physicians. We earlier recommended pay for performance for Medicare Advantage plans and dialysis providers. The program should start with a small share of payment and increase over time. In each setting we have identified measures that are ready to be used: for hospitals, a set of process, structural, and outcomes measures; for home health agencies, a set of outcomes measures; and for physicians, a set of structural measures related to use of information technology (IT), and, after a transition, process measures. We also recommend four improvements to the data that will support pay-for-performance programs. In addition, we discuss the need to establish an ongoing process to evolve the measure sets over time and coordinate with private initiatives.

More widespread use of IT would decrease the burden of reporting quality information. It also has the potential to improve quality, efficiency, and coordination of care. Few

providers, however, use IT for clinical (as opposed to administrative) functions. It might be necessary to promote IT adoption through financial incentives that provide a return on IT investment that is not now clearly evident. We recommend including measures that reflect uses of IT systems that are linked to quality improvement in pay-for-performance programs in all settings, beginning with physicians' offices. We also recommend requiring use of a standard vocabulary to report lab values, which should increase electronic sharing of clinical data.

Taking these initial pay-for-performance steps together with measuring resource use, as we discuss in Chapter 3, will lay the foundation for focusing the incentives of the system on the efficiency with which providers use resources to deliver high-quality care. The definition of efficiency could be extended to include how the actions of providers, such as physicians or hospitals, may in one episode of care affect beneficiaries' health and use of services over time and across settings. We will build on this work to identify strategies to further differentiate among providers and thus bring greater value to Medicare purchasing. ■

CHAPTER

# 1

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**At a crossroads in Medicare:  
Assessing payment adequacy  
and moving toward  
value-based purchasing**

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# At a crossroads in Medicare: Assessing payment adequacy and moving toward value- based purchasing

**H**ealth care spending has been a growing part of our economy for the past several decades, and all indications suggest it will continue to grow faster than national income. This chapter describes trends that are increasing spending by the Medicare program and other public and private payers. Analysts believe that technological change has been the dominant driver of growth in health care spending. Many advances have brought valuable improvements in the length and quality of beneficiaries' lives. Yet, at the same time, not all new technologies are worth their expense, and there is considerable evidence that, in general, we do not use health care resources very efficiently. Near-term budgetary pressures and concerns about Medicare's long-term financing could lead policymakers to consider more explicitly how much they value health care spending relative to other uses of resources.

## In this chapter

- Who are Medicare beneficiaries?
- Background on Medicare and its financing
- Trends in the growth of health care spending
- The financial horizon
- What drives growth in health care spending?
- Inefficiencies in the provision of care
- Evaluating policy changes to the Medicare program

MedPAC's predecessor agencies—the Physician Payment Review Commission and the Prospective Payment Assessment Commission—were created 20 years ago to advise the Congress on Medicare payment policy. MedPAC's continuing role is to evaluate the design and implementation of Medicare policy and make recommendations to the Congress on problems it identifies and opportunities it sees. To fulfill this mission, MedPAC examines whether Medicare's policies ensure that beneficiaries have access to medically necessary care of high quality and get the best value possible for beneficiaries and taxpayers.

As part of that process, the Commission evaluates the adequacy of payment rates for efficient providers under Medicare's payment systems. The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) directs MedPAC to conduct this analysis with efficient providers in mind to make the best use of Medicare's resources. (See Chapter 2 on MedPAC's framework for evaluating payment adequacy.) More recently, MedPAC has also begun to push for changes to Medicare's payment systems that could improve quality. This strategy pays providers based on their performance on a set of quality measures. Despite the difficulty involved in this approach, Medicare must begin to take that step to allocate program resources where beneficiaries receive the greatest value. Because of the program's size and influence, changes to Medicare's payment structure could lead to broader improvements in the delivery of health care.

The Commission formulates recommendations on payment updates and other Medicare policy issues within a broader political and economic context—one that has changed significantly over the past several years. For example, policymakers may feel pressure to limit growth in federal spending, including that for Medicare, to rein in the federal budget deficit. The Medicare program also sits on the cusp of the retirement of the baby boom population, which will bring substantial growth in the number of beneficiaries. Payment changes in the MMA as well as higher health expenditures and lower payroll taxes than expected led the Medicare trustees to project in their 2004 report that dedicated revenues will fall short of benefit obligations sooner than previously expected. With demographic pressures, continued advances in medical technology, and, beginning in 2006, Medicare's coverage of outpatient prescription drugs, the trustees also project that, in the future, program spending could require unprecedented shares of our country's economic output.

The Commission's goals are for Medicare to maintain good access to care for beneficiaries, improve quality, and limit growth in program spending. Past approaches to constraining Medicare spending have tended to treat broad categories of providers equally, without regard to the quality, appropriateness, or efficiency of their services. It is now time for decision makers to distinguish among providers on the basis of quality as they put policies in place to limit growth in spending. More broadly, the Commission concludes that Medicare is at an important crossroads: The program should move toward value-based purchasing by differentiating among providers on their quality and efficiency, thereby sending clearer signals to providers about what the program wants to pay for.

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## Who are Medicare beneficiaries?

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Medicare's beneficiaries are a diverse group of 41 million individuals who vary by age, ethnicity, health status, and economic circumstances. The vast majority are age 65 or older, but in 2001, 14 percent were younger, disabled people (Table 1-1). Eleven percent were age 85 and above. Compared with the United States as a whole, the Medicare population has a higher proportion of females (because they tend to live longer), a larger share of white, non-Hispanic individuals, and more people who live in rural (nonmetropolitan) areas.

The living arrangements and incomes of Medicare beneficiaries vary substantially. In 2001, about half lived with their spouse, nearly a third lived alone, 16 percent had other arrangements (for example, living with adult children), and 6 percent lived in institutions such as nursing homes. In 2002, Social Security benefits made up just under 40 percent of total income of the noninstitutionalized elderly, with earnings, pensions, asset income, and other sources accounting for the remainder (Federal Interagency Forum on Aging Related Statistics 2004). The overall economic position of the elderly has improved over the past several decades. Nevertheless, many Medicare beneficiaries have limited incomes. In 2001, about 17 percent had incomes below the poverty level (defined then as \$8,494 for people living alone and \$10,715 for married couples) and about half had incomes of 200 percent of the poverty level or below.

On average, Medicare's benefits cover about half of all personal health care costs for its beneficiaries.<sup>1</sup> Several large categories of services, including outpatient prescription drugs and long-term care, are not currently

**TABLE  
1-1**

**Characteristics of the Medicare population, 2001**

<b>Characteristic</b>	<b>Percent of the Medicare population</b>
Sex	
Male	44%
Female	56
Age	
Under 65	14
65–74	44
75–84	31
85+	11
Race/ethnicity	
White, non-Hispanic	80
African American, non-Hispanic	9
Hispanic	7
Other	4
Residence	
Urban	76
Rural	24
Living arrangement	
Institution	6
Alone	28
With spouse	49
Other	16
Income status	
Below poverty	17
100–125% of poverty	11
125–200% of poverty	22
200–400% of poverty	33
Over 400% of poverty	18
Type of supplemental insurance	
Medicare only	10
Managed care	16
Employer	31
Medigap or combination of medigap and employer	26
Medicaid	15
Other	2

Note: Urban indicates beneficiaries living in metropolitan statistical areas (MSAs). Rural indicates beneficiaries living outside MSAs. In 2001, poverty was defined as \$8,494 for people living alone and as \$10,715 for married couples. Sums may not add to 100 due to rounding.

Source: MedPAC analysis of the 2001 Medicare Current Beneficiary Survey, Cost and Use file.

covered by Medicare. Further, some of Medicare’s cost-sharing requirements, such as a substantial inpatient deductible and high copays on long hospital stays, can lead to a considerable and open-ended financial obligation.

To reduce the risk of high cost sharing, over 90 percent of Medicare beneficiaries obtained supplemental coverage in 2001 through their former employers (31 percent), medigap policies (26 percent), Medicare Advantage plans (16 percent), or they enrolled in Medicaid (15 percent). In 2000, 12 percent of personal health care spending for Medicare beneficiaries was funded by Medicaid, while 12 percent was funded by private insurance (including medigap policies and employer-sponsored retiree coverage), and 4 percent by other sources (CMS 2003). About 19 percent of beneficiaries’ personal health care spending was financed out of pocket.

For many Medicare beneficiaries, the premiums or cost-sharing requirements for supplemental policies are growing rapidly, as they have been for active workers. Some employers are reducing the availability of retiree coverage to their active workforce.

**Background on Medicare and its financing**

Although private insurance is the largest source of health care financing—making up 37 percent of the \$1.44 trillion spent on U.S. personal health care in 2003—Medicare is the single largest payer for health care services (Figure 1-1, p. 6). Thus, through its coverage decisions and payment systems, the program can exert influence on how health care is organized and delivered in the United States.

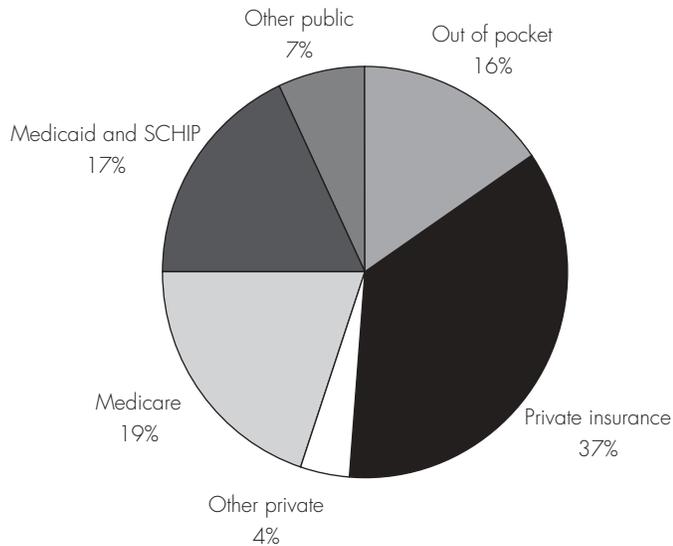
The Medicare program has four parts. Hospital Insurance (HI, or Part A) is largely financed through a dedicated federal payroll tax. Supplementary Medical Insurance (SMI, or Part B) is funded primarily through transfers from general federal tax revenues and enrollee premiums. Part C is the Medicare Advantage program, in which private health plans provide care to beneficiaries, and Part D is the new outpatient drug benefit. Sources of funding for Part C are the same as for Parts A and B, while financing for Part D will be very similar to Part B.

Total Medicare spending was \$281 billion in 2003, or about \$7,000 per beneficiary (Table 1-2, p. 7). Federal taxes and interest pay for nearly 90 percent of Medicare spending. Payroll taxes provided the single largest source of funding for the combined Medicare program in 2003 (51 percent). Employees and their employers are each charged a mandatory 1.45 percent tax on earnings, with self-employed persons paying the full 2.9 percent. General tax revenues provided an additional 30 percent of all

**FIGURE  
1-1**

**Medicare made up about one-fifth  
of spending on personal  
health care in 2003**

**Total spending = \$1.44 trillion**



Note: SCHIP (State Children's Health Insurance Program). Out-of-pocket spending includes cost sharing for both privately and publicly insured individuals. Personal health care spending includes spending for clinical and professional services received by patients. It excludes administrative costs and profits. Premiums are included with each program (e.g., Medicare, private insurance) rather than in the out-of-pocket category. Other private includes industrial in-plant, privately funded construction, and nonpatient revenues, including philanthropy. Other public includes programs such as workers' compensation, public health activity, Department of Defense, Department of Veterans Affairs, Indian Health Service, and state and local government hospital subsidies and school health.

Source: CMS, Office of the Actuary, 2004 National Health Accounts.

program income in 2003. Enrollees' premiums made up 10 percent of all Medicare income. These premiums include those for Part B, which CMS sets equal to 25 percent of average SMI expenditures for aged beneficiaries, as well as a small amount from enrollees who are not eligible for Part A but pay a premium for its coverage. Interest on current trust fund balances, a portion of income taxes on Social Security benefits, and other sources make up the remaining 9 percent of income.

The MMA created a system to warn policymakers as the Medicare program's financing becomes increasingly dependent upon general tax revenues relative to dedicated taxes and premiums. Each year, the Medicare trustees project the share of Medicare outlays that is financed with

general revenues in the current year and six succeeding fiscal years. Under the warning system, if two consecutive annual reports from the trustees project that general revenues will fund 45 percent or more of Medicare outlays, then the President must propose and the Congress must consider legislation to address Medicare spending. General revenues currently make up 30 percent of program spending. However, the introduction of Part D in 2006 will mean that a larger proportion of the Medicare program's financing will come from general revenues. In their 2004 report, the Medicare trustees projected that general revenues would provide 45 percent of program financing in 2012—just outside the six-year projection window. Thus, policymakers may be called to consider changes to Medicare's benefits and financing in as few as three years from now. If policy changes increase program spending, the warning system could be activated in two years.

Although Medicare beneficiaries only made up about 15 percent of the U.S. population in 2000, they accounted for 37 percent of national personal health care expenditures (CMS 2003). The higher spending per person on personal health care services for Medicare beneficiaries than for the non-Medicare population reflects in part the much higher prevalence of chronic conditions among the elderly and disabled and their higher mortality. As estimated from Medicare claims data, about 78 percent of the Medicare population had at least one chronic condition in 1999, and 63 percent had two or more (Anderson 2002). Higher average personal health care spending for Medicare beneficiaries also reflects very concentrated use of services by individuals during their last year of life (Hogan et al. 2000).

Medicare program spending is highly concentrated among a few beneficiaries. In 2002, for example, the top 5 percent of beneficiaries ranked by spending accounted for nearly half of total fee-for-service (FFS) program spending, and the top quartile (25 percent) accounted for nearly 90 percent of spending (MedPAC 2004b). Concentration in spending is related directly to the cost of providing inpatient care, and people who experience an inpatient stay usually need more of all types of care during the year.

Hospital services are the largest component of Medicare spending. In 2003, 45 percent of Medicare expenditures covered inpatient and outpatient hospital services, followed by services paid on the physician fee schedule, other services (including hospice, lab, and durable medical

**TABLE  
1-2**

**Sources and uses of Medicare program financing, 2003**

Dollars (in billions)

	Hospital Insurance	Supplementary Medical Insurance	Total	Percent of total
Total income	\$175.8	\$115.8	\$291.6	100%
Payroll taxes	149.2	N/A	149.2	51
General revenue	0.5	86.4	86.9	30
Premiums	1.6	27.4	29.0	10
Interest, taxation on benefits, and other	24.4	2.0	26.4	9
Total expenditures	154.6	126.1	280.8	100
Hospital	109.4	17.9	127.3	45
Physician fee schedule services	N/A	48.3	48.3	17
Managed care	19.5	17.2	36.8	13
Skilled nursing facility	14.3	N/A	14.3	5
Home health care	2.6	7.1	9.7	3
Other	6.3	33.3	39.6	14
Administrative expenses	2.5	2.3	4.9	2

Note: N/A (not applicable). Other expenditures include hospice, durable medical equipment, and clinical laboratory services. Sums may not add to totals due to rounding.

Source: 2004 annual report of the Boards of Trustees of the Medicare trust funds.

equipment, among others), and payments to managed care plans (Table 1-2). This distribution of resources has changed over time as providers have moved more of their care to settings outside inpatient hospital facilities.

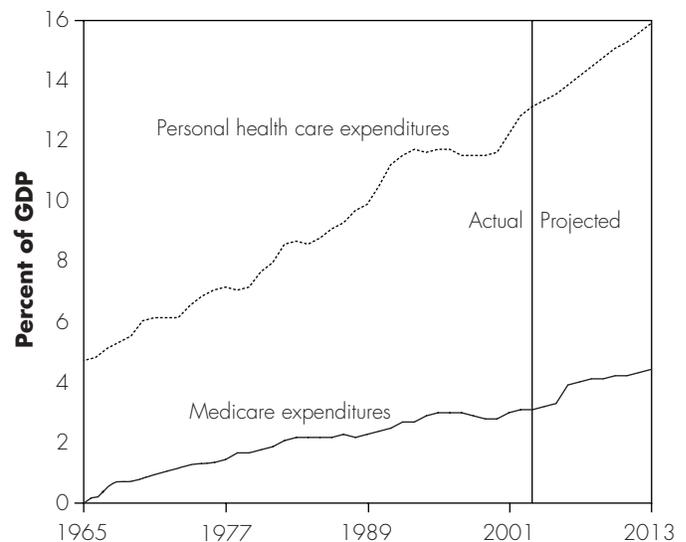
**Trends in the growth of health care spending**

National health care spending has been growing faster than the economy. Health care spending has brought with it medical innovations that make today’s provision of care far more advanced than in the past. Nevertheless, growth in spending is striking: Personal health care expenditures accounted for more than 13 percent of gross domestic product (GDP) in 2004, up from 5 percent of GDP in 1965 (Figure 1-2).

Growth in spending has accelerated in recent years. During the 1990s, the share of GDP made up by personal health care was steady or even declining slightly at just under 12 percent (Glied 2003). Analysts attribute that

**FIGURE  
1-2**

**Personal health care expenditures account for a growing share of gross domestic product, 1965–2013**



Note: GDP (gross domestic product).

Source: CMS, Office of the Actuary. Data for personal health care expenditures, GDP, and actual values of Medicare expenditures as a percentage of GDP are from the 2004 National Health Accounts. Projections of Medicare expenditures as a percentage of GDP are from the 2004 annual report of the Boards of Trustees of the Medicare trust funds.

period's slower growth to three factors: health plans' successful bargaining with providers over prices, managed care plans' use of strategies to control the volume of services, and competition among plans that restrained premium growth. The period after 1997 until 2001 was also a time marked by constraints on the growth of Medicare payment rates under the Balanced Budget Act of 1997 (BBA). Subsequently, however, health care spending has continued its upward climb. Consumers' demand for broader choice among providers and mergers among providers have given them greater negotiating power with insurers and health plans (Heffler et al. 2004).

Medicare's program spending for Parts A and B currently makes up about 2.6 percent of GDP. Once Medicare's benefit includes outpatient prescription drugs, CMS projects that the program's share will jump to 3.4 percent in 2006 and just under 4 percent by 2013. Medicare's share will climb upward on a steeper trajectory after 2010 as the baby boomers move into the ranks of Medicare beneficiaries.

## **Growth in spending for private health insurance**

Trends in private health insurance premiums reflect spending growth in the health care sector. In the past year or two, increases in premiums slowed after about five years of steady acceleration (Strunk and Ginsburg 2004b, Kaiser Family Foundation and Health Research and Educational Trust 2004). Nevertheless, premiums for private health insurance still grew in excess of average growth in income. The same is true for most components of health care spending. For example, Strunk and Ginsburg estimate that in 2003, health care spending per privately insured person grew by 7.6 percent, while GDP per capita grew at 3.9 percent (Table 1-3). Data reflecting the first six months of 2004 show stable growth in per capita health spending, at an annual rate of 7.5 percent (Strunk and Ginsburg 2004a).

Given the large size of the hospital sector, its growth rate contributes heavily toward overall growth in spending across all health care services (Heffler et al. 2004). Declines in spending for inpatient services were largely responsible for the slowdown in overall spending growth in the mid-1990s. Hospital inpatient spending has grown more rapidly in recent years. Over the past two years, use of inpatient services grew relatively slowly, but prices grew rapidly as the ownership of hospitals consolidated

and the more concentrated ownership exerted greater bargaining power in negotiations with payers. (See Section 2A for more discussion of this issue.) At the same time, spending for hospital outpatient services per privately insured person grew at the fastest rate among all sectors, even surpassing per capita growth in prescription drug spending. Still, many analysts expect that prescription drugs will continue to be among the fastest-growing sectors (Heffler et al. 2004).

Continued rapid growth in health premiums, a relatively weak labor market, and slow growth in the U.S. economy have led employers, insurers, and health plans to reconsider methods for controlling spending. One approach has been to shift a larger proportion of costs to enrollees through higher cost sharing, larger premium contributions, or consumer-directed health plans. Another approach involves reintroducing certain managed care techniques—such as prior authorization and utilization review—for services that are more likely to be overused, measuring providers' utilization and quality, tiering provider networks, and using disease management programs (Mays et al. 2004). (See Chapter 3 on possible use of similar tools by Medicare, such as measuring physicians' use of resources and managing the use of imaging services.)

Yet even with these approaches, some participants in the private health care market are worried about the pace of growth in health care spending and their inability to slow it down. For example, one coalition of employers, unions, and consumer groups has called for establishing an independent board that would restrict increases in insurance premiums for a core set of medical benefits and set constraints on payment rates to hospitals and physicians (Lueck 2004). Researchers with the Center for Studying Health System Change heard from a number of market participants that they could not take steps to contain costs (Nichols et al. 2004). They cited several forces, such as the current level of market power among providers, which has kept payers from being able to demand more efficient practice styles. At the same time, enrollee desire for broad choice has been strong, and physicians continue to organize themselves in small practices rather than in delivery structures that some respondents believed would provide better coordination of care—such as multispecialty group practices.

**TABLE  
1-3**

**Private spending on most types of health care services has grown faster than the gross domestic product, 1994–2004**

**Change in private insurance spending on type of health care service per capita**

	<b>Change in GDP per capita</b>	<b>All services</b>	<b>Hospital inpatient</b>	<b>Hospital outpatient</b>	<b>Physician</b>	<b>Prescription drugs</b>
1994	4.9%	2.1%	-2.0%	8.7%	1.7%	5.2%
1995	3.4	2.2	-3.5	7.9	1.9	10.6
1996	4.4	2.0	-4.4	7.7	1.6	11.0
1997	5.0	3.3	-5.3	9.5	3.4	11.5
1998	4.1	5.3	-0.2	7.5	4.7	14.1
1999	4.8	7.1	1.6	10.2	5.0	18.4
2000	4.8	7.8	4.1	9.8	6.3	14.5
2001	2.1	10.0	8.7	14.6	6.7	13.8
2002	2.5	9.5	8.3	13.0	6.7	13.2
2003	3.9	7.6	6.2	11.1	5.5	9.1
January–June 2004	5.9	7.5	5.1	11.4	5.7	8.8

Note: GDP (gross domestic product). Estimates may differ from past reports because of data revisions by Milliman USA and the Bureau of Economic Analysis. Percent changes for January–June 2004 are growth compared with the same months in 2003.

Source: Strunk and Ginsburg 2004a, Strunk and Ginsburg 2004b. Health care spending data are from the Milliman USA Health Cost Index (\$0 deductible) as of October 2004. GDP is from the U.S. Department of Commerce, Bureau of Economic Analysis.

**Growth in Medicare spending**

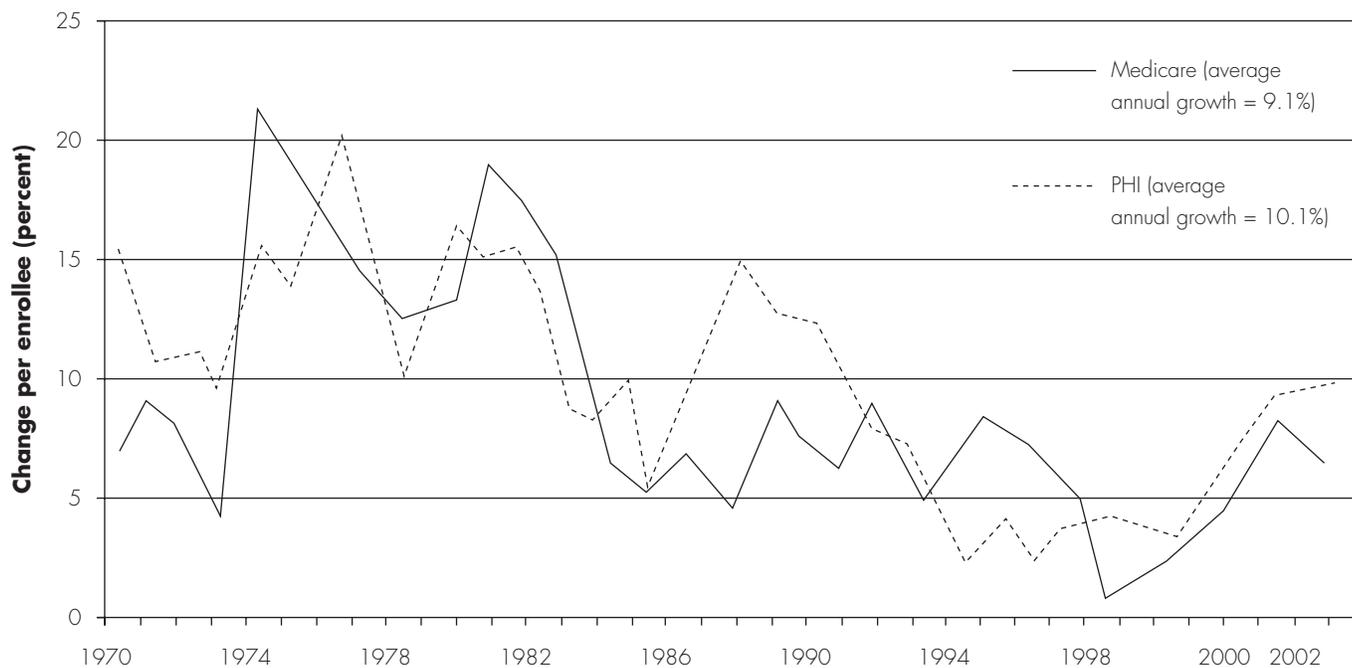
Medicare’s trustees project that total program spending will increase at an average annual rate of 7.5 percent over the 2004–2013 period, except for 2006 when the increase will be much higher because of the introduction of Part D (Boards of Trustees 2004). For 2004 and 2005, the trustees expect that HI spending will grow by 12 percent and 8 percent, respectively, in response to changes in payments under the MMA. After that, the actuaries project HI costs to grow by an average of 6 percent per year. By comparison, Part B expenditures are expected to grow by an annual average of 6.6 percent over the 2004–2013 period. However, the trustees note that 6.6 percent is likely too low, because it includes assumed cuts in physician updates under the sustainable growth rate (SGR) formula of 5 percent per year for seven consecutive years, beginning in 2006. Recent experience suggests that policymakers are unlikely to allow these cuts to be implemented.

Although rates of growth in per capita spending for Medicare and private insurance often differ from year to

year, over the long term they have been quite similar (Pauly 2003). When comparing spending for benefits that private insurance and Medicare have in common—notably excluding prescription drugs—Medicare’s per enrollee spending has grown at a rate that is about 1 percentage point lower than that for private insurance over the 1970–2002 period (Figure 1-3, p. 10). However, the comparison is sensitive to the end points of time one uses for calculating average growth rates. Differences have been more pronounced since 1985, when Medicare began introducing the prospective payment system for hospital inpatient services (Levit et al. 2004). Some analysts believe that, since the mid-1980s, Medicare has had greater success at containing cost growth than private payers by using its larger purchasing power (Boccuti and Moon 2003). Others maintain that benefits offered by private insurers have expanded as cost-sharing requirements declined over the entire period and enrollment in managed care plans grew during the 1990s. The comparison is thus problematic, since Medicare’s benefits changed little over the same period (Antos and King 2003).

**FIGURE  
1-3**

**Changes in Medicare spending per enrollee have been similar to those for private health insurance over the long term**



Note: PHI (private health insurance). Chart compares services covered by Medicare and private health insurance, including hospital services, physician and clinical services, other professional services, and durable medical products.

Source: Levit et al. 2004.

## The financial horizon

The size of the federal budget deficit and concerns about Medicare's long-term financing are likely to shape perspectives of policymakers about the Medicare program during the upcoming year. This section reviews recent projections of the near- and longer-term financial landscape.

### Near-term budgetary pressures

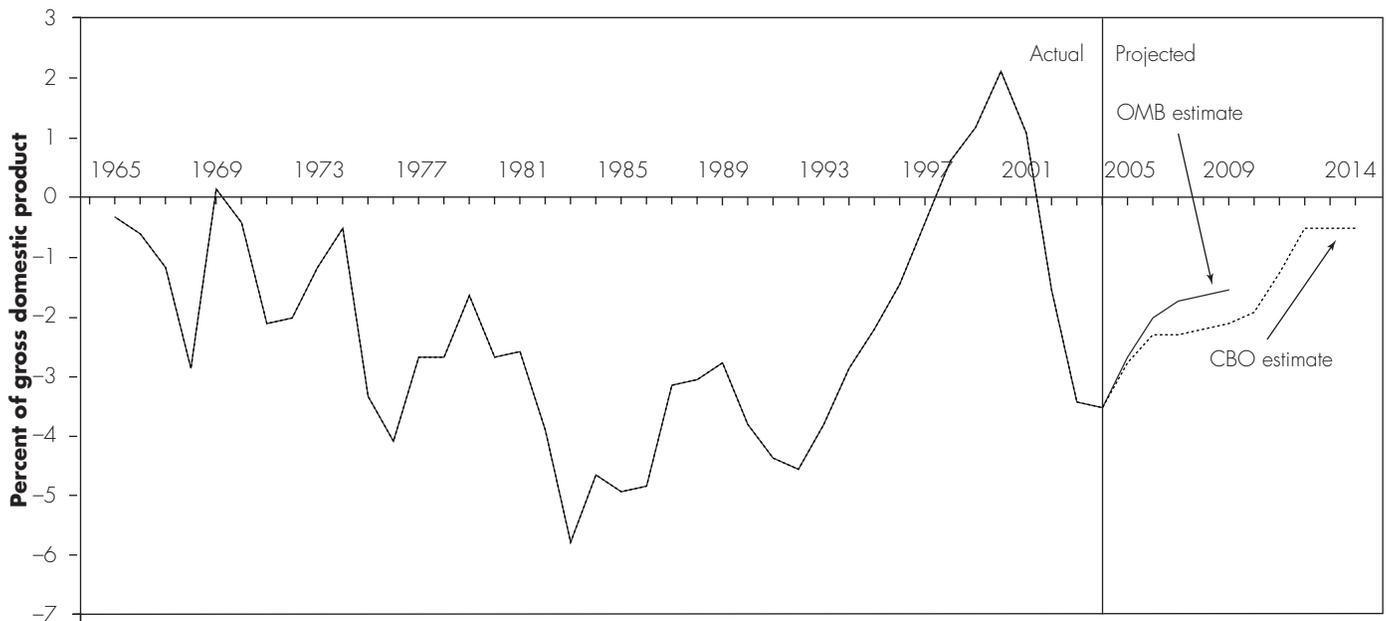
In the near term, the Congressional Budget Office (CBO) and the Office of Management and Budget (OMB) both project sizable federal budget deficits, which will heighten concern about growth in Medicare spending. For fiscal year 2004, the deficit was about \$412 billion, or 3.6 percent of GDP. That figure makes up the highest share of the country's economic output since the early 1990s, a time when the Congress set limits on appropriated spending, raised taxes, and established procedural "pay-as-

you-go" (PAYGO) rules under the Budget Enforcement Act for new laws affecting entitlement programs and taxes. More recently, the Congress has considered readopting PAYGO constraints on spending, but it has not yet done so formally. A few individual committees have used this approach informally.

CBO's September 2004 baseline projects that the budget deficit for 2005 will total \$348 billion, or 2.8 percent of GDP, with deficits declining gradually until reaching \$65 billion in 2014, or 0.4 percent of GDP (Figure 1-4). Those projections are based on current law, so they do not anticipate the effects of future legislative actions. They are probably conservative, because they assume implementation of substantial cuts in physician payments, which the Medicare trustees noted was unlikely (Boards of Trustees 2004). Further, CBO estimates that if all current tax provisions are made permanent, the federal deficit for 2014 will increase by \$369 billion plus \$100 billion in additional interest payments associated with debt service (CBO 2004b).

**FIGURE  
1-4**

**Near-term budgetary pressures may heighten concern  
about growth in Medicare spending**



Note: OMB (Office of Management and Budget), CBO (Congressional Budget Office). Baselines are as of July and September 2004, respectively.

Source: Office of Management and Budget and Congressional Budget Office.

OMB's July 2004 baseline projects a deficit of \$331 billion, or 2.7 percent of GDP, for 2005, and the administration has indicated that it would like to cut the deficit in half by 2009 by continuing its tax policies and restraining federal spending (OMB 2004). Some analysts argue that it will be difficult to achieve this goal without constraining growth in spending for the Medicare program. Medicare currently accounts for more than one-fifth of all entitlement spending and nearly 12 percent of total federal spending. Furthermore, Medicare will require a larger proportion of total federal spending as the new Part D outpatient drug benefit begins in 2006 and as the baby boomers begin to reach the age of eligibility (Newhouse 2004).

**Longer-term projections of Medicare spending and financing**

The Medicare Board of Trustees reported in March 2004 that Part A tax revenues would fall short of expenditures in 2004, although interest earned on surplus revenues from

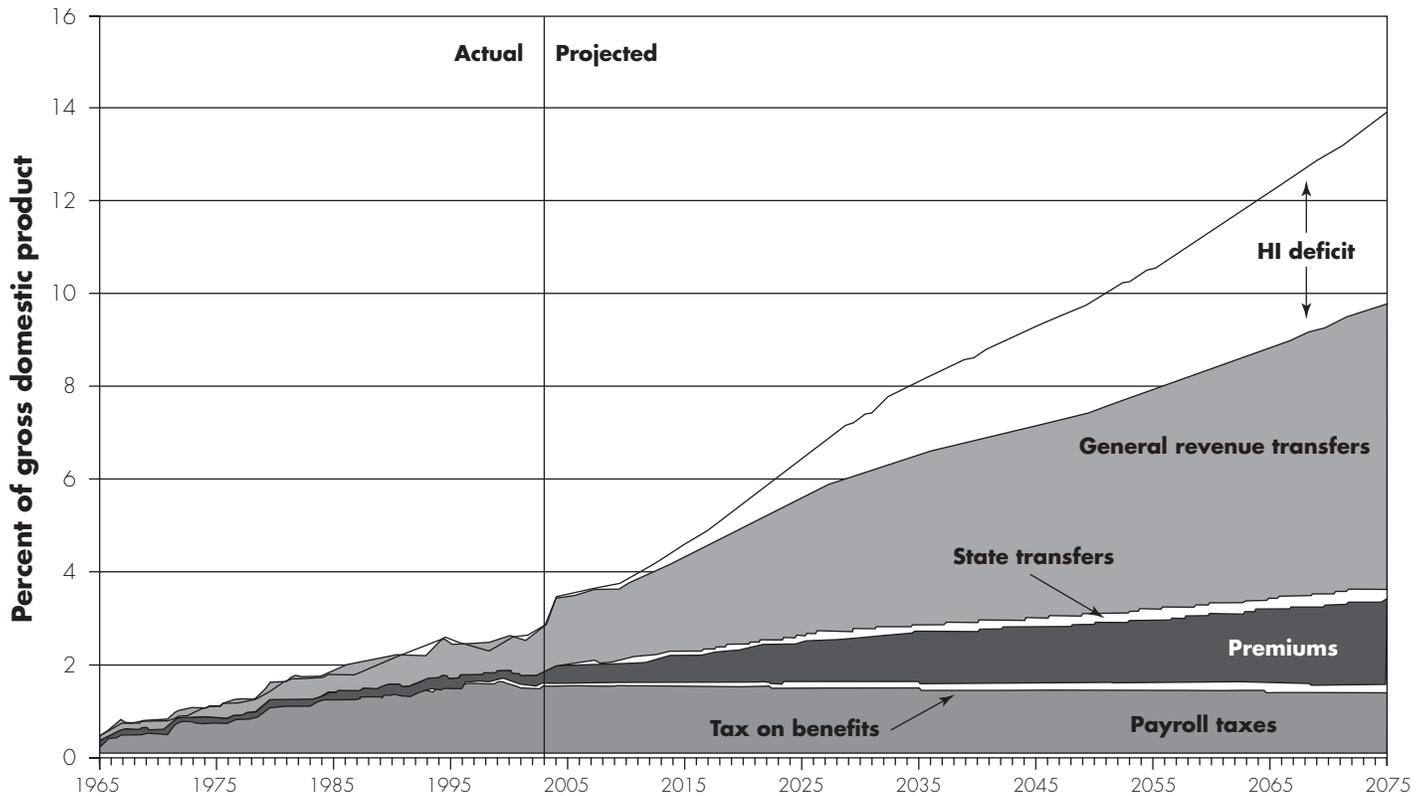
previous years would pay the difference. (Similar financing shortfalls occurred five to six years ago, providing some of the motivation—along with concerns about HI insolvency—for the Congress to enact sizable restraints on Medicare program spending in the BBA.) The trustees also moved up their projection of the date of exhaustion of Part A's trust fund by seven years to 2019.

A more complete metric of Medicare's financial condition is the share of the nation's economic resources that the entire program—including Parts A and B and the new prescription drug benefit under Part D—will require. The trustees estimate that Medicare expenditures will grow from 2.6 percent of GDP in 2003 to 7.7 percent by 2035 and 13.8 percent by 2078.

Figure 1-5 (p. 12) shows the trustees' intermediate projections of Medicare spending (top line) and sources of financing (layered areas). Some analysts consider these projections optimistic, because they assume that health care spending per person will grow only 1 percentage

**FIGURE 1-5**

**Medicare expenditures are projected to exceed revenue and grow as a share of gross domestic product**



Note: HI (Hospital Insurance). Excludes interest income.

Source: 2004 annual report of the Boards of Trustees of the Medicare trust funds.

point faster than growth in GDP per capita. Historically, it has grown even faster: Between 1970 and 2002, national spending for health care per capita grew 2.4 percentage points above the growth rate for the economy (Holtz-Eakin 2003a).

Future growth in Medicare spending will be fueled in part by the introduction of Medicare’s prescription drug benefit. Although Part D addresses a major gap in Medicare’s benefit package, the entitlement also implies substantial new requirements for federal spending. CMS’s Office of the Actuary (OACT) projects that the introduction of a prescription drug benefit will boost Medicare program spending by about 30 percent between 2005 and 2007 and will cost more than \$500 billion over the next 10 years. CBO’s 10-year estimate is \$400 billion,

but CBO’s director has suggested that the Part D benefit could cost between \$1 trillion and \$2 trillion from 2014 to 2023 (Holtz-Eakin 2003b). The differences between near-term estimates of the cost of Part D highlight the considerable uncertainty about how this new benefit will operate and how to project its effects on Medicare program spending.

Rapid growth in the number of Medicare beneficiaries beginning at the end of this decade will also accelerate Medicare spending. As the baby boom generation retires between 2010 and 2030, the working-age population will grow by 10 million while the number of elderly will grow by 30 million (Holtz-Eakin 2003a). Moreover, life expectancy at age 65 is projected to increase by as much as 20 percent to 25 percent between now and 2075.

Demographic trends and the structure of Part A's financing mean that, in the future, relatively fewer active workers will be available to support each beneficiary. In 2003, each Medicare beneficiary had nearly four active workers paying payroll taxes to support his or her HI benefit (Figure 1-6). By 2030, this ratio is projected to decline to 2.4 workers, and then to 2.0 workers by 2078 (Boards of Trustees 2004). In the past, payroll taxes increased steadily as a share of GDP as the payroll tax rate and worker earnings increased over time. However, no further increases in the tax rate are scheduled in current law. As health care costs continue to grow rapidly for all payers in the U.S. economy, the trustees expect that fringe benefits—notably health insurance—will become a growing share of worker compensation and earnings will decline as a share of GDP.

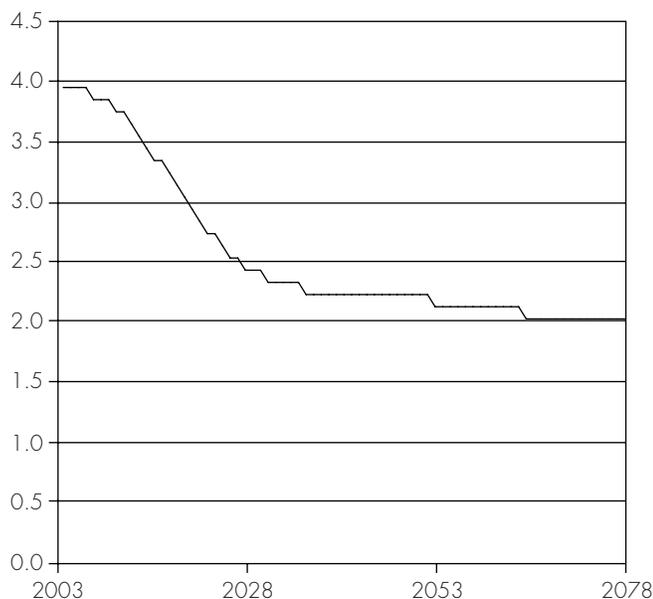
It may be particularly important for policymakers to consider changes for the HI program, since the government will no longer have the authority to pay Part A claims once the HI trust fund is exhausted. The trustees estimate that if the Congress immediately enacted changes to address the projected shortfall in financing for Part A

(the HI deficit in Figure 1-5), the payroll tax rate would need to rise from its current level of 2.9 percent to 6.02 percent. (Alternatively, HI expenditures would need to be reduced immediately by 48 percent.) If policymakers delay making changes, the magnitude of later changes would need to be more extreme. For example, balancing the HI deficit at the end of the 75-year projection period would require a payroll tax rate four times its current level, reductions in expenditures to one-fourth their projected amount, or some combination of the two.

By comparison, the SMI trust fund uses general tax revenues rather than dedicated payroll taxes for the bulk of its financing. Thus, if policymakers made no changes to Parts B and D (which both draw from the SMI trust fund) and income taxes remain a constant share of the economy, Medicare would by default make claim to a greater share of general revenues. For example, the trustees estimate that for 2003, general revenues devoted to SMI made up 8.7 percent of personal and corporate income taxes. That share will grow after 2006 with the introduction of Part D. If income taxes remained at their historical average share of the economy, the SMI program's general revenue financing would require 29 percent of all income tax revenue in 2030 and more than half by 2080.

**FIGURE 1-6**

**The ratio of active workers to Part A beneficiaries is projected to decline**



Note: Based on intermediate assumptions.

Source: 2004 annual report of the Boards of Trustees of the Medicare trust funds.

## What drives growth in health care spending?

Growth in spending is affected by short-, medium- and long-term factors (Glied 2003). In the short term, the structure of contracts among beneficiaries, providers, and payers can influence spending growth. For example, health benefits and cost-sharing requirements have in some cases become the subject of negotiation between employers and active workers, and their relative bargaining power can affect how health benefits are structured within a firm's compensation package. At the same time, payers evaluate the numbers of providers within a market, their organizational structure and bargaining power, and the relative tolerance for managed care when deciding how to build networks and set payment rates. The underwriting cycle of insurers can explain a lot of the year-to-year variation in private health premiums over the medium term. A number of factors contribute to longer-term growth in health spending, including our lifestyles, the way in which we pay for health care services, and technological change.

## Lifestyle and health care spending

Changes in personal behavior affect U.S. health care spending both for Medicare and other populations. The prevalence of obesity—which is thought to be associated with our more sedentary lifestyle and high-caloric diet—has doubled since 1980 to about 30 percent of the adult population today. One recent study calculated that obesity’s rising prevalence and higher per capita spending on obese people accounted for a sizable portion of the growth in real per capita spending between 1987 and 2001 (Thorpe et al. 2004a). For the U.S. population age 65 and older, projections suggest that the prevalence of obesity will grow from 29 percent in 2000 to 36 percent by 2010 (Arterburn et al. 2004). Obesity in the elderly is associated with an increased risk of diabetes mellitus, cardiovascular disease, hypertension, stroke, lipid abnormalities, osteoarthritis, and some cancers. Other recent research finds that obesity during young adulthood and middle age is significantly associated with higher Medicare spending later in life (Daviglius et al. 2004).

## More payments for more services

Medicare’s FFS payment systems may contribute to the program’s spending growth. These systems vary across provider types, with some systems more sophisticated than others. At one end of the spectrum is the per stay payment system for inpatient care: All services related to the patient’s case are paid for as one bundle, which encourages hospitals to select the most efficient combination of services during a stay. A drawback of bundling is that it can create incentives for providers to select healthier patients or stint on care. At the other end of the spectrum are fee schedules that set prices for each individual service furnished. All of these systems fundamentally pay more to providers as they deliver more services; providers’ ability to generate more volume varies with the service. And because each provider type has its own payment system, providers have little incentive to coordinate care.

Some policymakers contend that the Medicare Advantage (MA) program has the potential to slow rates of growth in Medicare program spending because capitated payments provide more incentive for plans to coordinate care. The MA program, however, has thus far used a system of payment rates with rates of increase that are linked to average FFS spending and with base county rates that in many areas exceed average FFS spending. Private plans have been unwilling to enter the markets in which about

40 percent of Medicare beneficiaries live despite payment rates substantially above FFS spending levels. This suggests that private plans may not reduce Medicare’s costs in those areas (CBO 2004c). The MA program will move toward a system of competitive bidding in 2006, albeit with initial payment rates that still largely reflect average spending for FFS beneficiaries. Over time, analysts will watch growth in MA spending closely to see whether that program’s incentive structure holds promise for constraining growth in spending.

## The role of technological change

Many analysts believe that technology has been the biggest long-term driver of growth in health spending (Fuchs 2000, Fuchs 1996). Real per capita health spending has been on a fairly steady climb since 1929, as have advances in medical technologies. International comparisons show that levels of health spending per person in other countries are lower than those in the United States, raising the question of whether our care could be provided at lower cost. Nevertheless, rates of growth have been similar—even in countries with single-payer systems (Newhouse 2004). This similarity suggests that medical innovation is responsible for the bulk of growth in health spending (Newhouse 1992).

Although some medical technologies yield savings by, for example, reducing lengths of stays in hospitals, most tend to expand demand for health care. Why? First, as improved health outcomes that result from technology become more obvious, its 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 have also reduced 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. The widespread use of selective serotonin reuptake inhibitors as therapy for depression is one example (Glied 2003).

The relative importance of specific factors in the growth of health care spending varies across conditions. Researchers found that for some conditions such as heart disease and hypertension, increases in the cost of therapy per treated case—that is, higher prices and more intensive services that are usually associated with new technologies—explain most of the spending increase (Thorpe et al. 2004b). For other conditions like cerebrovascular disease,

mental disorders, and kidney conditions, the dominant factor was an increase in the treated prevalence of the condition rather than increases in costs per case.

Other factors interact with medical technology to expand demand for health care. Private and public health insurance lessen the out-of-pocket financial liability of beneficiaries, thereby hiding the full cost of services from the consumer. This approach may lead individuals to use more health care than they would otherwise. Similarly, physicians, who direct beneficiaries' use of care, may be insensitive to the costs of care when they make treatment decisions. Sometimes providers' decisions about a treatment approach may be influenced by their own financial incentives. Further, expectations about health status are changing as beneficiaries age—most people expect to retain their health and mobility for longer periods than earlier generations. And perhaps most important, demand for health care tends to rise with increases in real income and wealth.

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

Rapid growth in health care spending has had wide-ranging effects. The U.S. health care sector has produced many of the world's medical innovations that lengthen life expectancies and improve quality of life. At the same time, however, employers argue that the rising cost of health premiums affects their ability to compete in the world marketplace. Many economists believe that growth in health premiums paid by employers has no effect on the competitive position of firms because they see health costs as merely offsetting cash compensation that firms would otherwise pay to workers (who could then purchase health coverage on their own). Nevertheless, health spending per person is substantially higher in the United States than in other industrialized countries (Anderson et al. 2003). The higher cost of health care, whether paid by employers or directly by workers, contributes to higher costs for labor in this country.

Clear distributional issues arise from the rapid growth in health spending. In response to double-digit 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. Since costs for private health insurance have risen faster than income, some workers may decide to forgo coverage (Ginsburg

2004). During 2003, approximately 45 million people, or 15.6 percent of the U.S. population, were uninsured at any one point in time. Increases in the numbers 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 condition becomes more serious. In turn, providers that bear more of those costs sometimes seek public subsidies or protectionist policies, which can reduce their incentives to deliver care efficiently. Rising costs put upward pressure on the financing needs of public and private health care programs for existing beneficiaries. And some analysts believe that higher health care costs may also lead to greater fragmentation in the health care market, as healthier people search for insurance alternatives that are less costly—which plans could accomplish by discouraging sicker individuals from enrolling (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 plan (often including a health reimbursement or savings account) with catastrophic protection and decision-support tools to help members select among providers. Enrollees in these newer products generally accept higher cost sharing at the point of service. In return, members pay lower premiums (Tollen et al. 2004). The MMA allows employers to make nontaxable contributions to certain health savings accounts, and contributions by individual account holders are tax deductible.

Although enrollment in consumer-directed health plans has been low to date, these plans have attracted considerable attention. Supporters of these new products believe that higher cost sharing will lead members to lower their use of unnecessary services relative to other benefit designs, 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 (Parente et al. 2004, Tollen et al. 2004).

## The value of health care and national preferences for spending

Some analysts believe that, on the whole, the public is well served by devoting a growing share of its resources to health care and the Medicare program because of the value of those services (Cutler 2000). For example, one estimate suggests that growth in value associated with longer lives, improved quality of life, and declines in the pain and suffering that accompany medical treatment are larger than 1 percentage point above GDP growth—the assumption built into the trustees’ long-term projections of Medicare spending (Glied 2003). Other analysts have evaluated the cost and benefits of new technologies for specific medical conditions such as heart attacks, depression, and cataracts, concluding that in most cases returns on medical innovations have been positive (Cutler and McClellan 2001).

But Medicare spending can be both wasteful and valuable at the same time. Evidence on unwarranted variation in Medicare spending suggests that a substantial share is misallocated. International comparisons showing much higher levels of spending in the United States without commensurate improvements in quality or outcomes also support this point (Anderson et al. 2003). At the same time, average returns on Medicare’s spending for innovations have likely been positive: Improvements in life expectancy and reductions in morbidity have outweighed costs. The policy challenge is to promote the appropriate intensity of care and encourage the development of new technologies with benefits that, on the margin, are worth their cost.

However, not all new technologies have positive returns, and some spending that is currently devoted to new medical technologies might have similar or higher returns if used for other priorities. For example, one recent analysis suggests that while new drugs, devices, and procedures undoubtedly saved lives in the United States over the 1991–2000 period, an even greater number of deaths could have been averted if society’s resources had, instead, been directed toward reducing disparities in care between whites and African Americans (Woolf et al. 2004). Other types of investments, such as in public health or health education, might also lead to significant returns for society.

How much should we spend on Medicare? The answer depends on how much value society places on the Medicare program (and health care generally) relative to

the alternative uses of the program’s resources. One approach to deciding how much the United States should spend is to hold nonhealth spending at current levels and to devote 100 percent of future growth in income to greater consumption of health care. Chernew and colleagues believe that under this approach, devoting 1 percentage point above growth of our national income to health care is affordable because no other types of spending would need to be cut. 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). Under either scenario, it is not clear that our society would be willing to devote all of its economic growth to health care rather than to other uses.

Could the federal government feasibly raise the resources needed to fund Medicare’s growth? Newhouse 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). On the one hand, Medicare beneficiaries may make up a growing share of voters, which could lead to changes from the historical pattern. On the other hand, under Medicare’s current system of financing, beneficiaries will become increasingly dependent upon nonelderly workers for the program’s funding; younger generations may not want to foot this bill.

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## Inefficiencies in the provision of care

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Substantial evidence suggests that resources devoted to health care, including those of the Medicare program, have not been allocated efficiently. For the U.S. population as a whole, individuals receive too little of certain services, such as preventive care (McGlynn et al. 2003). Other services appear to be overused: Rapid growth in technologies such as medical imaging raises questions about the appropriateness of some use of these services (MedPAC 2004b).

The central piece of evidence analysts cite as proof of inefficiency is significant geographic variation in practice patterns and use of services within the United States. Despite variations in spending, people who live in higher-use areas do not have better health outcomes, and some indicators of quality, access, and satisfaction suggest that

they are worse off. The researchers estimate that if spending variations were reduced, the Medicare program could see substantial savings (Fisher et al. 2003). Subsequent research has demonstrated the feasibility of measuring the relative efficiency of individual hospitals and perhaps other types of providers.<sup>2</sup> One goal of this work is to help providers achieve longitudinal efficiency—that is, over time, reaching comparable outcomes for certain defined populations at lower cost (Fisher et al. 2004).

Some variation may be unwarranted, consisting of care that is “not consistent with a patient’s preference or related to a patient’s underlying illness” (Wennberg and Wennberg 2003). Unwarranted variation can be divided into three categories:

- Effective care—care that leads to the desired effect yet could be provided more efficiently with better coordination and improved patient adherence to treatment regimens.
- Preference-sensitive care—care that might result in different choices by beneficiaries if they better understood the implications of their options when they and their providers are making decisions about treatment.
- Supply-sensitive care—care in which service provision is driven by the capacity of the health care system to supply the services.

Supply-sensitive care has received the most attention from policymakers, but all types of unwarranted variation represent potentially costly inefficiencies.

One practical limitation of this typology is that it can be difficult to fit specific services into one of the three categories. For example, some supply-sensitive services—which could include such mainstays as physician visits and hospitalizations—seem as though they must include some care that is efficacious (Berenson 2004). Designing policy options to reduce unwarranted variation in health spending will require disentangling the services that fall into each category. Moreover, some of this variation reflects geographic differences in what physicians and other providers believe is appropriate care. In order to be effective, policy changes must incorporate authoritative guidelines and build consensus around them, or provide stronger incentives for those outcomes to emerge in the marketplace.

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## Evaluating policy changes to the Medicare program

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Medicare faces extremely difficult and competing challenges: demand among beneficiaries and providers to expand benefits and payment rates, the continuing march of medical innovation, the resulting upward pressure on program spending, and the need to stem growth in federal spending because of concerns about financing. In this section, we review categories of proposals that policymakers may want to consider as they try to address Medicare’s situation. They include approaches such as:

- Constraining payment rates
- Managing the use and provision of services
- Raising the age of eligibility
- Increasing premiums and cost sharing
- Increasing the program’s financing

These categories are not mutually exclusive. In fact, given the magnitude of Medicare’s long-term financing needs, policymakers will quite likely need to put in place options from many categories at the same time. All of these options are difficult, but in general, the longer policymakers wait to realign Medicare spending and financing, the more drastic changes will have to be.<sup>3</sup>

When considering proposals to constrain growth in Medicare spending, policymakers should look at their likely effects on quality of care and access, as well as on Medicare spending. Today, each of Medicare’s payment systems treats broad categories of providers the same. The Commission concludes that as decision makers carry out policies to limit growth in spending, they need to draw greater distinctions among providers based on quality of care and value to beneficiaries. Last year, MedPAC recommended linking payment to quality for MA plans and providers that care for patients with end-stage renal disease (MedPAC 2004a). This report discusses additional ideas for moving Medicare toward a system of “pay for performance” in Chapter 4, and examines how broader use of information technology by providers could help that effort. Chapter 3 describes other policies that will allow the program to differentiate among providers by measuring resource use and managing the use of imaging services.

## Constraining payment rates

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, this role is simply one aspect of being a prudent purchaser. This point of view underlies MedPAC's analysis of the adequacy of payment rates to the various health care sectors each year.

Under this approach, Medicare makes use of its status as the largest payer in the U.S. health care system to exert market power in setting administered prices. Constraining payment rates can have large effects on growth in spending. However, if such steps are carried out indiscriminately, they raise concerns about their effects on quality of and access to care.

The strategy of constraining growth in payment rates or using global budgets has been used extensively in Canada, Western Europe, and Japan (Glied 2003, Ikegami and Campbell 2004). U.S. policymakers have also used this approach on occasion, including constraints on payment rates that were built into the BBA. But constraining payments can be difficult to sustain over time. Why? A key reason is that changing prices alone does little to address the underlying factors that lead to spending growth (CBO 2003). In addition, limiting Medicare's payment rates too far below those of other payers could cause providers to be less willing to see Medicare beneficiaries. 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 Medicare, Medicaid, and SCHIP Balanced Budget Refinement Act of 1999, restored many of the payment cuts put in place by the BBA.

In addition, constraining payment rates alone will not lower spending if the volume of services furnished increases—which has been the case with Medicare's payment system for physician services (Hackbarth 2004). Nor has that payment system provided incentives for physicians to coordinate the care they provide to beneficiaries. Instead, the Medicare program may need more fundamental changes in how it pays physicians, such as a system that rewards them differently based on the quality and appropriateness of the 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 both help Medicare's ability to measure quality and make it easier for providers to coordinate with one another. This report discusses how Medicare might move toward such an approach in Chapter 4.

Other past changes to Medicare's payment systems were designed to affect underlying incentives more directly, and sometimes those have been more sustainable approaches. Although imperfect, the inpatient prospective payment system 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. And the prospective nature of the system puts providers at financial risk, thereby giving them 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.

Nevertheless, reimbursement for inpatient hospital services makes up the largest share of Medicare spending, and thus it is important to ensure that the program encourages greater efficiency and reduction of excess capacity. Economic literature on the hospital industry suggests that providers who are under fiscal pressure generally have managed to slow their cost growth more than those facing less fiscal pressure (Gaskin and Hadley 1997). Section 2A compares hospitals with persistently negative margins with their market peers and finds that the less-profitable hospitals often have not taken steps to control costs and reduce excess capacity to the same extent as their counterparts.

## Managing the use and provision of health care services

During the 1990s, many private plans tried a strategy of controlling how, when, and where health care services were used through administrative techniques such as prior authorizations and restrictive networks of providers. Although some of these techniques may have reduced the use of services, they were unpopular among consumers and providers, and many were discontinued during the subsequent backlash against managed care. More recently, private plans have reintroduced some of these approaches but applied them more judiciously to services that are prone to overuse.

One strategy for the Medicare program would aim to manage the use of services more closely than is the case today. Some might argue that private plans are best equipped to take on this role through the MA program and its system of capitated payments. 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 such as authorizing certain services in advance, giving providers feedback on their practice patterns, and offering financial incentives to reduce overuse of services. However, to achieve savings relative to FFS, private plans must more than offset their administrative costs and profits (CBO 2004c).

About 85 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, using many of the techniques of private plans to limit overuse of services and improve quality of care (Berenson 2003). For example, use of imaging services varies widely across geographic areas, and its volume has grown rapidly in recent years. MedPAC recommends that the program take steps that some private purchasers use, such as adopting safety standards for imaging equipment, using coding edits that detect unbundled imaging services, and setting standards for the training and education of physicians who bill for interpreting diagnostic imaging studies. Another recommendation is to use FFS claims data to compare physicians' resource use relative to peers. Chapter 3 of this report examines these strategies in greater detail.

Disease management programs for enrollees with chronic conditions are another management tool used by many private payers and plans. These programs rely heavily on educating beneficiaries about their condition so that they can monitor their own health, adhere to prescribed therapies, and avoid hospitalizations. Some programs also aim to better coordinate care among the patient's providers, thereby reducing unnecessary care. CMS has established a chronic care improvement program that will test disease management in FFS Medicare using a randomized controlled trial design (MedPAC 2004b). The wide use of disease management programs among private payers suggests promise in this approach. Nonetheless, there is no conclusive evidence that such programs

generally lead to savings in the private sector, and there may be additional obstacles to implementing disease management for the Medicare population (CBO 2004a).

Promoting the use of information technology by health care providers is another strategy that could lead providers to better manage the use of services. Rapidly available and transferable information about a patient's medical history could help to reduce unnecessary care and medical errors, enhance Medicare's ability to evaluate the performance of providers, and thereby help to pay them differentially. Chapter 4 of this report discusses pay-for-performance strategies and information technology.

For the future, MedPAC will continue to research other policy approaches as well. For example, to what extent might the Medicare program consider information from cost-effectiveness analyses of new technologies when making coverage or payment decisions? Previous research by MedPAC shows that large purchasers other than Medicare use cost effectiveness and other strategies to purchase new technologies prudently (MedPAC 2003). Medicare may face some unique constraints that other payers do not. Nevertheless, the experiences of some private purchasers suggest that the Medicare program might pursue some elements of cost-effectiveness analysis and value-based purchasing.

## **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 Social Security benefits. One could argue that as average life expectancy increases in the United States, it is reasonable to raise the age at which people qualify for Medicare coverage. If individuals work longer and delay retirement, they may also retain access to private health insurance at group rates—to the extent that their employers offer it.

By itself, the eligibility approach is unlikely to reduce Medicare's program spending by much. Moon notes that about 5 percent of today's Medicare beneficiaries are age 65 or 66, and those individuals have lower average Medicare spending because of their relative youth. Thus, she estimates that savings would be on the order of 2 percent to 3 percent (Moon 2000). Similarly, others estimate that raising the eligibility age to 70 would reduce program spending by about 9 percent a year (CBO 2003, Gluck and Moon 2000). By 2075, that amount would equate to about 0.7 percent of GDP.

A drawback of raising the age of eligibility is that it would not address the goals of improving quality of care or making more efficient use of the resources that finance Medicare. Further, the eligibility approach 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” would likely find alternative sources of health coverage, some would not. One estimate puts the number that would not find coverage at 9 percent of 65- and 66-year-olds, with another 11 percent underinsured (Davidoff and Johnson 2003). If policymakers chose this approach, they could permit individuals just under Medicare’s eligibility age to buy into the program by paying the full premium for coverage at actuarially fair rates. Allowing people to buy in 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.

### **Increasing cost sharing and premiums**

Medicare might consider raising cost-sharing requirements and premiums, an approach now widely used in the private sector. After the backlash against managed care in the 1990s, health plans and employers loosened controls on the use of services. At the same time, however, they began emphasizing deductibles, coinsurance, and other incentives to encourage individuals to be more price conscious in their use of health care (Robinson 2002). Employers have also asked workers and retirees to shoulder a larger share of total premiums. If used in Medicare, the premium/cost-sharing approach would likely affect quality of and access to care, efficiency in the provision of care, and Medicare’s long-term financing needs. Although these tools may hold promise for inducing patients to make more economical choices about care, in the near term they may not change the underlying forces that drive growth in spending (Nichols et al. 2004).

Specific options include raising Medicare’s cost-sharing requirements, particularly for services that are subject to overuse. For example, CBO estimated that charging copayments for clinical lab services would lead to small reductions in use of services and Medicare spending (CBO 2003). Under the MMA, Medicare beneficiaries will begin paying a higher deductible for Part B services beginning in 2005. Medicare’s Part B deductible has remained unchanged at \$100 since 1991—too low a level, some

might argue, to foster price sensitivity. The MMA increases the deductible to \$110 in 2005 and, thereafter, raises it each year by an index of growth in spending per capita for Part B services. OACT estimates the deductible will reach \$149 by 2013.

Another option could lower the federal subsidy of Part B premiums from the current 75 percent to 50 percent of average SMI expenditures for aged beneficiaries—the share that premiums were intended to cover when Medicare was first established. CBO estimates that increasing premiums across all Part B enrollees would reduce Medicare program spending by about 12 percent in 2075, or 1 percent of GDP (CBO 2003). 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 would lower Medicare program spending by less than half of 1 percent over the 2004–2013 period. Some analysts contend that lowering federal premium subsidies could reduce the numbers of individuals who choose to enroll in Medicare. Others argue that even with lower subsidies, Medicare’s enrollment would remain high because it has advantages that private insurance may not—for example, a community-rated premium with unlimited access to most providers.

It is important to bear in mind that the effects of using this approach in Medicare would be tempered by supplemental coverage: medigap policies, employer-sponsored retiree plans, and Medicaid, each of which wraps around Medicare’s benefit. Nearly 90 percent of enrollees supplement their Medicare benefit with other insurance that typically covers some or all of Medicare’s deductibles and coinsurance. Thus, raising Medicare’s cost sharing alone might simply translate into higher premiums for supplemental coverage with little effect on the use of care.

Although the premium/cost-sharing approach could lower Medicare spending, it would also raise demand for 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 dually eligible beneficiaries.<sup>4</sup>

Supplemental coverage that shields beneficiaries from FFS cost-sharing requirements leads to greater use of services and higher Medicare spending—17 percent to 28 percent higher, by some estimates (Christensen and Shinogle 1997). For this reason, some analysts have suggested prohibiting supplemental insurance from providing first-dollar coverage. Such an approach could lead to sizable savings—some have estimated that they would be large enough to finance at least a portion of a catastrophic limit on out-of-pocket spending (MedPAC 2002).

Raising cost-sharing requirements could be effective for reining in use of discretionary services, but indiscriminate increases could impose financial barriers to essential care or cause hardship. Research has shown that many Medicare beneficiaries have limited incomes (Gluck and Moon 2000). In addition, the Medicare population faces increases in Medicare's current cost-sharing requirements, including the rise in the Part B premium and new premiums if they choose to enroll in Part D to receive outpatient prescription drug coverage.

Might higher cost sharing affect health outcomes? Although the RAND Health Insurance Experiment did not include elderly individuals, it did not find substantial differences in the health status of people who received free care versus those who faced higher cost sharing (Newhouse 1993). Although there are likely offsetting positive and negative effects, on average, higher cost sharing might not adversely affect health outcomes. RAND research also suggests that higher cost sharing discouraged the use of some necessary care as well as unnecessary care. 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 use of preventive care (Robinson 2002).

## **Increasing the program's financing**

A final set of proposals for Medicare deals with finding sources of revenue to finance the program. Since this approach deals strictly with program financing, it would neither do much to affect quality of or access to care, nor improve efficiency in the provision of care.

Medicare's growth could be financed by more borrowing, at least for shorter periods of time. 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, such an approach could put significant upward pressure on interest rates as the federal government competes with other borrowers for investment capital. Higher interest rates could, in turn, slow economic growth. Over the longer term, the federal government would need to choose between reducing federal spending or raising tax revenues to hold its borrowing to manageable levels.

Policymakers could reduce spending on other federal programs to finance the Medicare program with the current structure of tax revenues. This policy would mean looking at explicit trade-offs among federal programs—for example, among health care, education, homeland security, and defense—and devoting resources to Medicare up to the point where the marginal value society receives from program spending is worth the value of alternative programs it gives up. Even within the Medicare program, policymakers will likely have to make trade-offs.

A final financing approach is to raise federal taxes—payroll taxes on active workers or other sources of general revenue. 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 average income of future workers will be significantly higher. 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).

The chapters that follow reflect MedPAC's efforts to help policymakers get the best value possible for Medicare's beneficiaries and for taxpayers. Chapter 2 describes MedPAC's framework for updating Medicare payment rates and analyzes the adequacy of Medicare payments for each major FFS sector. Chapter 3 examines other strategies for applying value-based purchasing in Medicare. Chapter 4 looks at approaches for linking payments to the quality of providers' services. ■

## Endnotes

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- 1 Medicare's share of spending will grow after 2006, when the program will begin offering an outpatient prescription drug benefit.
- 2 Some analysts question whether Medicare can evaluate the performance of individual providers because many deliver too few of certain procedures to develop reliable measures. However, others believe it is possible to develop combinations of measures or average measures across time to assess performance more reliably.
- 3 One study quantifies the cost of delaying changes in the financing of Social Security and Medicare through a measure called fiscal imbalance (Gokhale and Smetters 2003). This measure is the difference between projected program expenditures and available resources under current policies. The authors calculate that restoring fiscal balance would require one of the following: a 16.6 percentage-point increase in payroll taxes, a two-thirds increase in federal income tax revenue, a 45 percent cut in Social Security and Medicare outlays, or elimination of the entire federal discretionary budget. Delaying policy changes until just 2008 makes necessary adjustments more difficult: an 18.2 percentage-point increase in payroll taxes or a 74 percent increase in income tax revenues.
- 4 Some states pay providers at lower rates than payment rates made by the Medicare program. As a result, the extent to which a state would pay for increases in Medicare cost sharing depends in part on its Medicaid payment rates.

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CHAPTER

# 2

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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-1** The Congress should increase payment rates for the inpatient prospective payment system by the projected increase in the hospital market basket index less 0.4 percent for fiscal year 2006.

COMMISSIONER VOTES: YES 15 • NO 1 • NOT VOTING 0 • ABSENT 1

.....  
**2A-2** The Congress should increase payment rates for the outpatient prospective payment system by the projected increase in the hospital market basket index less 0.4 percent for calendar year 2006.

COMMISSIONER VOTES: YES 15 • NO 1 • NOT VOTING 0 • ABSENT 1

.....  
**2A-3** The Congress should extend hold-harmless payments under the outpatient prospective payment system for rural sole community hospitals and other rural hospitals with 100 or fewer beds through calendar year 2006.

COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1

**Section 2B: Physician services**

**2B** The Congress should update payments for physician services by the projected change in input prices less 0.8 percent in 2006.

COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1

**Section 2C: Skilled nursing facility services**

**2C-1** The Congress should eliminate the update to payment rates for skilled nursing facility services for fiscal year 2006.

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

.....  
**2C-2** The Secretary should develop a new classification system for care in skilled nursing facilities. Until this happens, the Congress should authorize the Secretary to:

- ▶ remove some or all of the 6.7 percent payment add-on currently applied to the rehabilitation RUG-III groups, and
- ▶ reallocate the money to the nonrehabilitation RUG-III groups to achieve a better balance of resources among all of the RUG-III groups.

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

.....  
**2C-3** CMS should:

- ▶ develop and use more quality indicators specific to short-stay patients in skilled nursing facilities,
- ▶ put a high priority on developing appropriate quality measures for pay for performance, and
- ▶ collect information on activities of daily living at admission and discharge.

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

.....  
**Section 2D: Home health services**

**2D** The Congress should eliminate the update to payment rates for home health care services for calendar year 2006.

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

.....  
**Section 2E: Outpatient dialysis services**

**2E** The Congress should update the composite rate by the projected rate of increase in the end-stage renal disease market basket index less 0.4 percent for calendar year 2006.

COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1



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

**M**edPAC makes payment update recommendations annually for fee-for-service Medicare. We use a framework to help us develop our recommendations in a thoughtful and consistent manner. The framework divides the process into two parts: first assessing the adequacy of Medicare payments for efficient providers in the current year (2005) and then assessing whether and how payments should change in the policy year (2006). When considering whether current payments are adequate, we account for policy changes other than the updates that are scheduled to take effect in the policy year under current law. This year we will be making update recommendations in six sectors: hospital inpatient, hospital outpatient, physician, skilled nursing facility, home health, and outpatient dialysis.

### In this chapter

- Hospital inpatient and outpatient services
- Physician services
- Skilled nursing facility services
- Home health services
- Outpatient dialysis services

The goal of Medicare payment policy is to maintain beneficiaries' access to high-quality services. Achieving this goal involves setting the base payment rate (for services of average complexity) at the right level, developing payment adjustments that accurately reflect cost differences outside the control of providers among types of services and patients and for varying market conditions, and then annually considering the need for a payment update. In this report, MedPAC makes payment update recommendations for six payment systems in the fee-for-service Medicare program.

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) requires that we consider the efficient provision of services in making update recommendations.

Our general approach to developing payment policy recommendations attempts to:

- make enough funding available in aggregate to cover the costs of efficient providers, thus maintaining Medicare beneficiaries' access to high-quality care, and
- distribute payments equitably among services and providers.

MedPAC uses a framework to ensure the update decision-making process is thoughtful and consistent. In our model, we address two questions that together determine the appropriate level of aggregate funding for a given payment system:

- Are payments at least adequate for efficient providers in 2005?
- How should Medicare payments change in 2006?

In the first part of our adequacy assessment, we judge whether Medicare payments compared with efficient providers' costs are too high or too low in the current year—2005 (Figure 2-1). In the second part, we assess how we expect efficient providers' costs to change in the next payment year—currently 2006. We may also consider changes in payment policy that would affect distribution of dollars. We then produce our recommended update and any other recommended policy changes.

This section of the chapter reviews our process. The chapter then proceeds through the Commission's analysis of payment adequacy and development of update and

other recommendations for hospital inpatient and outpatient, physician, skilled nursing facility (SNF), home health, and outpatient dialysis services.

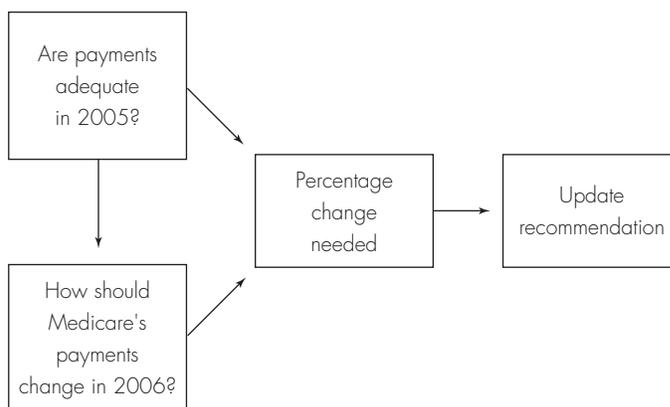
## Are Medicare payments adequate in 2005?

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

- beneficiaries' access to care
- changes in the capacity of providers
- changes in the volume of services
- changes in the quality of care
- providers' access to capital
- Medicare payments and providers' costs for 2005

Because the goal of Medicare payment policy is to maintain beneficiaries' access to high-quality services by aligning payments with efficient providers' costs of furnishing health care, our measures are both beneficiary focused (for example, access to care) and provider focused (for example, the current year relationship of payments

**FIGURE 2-1** Framework for assessing payment adequacy and updating payment rates



and costs). 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 MedPAC to judge payment adequacy.

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

In the absence of evidence showing widespread and systematic access problems, Medicare's payment rate could be adequate or too high. Whether Medicare's payments influence access to care will depend on the extent to which Medicare is the dominant payer for that service. For example, providers may discriminate against beneficiaries if Medicare rates are too low and Medicare's share is not significant. Factors unrelated to Medicare's payment policies, such as beneficiaries' preferences, supplemental insurance, and transportation difficulties, may also affect access to care.

The indicators we use to assess beneficiaries' access to care depend on the availability and relevance of information in each sector. For example, we assess physicians' willingness to serve beneficiaries and ask beneficiaries about their access to physician care using several surveys. For home health services, we examine whether communities are served by providers using information CMS publishes on its website and, from a national survey, whether beneficiaries report 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 practice patterns and technology, however, may also affect providers' capacity.

Substantial increases in the number of providers may suggest that payments are more than adequate and unnecessary services are being provided. 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. Facilities closing is the opposite outcome, although it can be difficult to distinguish between closures that have serious implications for access to care in a community and those that have resulted from excess capacity. Moreover, if Medicare is not the dominant payer, changes in the number of providers may be influenced by other policies and demand for services.

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

Increases 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.<sup>1</sup> Conversely, reductions in the volume of services may indicate that revenues are inadequate for providers to continue operating or to provide the same level of services. Either trend also could be explained by other factors, such as incentives of the payment system, population changes, changes in disease prevalence among beneficiaries, technology, practice patterns, and beneficiaries' preferences.

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

Assessing the relationship between quality and Medicare payments may be difficult. Quality is influenced by many factors, such as beneficiaries' preferences and compliance and providers' adherence to clinical guidelines. Generally Medicare's payment systems are largely neutral or negative toward quality—differences in quality of services provided do not result in differences in payments. Also, the influence of Medicare's payments on quality of care may be limited when Medicare is not the dominant payer. Even in this case, however, the program's quality improvement activities can influence the quality of care for a sector. Finally, generally increasing payments may not be an appropriate response to quality problems in a sector, particularly if other factors point to adequate payments. Rather, MedPAC supports linking payment to quality to hold providers accountable for the care they furnish (Chapter 4).

### **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. However, access to capital may not be a useful indicator of the adequacy of Medicare payments when providers derive most of their payments from other payers or other lines of business. For example, the majority of hospital and SNF revenues—66 percent in hospitals and 88 percent in SNFs—come from private sources (such as health insurance) and other government payers (such as Medicaid). Finally, circumstances can occur within a sector that can discourage outside investment because of the actions of certain providers. For

example, outside investment could be discouraged for providers under particular government scrutiny because of fraudulent billings to the Medicare program.

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 increases in 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 2005

We estimate total Medicare payments nationally for the year preceding the one to which our update recommendation will apply. In this report, we are estimating payments and costs for 2005 to inform our update recommendations for 2006.

For providers that submit cost reports to CMS—hospitals, skilled nursing facilities, home health agencies, and outpatient dialysis facilities—we estimate total Medicare-allowable costs and assess the relationship between Medicare's payments and providers' costs. The relationship between payments and costs is typically expressed as a margin.<sup>2</sup> A margin is calculated as payments less costs divided by payments. Because the latest payment and cost report data available to us are from 2003, we must estimate the 2005 margin.

To estimate payments, we first apply the annual payment updates specified in law for 2004 and 2005 to our 2003 base numbers. We then model the effects of other policy changes that will affect the level of payments and those—other than payment updates—that are scheduled to go into effect in the policy year (2006). This 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 2005 would be if 2006 payment rules had been in effect.

To estimate 2005 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 product based upon our review of trends in key indicators, including 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 sector provides services that are paid for in multiple payment systems, however, our measures of payments and costs for the sector may become distorted because of allocation of overhead costs or cross subsidies among services. Examples of this phenomenon are hospitals and outpatient dialysis facilities. In these instances, we assess, to the extent possible, the adequacy of payments for the whole range of Medicare services that the sector furnishes.

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

We reached this conclusion in part based on evidence that total margins are largely unrelated to Medicare margins. For example, previous MedPAC analysis shows little relationship between hospitals' overall Medicare margins and their total margins (MedPAC 2003a). The lack of a consistent relationship between Medicare margins and total margins suggests that changes in Medicare's payment policies may not provide a reliable tool for addressing the total financial performance of a sector. In addition, the tools available for accurately calculating a total margin are problematic because inconsistent reporting among providers in a sector can result in misstatement of financial performance (Kane and Magnus 2001, MedPAC 2004). Finally, increasing Medicare payments to offset low total margins might discourage other payers from paying adequately or might discourage providers from becoming more efficient over time. The Commission believes that Medicare's payment systems should encourage providers to be efficient. The goal of Medicare payment policy is to maintain beneficiaries' access to high-quality services by aligning payments with *efficient* providers' costs of furnishing health care.

Although we do not consider total margins in our deliberations, we recognize that payers other than Medicare affect providers and can complicate our ability to assess payment adequacy. For example, if Medicare is not the dominant payer, changes in the number of providers may be influenced by other payers' payment

policies. When providers derive most of their payments from other payers, access to capital may not be a useful indicator of the adequacy of Medicare's payment.

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 different types of providers that are significant to Medicare's payment policies. For example, we calculate Medicare margins based on where hospitals are located (in large urban, other urban, or rural areas) and by their teaching status (major teaching, other teaching, or nonteaching). In 2003, for example, MedPAC found that on average rural hospitals had significantly worse financial performance under Medicare than their urban counterparts (MedPAC 2003b). This finding led us to recommend policy changes to improve payments to rural hospitals so that beneficiaries' access to care would be maintained.

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 for inpatient hospital stays). 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, MedPAC 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 vary 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. However, when we see providers respond dramatically to the incentives incorporated in a payment system, we may conclude that the initial costs were too high and that, therefore, the initial rates were set too high.

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 inputs 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 also may affect providers' need to be efficient in delivering services. In a sector with a mix of payers or 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. For example, economic literature on the hospital industry suggests 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).

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. For example, substantial reductions in the number of visits in home health episodes would be expected to reduce the growth in provider costs. However, if costs per episode 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. Current costs could be overstated and our margin calculations biased downward when data are obtained from unaudited cost reports. In some instances, some portion of costs have been found to be unallowable after CMS contractors audited facilities' cost reports.<sup>3</sup>

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, and when audits are done, they generally focus on a narrow set of components instead of broadly examining the accuracy of costs included in the

reports. A limited number of full-scale random audits could provide some insight into the quality of all cost report data submitted.

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## How should Medicare payments change in 2006?

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The second part of MedPAC'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, known as the Medicare Economic Index. Forecasts of these indexes are intended to 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.

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, MedPAC can include an allowance in its update recommendation. When reaching this judgment, the Commission takes into account the design of the payment system and how Medicare pays for new technology. A provision of the MMA provides new monies for new technologies for hospital inpatient care, and a positive allowance in the 2006 update recommendation is no longer necessary.
- *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, MedPAC has adopted a policy goal to create incentives for efficiency and include an adjustment for productivity when accounting for providers' cost changes in the coming year. MedPAC's productivity factor is a 10-year average of the U.S. Bureau of Labor Statistics' estimate of economy-wide, multifactor productivity growth, which is currently estimated at 0.8 percent. 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, Medicare should expect improvements in productivity consistent with the average realized by the firms and workers who fund it.

## Update and distributional recommendations

MedPAC's approach to updating payments results in a percentage change that determines the final update recommendation. Coupled with the update recommendation, we may also make recommendations concerning the distribution of payments among providers. These distributional changes are sometimes but not always budget neutral within the payments we judge to be adequate.

The MMA requires MedPAC 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 impact of our recommendations on beneficiaries and providers. ■

## Endnotes

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1. Changes in the volume of physician services must be interpreted cautiously because some evidence suggests that volume goes 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.
2. Alternatively, the relationship also can be expressed as a ratio of payments to costs.
3. For analysis and use of audited cost report data for outpatient dialysis services, see Section 2E.

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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 S**

**2A-1** The Congress should increase payment rates for the inpatient prospective payment system by the projected increase in the hospital market basket index less 0.4 percent for fiscal year 2006.

**COMMISSIONER VOTES: YES 15 • NO 1 • NOT VOTING 0 • ABSENT 1**

.....  
**2A-2** The Congress should increase payment rates for the outpatient prospective payment system by the projected increase in the hospital market basket index less 0.4 percent for calendar year 2006.

**COMMISSIONER VOTES: YES 15 • NO 1 • NOT VOTING 0 • ABSENT 1**

.....  
**2A-3** The Congress should extend hold-harmless payments under the outpatient prospective payment system for rural sole community hospitals and other rural hospitals with 100 or fewer beds through calendar year 2006.

**COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1**

# SECTION 2A

## Section 2A: Hospital inpatient and outpatient services

### In this section

- Are Medicare payments adequate in 2005?
- How should Medicare payments change in 2006?

The evidence on payment adequacy for hospitals is mixed. Beneficiaries' access to care, volume of services, and access to capital are positive, and the results on quality are mixed. However, unusually large cost increases recently have led to a downward trend in Medicare margins. Cost growth has been affected by unusual increases in some input prices, but costs are increasing faster than the market basket. A significant factor in this growth has been the recent increase in private payments to hospitals, which has lessened pressure on them to constrain costs. In addition, hospitals with consistently negative Medicare margins have higher costs and higher cost growth than their competitors; hospitals with high costs and cost growth pulled down the industry-wide margin. Update recommendations of market basket minus 0.4 percent for inpatient and outpatient payments will balance an incentive for fiscal discipline with concern for the trend in Medicare margins. We recommend that the Congress maintain outpatient hold-harmless payments for small and isolated rural hospitals for a year to provide time to consider the reasons some rural hospitals are projected to perform poorly when this policy ends.

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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 for care.

### Medicare spending on hospitals

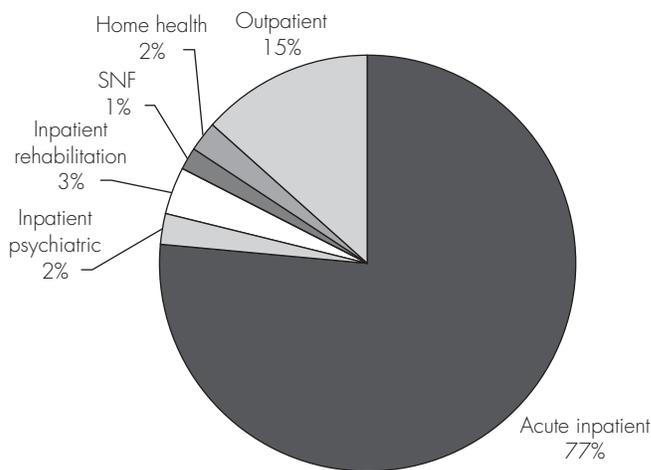
The bulk of Medicare spending on hospitals is for acute inpatient and outpatient care. Payments for acute inpatient care account for about three-quarters of all Medicare payments to prospective payment system (PPS) hospitals, while payments for outpatient care (including emergency room services) make up about 15 percent (Figure 2A-1).<sup>1</sup> Spending on inpatient and outpatient care for all participating hospitals increased from about \$95 billion in 1994 to \$142 billion in 2003, representing a 4.5 percent average annual growth rate during the decade (Figure 2A-2). From 1994 to 1997, total Medicare hospital spending grew 5.3 percent per year. Expenditures were nearly flat for three years after the Balanced Budget Act of 1997 (BBA) was enacted, and then spending growth accelerated to more than 8 percent in 2001 and 2002 before dropping to 5.7 percent in 2003.

Looking forward, CMS's Office of the Actuary (OACT) projects that hospital payments will increase at an annual rate of 5.1 percent from 2004 to 2014 (OACT 2004). But OACT projects that Medicare fee-for-service (FFS) payments to hospitals will decrease in 2006 and 2007 because of expected enrollment increases in Medicare Advantage (MA) plans. Hospital bills for beneficiaries who join MA plans will be paid directly by those plans, not through the Medicare fee-for-service hospital payment system (except for graduate medical education payments). The Congressional Budget Office (CBO), on the other hand, does not project a decline in fee-for-service enrollment and, consequently, expects FFS payments to hospitals to continue to increase.

The Medicare hospital spending presented above includes all outpatient services, not just those covered under the outpatient PPS.<sup>2</sup> Total spending under the outpatient PPS,

**FIGURE  
2A-1**

**Acute inpatient services account  
for most Medicare hospital  
payments**



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

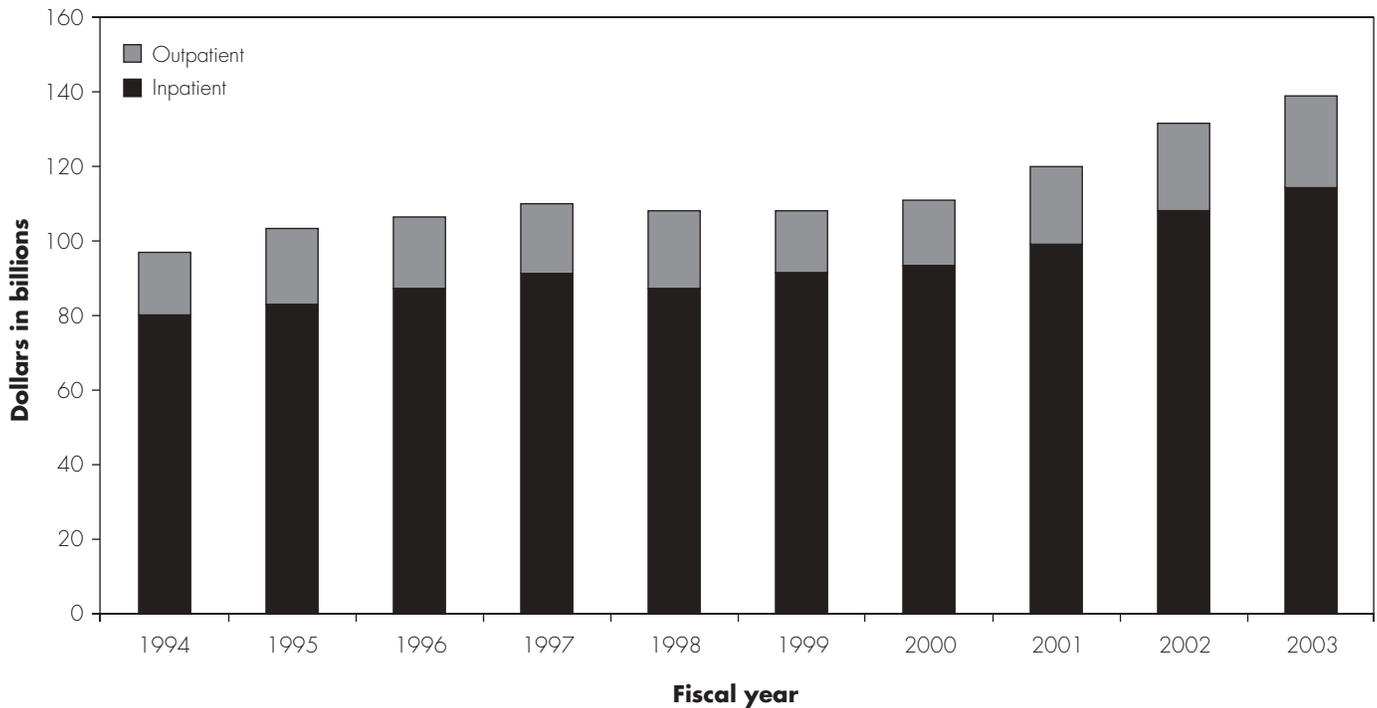
Source: MedPAC analysis of 2003 Medicare Cost Report file from CMS.

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which CMS implemented in August 2000, grew at an annual rate of 4.8 percent from 2001 to 2003 (the outpatient PPS operates on a calendar year, as opposed to the government fiscal year for the inpatient PPS). OACT estimates that outpatient spending will continue to increase through 2005, with an annual growth rate of 8.1 percent from 2003 to 2005. OACT projects that spending will decrease in 2006, because of the projected increase in MA enrollment, and then rise again in 2007 (OACT 2004). Under CBO's assumptions for fee-for-service enrollment, outpatient spending will continue to increase in 2006.

### Medicare's payment systems for hospital 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 mix of cases or services as well as geographic differences in wages) but use different sets of additional payment adjustments.

**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); other inpatient services (psychiatric, cancer, children's, rehabilitation, and long-term care hospitals); outpatient services covered by PPS; and other outpatient services. Payments include both program outlays and cost sharing incurred by beneficiaries.

Source: CMS, Office of the Actuary, 2004.

**Acute inpatient payment system**

Medicare's acute inpatient PPS pays hospitals a predetermined amount per hospital discharge. The diagnosis-related group (DRG) classification system sorts patients into more than 500 groups, which aggregate cases with related clinical problems that are expected to have similar costs.

Each DRG has a relative weight that is 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 portion of the DRG payment rate attributable to the cost of labor is further adjusted by the hospital wage index to account for differences in local input prices.

The inpatient PPS makes additional 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;
- add-on payments for the costs of major new technologies used in acute inpatient care;
- an indirect medical education (IME) adjustment to account for the higher patient care costs of teaching hospitals;<sup>3</sup>
- 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 that qualify as sole community providers, rural referral centers, or small Medicare-dependent hospitals; and
- a low-volume adjustment for rural hospitals treating fewer than 200 admissions from all payment sources.

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) called for several changes to these payment policies that increased payments to many rural hospitals and some urban facilities.<sup>4</sup>

Since 1997, certain small rural hospitals with 25 or fewer beds can qualify as critical access hospitals (CAHs). These hospitals are paid 1 percent more than their incurred costs for both inpatient and outpatient services and are not considered when we evaluate the adequacy of Medicare's prospective payments. There were 1,050 CAHs as of December 2004. (More information on this program will be provided in our forthcoming report to the Congress on the CAH program.)

### **Hospital outpatient payment system**

The outpatient PPS pays hospitals a predetermined amount per service. Each service provided to a beneficiary is assigned to an ambulatory payment classification (APC) group. The APCs cover everything from simple X-rays and clinic visits to cataract surgeries and insertion of pacemakers. CMS has created approximately 800 APCs for 2005. Each APC has a relative weight based on its median cost of service compared with the national average, and a conversion factor translates relative weights into dollar payment amounts. The labor portion of the outpatient payment is adjusted by the hospital wage index to reflect differences in local input prices.

The outpatient PPS includes three payment adjustments:

- pass-through payments for new technologies when providers use certain drugs, biologicals, and devices in the delivery of services,
- outlier payments for individual services or procedures with unusually high costs relative to the payment rate for the APC, and
- hold-harmless payments to cancer, children's, small rural, and sole community hospitals if their outpatient PPS payments are lower than they would have been under prior policy. Hold-harmless payments to small rural and sole community hospitals end in 2005, however.

Under the outpatient PPS, beneficiaries must meet the deductible that applies to all Part B services (\$110 in 2005) and also pay a pre-specified coinsurance for each service. In 2003, beneficiary coinsurance accounted for about 35 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 2005?**

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Each year, MedPAC makes payment update recommendations for hospital inpatient and outpatient services for the coming year. In our framework we address whether base payments for the current year (2005) are adequate and how much efficient providers' costs should change in the coming year (2006). 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 payments and costs. In addition, the MMA requires that we consider the efficient provision of services in making update recommendations. We have previously established the importance of considering the appropriateness of providers' costs in assessing payment adequacy—that is, whether actual costs provide a reasonable representation of the costs of efficient providers (MedPAC 2003a).

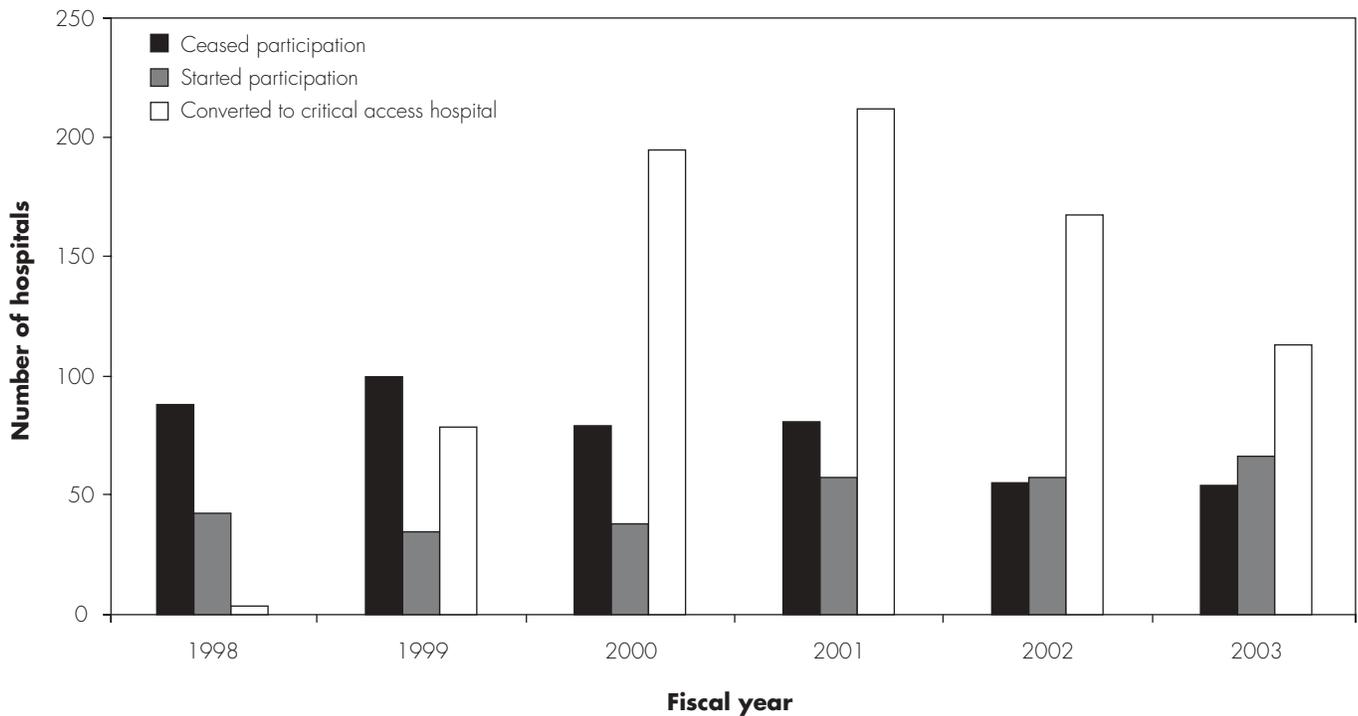
### **Beneficiaries' access to care and supply of providers**

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 the capacity of hospitals to provide services to Medicare beneficiaries.

In 2003, 58 hospitals joined the Medicare program and 41 ceased operation, for a net gain of 17 (Figure 2A-3). More than half the new participants identified themselves by name as a specialty hospital (surgical, heart, orthopedic, or women's hospital). Of 157 facilities that dropped out of the acute inpatient PPS, 41 stopped participating in Medicare as mentioned and 116 converted to CAH status.

**FIGURE  
2A-3**

**Fewer hospitals are ceasing participation in Medicare, while many have become critical access hospitals**



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

The number of facilities exiting the Medicare program, as opposed to converting to CAH status, has dropped every year since 1999.

The share of hospitals offering most specialty services increased from 1998 to 2002 (Table 2A-1). The proportion offering trauma center services (level 1, 2, or 3) grew from 26 percent to 34 percent, and the proportion offering burn care increased from 3 percent to 4 percent. Trauma center and burn care services are often considered unprofitable for hospitals. The largest change was in MRI services, which increased from 50 percent to 59 percent.

The percentage of hospitals offering outpatient and emergency services has been fairly stable (Table 2A-2, p. 46). A small increase in the share of hospitals providing outpatient care followed the introduction of the outpatient PPS in August 2000. The only change since 2001 was a small increase in the percentage offering outpatient surgery.

**TABLE  
2A-1**

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

Service	1998	2000	2002
Neonatal intensive care	19%	19%	20%
Burn care	3	3	4
Transplant services	6	9	9
Open heart surgery	20	22	22
Trauma center (levels 1-3)	26	33	34
Cardiac catheterization	37	38	40
Angioplasty	24	26	28
Hemodialysis	N/A	22	28
Psychiatric services	50	49	48
Radiation therapy	26	28	28
MRI	50	55	59

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

Source: American Hospital Association annual survey of hospitals.

**TABLE  
2A-2**

**The share of hospitals offering outpatient services has risen slightly**

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

Note: Includes services provided or arranged by short-term hospitals.

Source: Provider of Services file from CMS.

**Changes in volume of services**

Both inpatient and outpatient volume have increased in recent years. 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 1999 through 2003 (Figure 2A-4). For Medicare, the increases partly reflect growth in fee-for-service enrollment from beneficiaries leaving Medicare+Choice plans and returning to traditional Medicare, particularly in 2001 and 2002.

Medicare discharges grew more rapidly than fee-for-service enrollment from 1999 to 2001 and then kept pace with enrollment in 2002 and 2003. Discharges increased by 3.1 percent in 2002 and 2.4 percent in 2003, yielding a two-year increase that matches the two-year increase in enrollment.

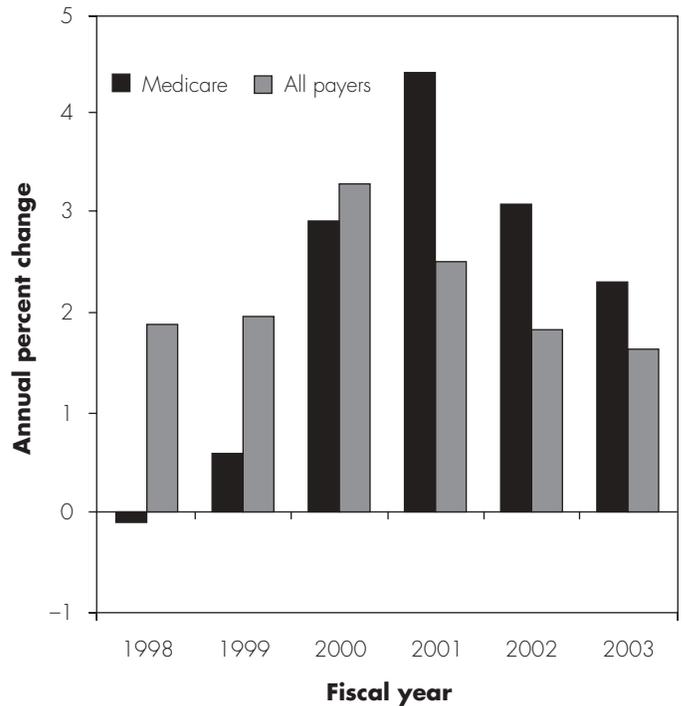
The average length of stay for Medicare patients fell more than 30 percent during the 1990s, with annual declines exceeding 5 percent from 1993 to 1996. The rate of decline then slowed to 1.3 percent in 2003 (Figure 2A-5).

**Outpatient volume**

We measure the volume of outpatient care as number of services provided because the outpatient PPS generally pays for individual services. Volume has grown rapidly since 2001—the first full year of the outpatient PPS—but the rate of increase has slowed. Analysis of claims data indicates that volume increased by 12.7 percent in 2002

**FIGURE  
2A-4**

**Hospital discharges continued to grow through 2003**



Note: Data are for hospitals covered by the Medicare acute inpatient prospective payment system in 2003.

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

and by 8.5 percent in 2003. Our analysis excludes pass-through devices and drugs as well as other separately paid drugs.<sup>5</sup>

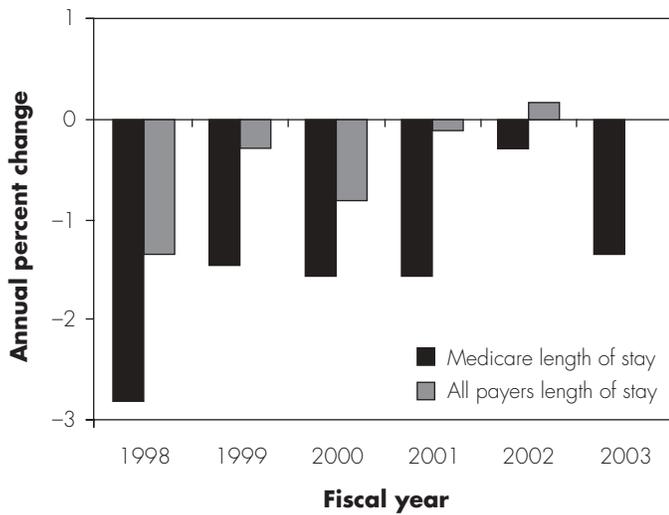
We found that 65 percent of the growth from 2002 to 2003 was due to increased volume per beneficiary who received a service covered by the outpatient PPS. Most of the remaining growth was due to an increase in the number of beneficiaries in FFS Medicare, with very little of it due to a greater percentage of beneficiaries receiving any outpatient PPS care.

**Changes in quality of care**

The quality of care hospitals provide to Medicare beneficiaries shows 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

**FIGURE  
2A-5**

**The decline in Medicare length  
of stay continued in 2003**



Note: The annual percent change in length of stay for all payers was zero in 2003. Data are for hospitals covered by the Medicare acute inpatient prospective payment system in 2003.

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

discuss each of these indicators briefly below, and additional detail is available in our March 2004 report (MedPAC 2004).

Our measures of mortality and adverse events were developed by the Agency for Healthcare Research and Quality (AHRQ). We examined in-hospital mortality and mortality 30 days after admission to the hospital, and we analyzed the incidence of potentially preventable adverse events resulting from inpatient care to assess safety in hospitals. 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. Because of the low occurrence of some of the indicators, we examined all Medicare inpatient claims with specified conditions or procedures using CMS's MedPAR file. We risk-adjusted the data sets using an AHRQ methodology.

In-hospital mortality declined from 1998 to 2003 for each of the eight conditions or procedures we measured; rates for coronary artery bypass graft, congestive heart failure, and gastrointestinal hemorrhage fell by more than 20 percent. The 30-day mortality rate decreased for six measures from 1998 to 2003 but increased slightly for two, pneumonia and stroke. The 30-day rate reflects not only the in-hospital experience but often care experienced in post-acute and outpatient settings.

Data from the Quality Improvement Organization (QIO) program on the clinical effectiveness and appropriateness of care in hospitals show improvement for 18 of 25 measures.<sup>6</sup> Four indicators show deterioration, while data limitations prevent comparison for three indicators. Many beneficiaries still are not receiving clinically indicated services, however.

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 2003. Although these are rare events, often with rates under 100 per 10,000 eligible discharges, collectively they affected approximately 375,000 cases in 2003. The most common is decubitus ulcer (bed sores), for which the rate increased over the period. The second most common, failure to rescue, results in death. But the rate for this measure decreased over the period, which is consistent with the decline in mortality rates.

In light of this mixed picture, we are concerned about the trend for some measures, particularly the patient safety indicators. None of these measures, however, seems to 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 make the case that further efforts to improve quality are needed, including linking payment to quality performance. As we discuss in Chapter 4, MedPAC recommends that the Congress establish a quality incentive payment policy for hospitals that participate in Medicare.

### Hospitals' access to capital

Access to capital allows hospitals to maintain and modernize their facilities and capabilities for patient care. If hospitals were unable to access capital, it might in part reflect the adequacy of Medicare payments, although Medicare only makes up about a third of hospital

revenues. Access to capital is also influenced by other payers, changes in uncompensated care, management actions concerning the hospital and related businesses, and investors' perception of the regulatory environment, including the possibility of changes in federal and state hospital payment policies.

### **Indicators suggest that access to capital is good**

Two major factors suggest that access to capital for the overall sector is good: the strength of hospital construction spending and bond issuances. Hospital construction spending increased 22 percent in 2002, 7 percent in 2003, and an estimated 12 percent in 2004 (Census 2004). 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, implying that hospitals are going beyond merely replacing worn-out plant and equipment (Moody's 2004, FitchRatings 2004, S&P 2004a). Tax-exempt municipal bond issuances for hospitals continue to increase from the 2000 level of under \$15 billion to well over \$25 billion projected for 2004. In addition, the amount of new money raised (as opposed to refinancing current debt) reached a record level of more than \$20 billion (Thompson Financial data cited in BoA 2004).

Overall, 2004 bond ratings in this sector were similar to what they were in the previous year. In the Standard & Poor's ratings, for example, only about 10 percent were upgraded or downgraded. Although downgrades exceed upgrades, Standard & Poor's reports that in the latest quarter, the amount of upgrades (\$1.32 billion) exceeded that of downgrades (\$759 million) by more than 70 percent (S&P 2004b).

This stability is important because it occurs at the same time that hospitals have been making larger capital investments and borrowing more money to do so. The fact that few ratings have been lowered implies 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. FitchRatings, for example, reports that days cash on hand increased from 133 days in 2002 to 150 days in 2003 and debt service coverage from 2.7 to 2.8 (FitchRatings 2004).<sup>7</sup>

### **Hospitals expect access to capital to remain good**

Hospitals plan to continue to add capacity and increase capital spending, which implies that they expect to have continued access to capital. A recent survey of nonprofit hospitals found the following (BoA 2004):

- Nearly 82 percent of hospitals plan to add capacity over the next two years. Some 54 percent plan to add inpatient capacity. As a point of reference, 2001 was the first year licensed bed capacity increased since 1983 (Health Systems Change 2003b).
- The mean forecasted increase in 2004 capital spending is 10 percent, and 41 percent of hospitals expect to increase capital spending more than 15 percent. A Healthcare Financial Management Association survey shows an expected increase of 14 percent annually over the next five years, compared with an average 1 percent annual increase from 1997 to 2001 (HFMA 2004).
- Nearly 87 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.

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. Of approximately 3,800 hospitals, about 60 percent are nonprofit and account for more than 70 percent of discharges. For-profit hospitals make up less than 20 percent of hospitals and about 14 percent of discharges.

### **Is access to capital good for all hospitals?**

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. A recent commentary, however, points out that over a longer time horizon, providers manage to access enough capital to stay in business as:

- they experience periods of strong as well as weak performance;
- the dynamics of the capital markets change (e.g., interest rates rise and fall); and
- government programs, such as the Federal Housing Administration 242 mortgage insurance program, make capital available (Cain Brothers 2004).

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. Other forms of financing appear to be on the rise, though, arguably allowing hospitals that are not rated to access capital as well. Commercial lenders—for example, banks—are reportedly taking more interest in the sector and are increasing loans, private placement of tax-exempt bonds is increasingly available, and leasing of equipment may be another alternative. Moreover, some hospitals have poor access to capital because they are failing institutions, with low occupancy, high unit costs, and other problems legitimately affecting their creditworthiness.

### **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 through the debt market. Stock prices for the eight largest for-profit chains have been mixed, with five showing an increase in price over the past year and three a decrease. Access to capital does not seem to be a pervasive problem, however, as most of the chains continue to acquire hospitals. For example, LifePoint Hospitals recently agreed to purchase Province Healthcare for \$1.7 billion. And in another example of use of capital, the largest chain, HCA, recently announced that it will borrow as much as \$2.5 billion to repurchase its shares (WSJ 2004).

Investors in this sector have some of the same concerns as in the nonprofit sector about cost increases, ability or willingness of payers to continue to increase payments, and bad debt. One analyst also raised the issue of capital competition with nonprofit hospitals—another indication of good access to capital for nonprofits. Thus, although some analysts are not bullish on the sector for investment, others feel that any bad news is already factored into the prices and room for appreciation exists if the economy continues to improve (Merrill Lynch 2004). Some private investors appear to share this more optimistic view, as evidenced by two recent leveraged buyouts of proprietary hospital companies and a total infusion of more than \$1 billion in private equity over the past year—an all-time high (Citigroup 2004).

### **Payments and costs for 2005**

In assessing payment adequacy, the Commission considers the estimated relationship between Medicare payments and costs in the current year, fiscal year 2005. We assess

the adequacy of Medicare payments for the hospital as a whole, and thus our indicator of the relationship between payments and costs is the overall Medicare margin.<sup>8</sup> This margin includes payments and costs for the six largest services that hospitals provide to Medicare patients plus graduate medical education. We take this approach because hospitals have large amounts of overhead that they allocate across service lines. Only by combining data for all major services can we estimate Medicare costs for measuring the relationship between payments and 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 2005. Then we discuss the unusually high cost growth of recent years as well as the numerous policy changes that have combined to produce the expected 2005 margin. Next we present evidence that hospitals’ current rate of cost growth is linked to the absence of fiscal pressure from the private sector. Finally, we analyze the wide distribution of financial performance, finding that hospitals with both high costs and high cost growth have a significant negative effect on the industry-wide Medicare margin.

### **Trend in Medicare margins**

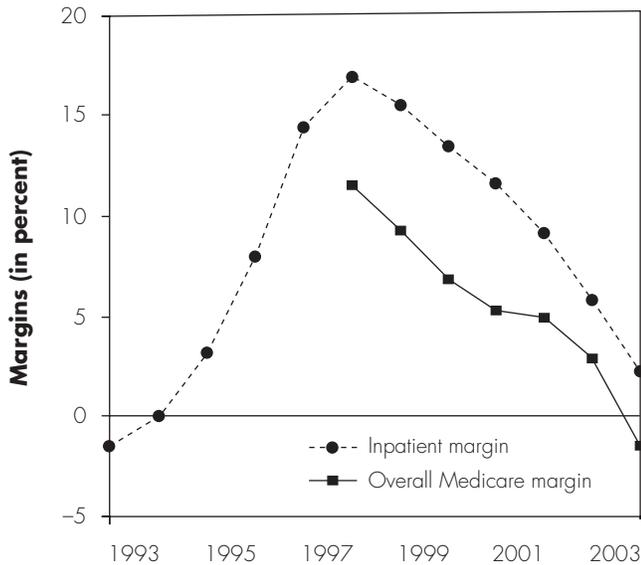
The overall Medicare margin has trended downward since 1998, falling to –1.9 percent in 2003 (Figure 2A-6, p. 50).<sup>9</sup> The drop from 2002 resulted mostly from high cost growth, but payment policy changes also played a role.

The decrease in the Medicare margin from 2002 to 2003 occurred across most lines of business. The Medicare inpatient margin dropped from 5.9 percent to 1.3 percent, and the outpatient margin also fell from –9.0 percent to –11.5 percent (Table 2A-3, p. 50). Margins for hospital-based SNFs and home health agencies also declined, but margins for inpatient rehabilitation facilities increased.

We estimate that the overall Medicare margin in 2005—reflecting 2006 payment policies—will increase slightly to –1.5 percent (Table 2A-4, p. 51). The improvement in the margin in part reflects MMA policy changes that increased inpatient payment rates to many rural and some urban hospitals. The following sections examine the role of cost growth and payment policy changes in the trend and distribution of margins.

**FIGURE  
2A-6**

**Trend in overall Medicare and Medicare inpatient margins**



Note: A margin is calculated as payments minus costs, divided by payments. Data 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.

**Cost growth was unusually high in 2002 and 2003** In 2002, Medicare costs per discharge for acute inpatient services (adjusted for case-mix change) rose 7.4 percent, the largest annual increase since 1990 (Table 2A-5). This rate was near 6 percent (5.6 percent) in 2003, marking the largest increase since 1992.

**TABLE  
2A-3**

**Hospital Medicare margin, 2000-2003**

Measure	2000	2001	2002	2003
Overall Medicare	5.2%	5.0%	2.3%	-1.9%
Inpatient	11.7	9.8	5.9	1.3
Outpatient	-14.3	-7.7	-9.0	-11.5

Note: Data are for all hospitals covered by Medicare acute inpatient prospective payment system in 2003. 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.

At 2.5 percent, the rate of increase in Medicare’s outpatient costs per unit of service in 2003 (adjusted for case-mix change) was less than half the increase for inpatient services. One of the key factors in this lower cost growth was the substantial increase in outpatient volume—almost 9 percent in 2003—which allows hospitals to spread fixed costs over more services. But the lower cost growth may also be linked to competition from other ambulatory care settings, such as ambulatory surgical centers and freestanding imaging facilities.

Rural hospitals had slightly lower inpatient cost growth than urban facilities in both 2002 and 2003, the first time this has occurred in 12 years. This pattern did not carry over to outpatient services, however, where rural hospitals’ per-unit costs grew 3.9 percent compared with 2.2 percent for urban facilities. Major teaching hospitals had lower cost growth than their counterparts for both inpatient services (in 2002) and outpatient services (in 2003).

The increase in cost per unit of output across *all services and all payment sources* was 6.0 percent in 2002 and 5.1 percent in 2003.<sup>10</sup> Recent evidence, however, suggests that the rate of increase may be moderating in 2004. A recent survey of 580 hospitals using the same cost measure found that unit costs grew only 3.4 percent in the year ending June 2004. This figure represents a drop of 1.7 percentage points from the industry-wide value for 2003.<sup>11</sup> In addition, data from the U.S. Bureau of Labor Statistics (BLS) show that growth in hospitals’ labor costs is slowing. Labor costs are the largest single component of hospital costs and are driven primarily by compensation rates and the number of workers, although hospitals substituting workers of higher or lower skill level also may play a role.

The rate of increase in compensation peaked in mid-2002, during the time of major concern about the shortage of nurses and other professional workers. One study estimated that the hourly cost of compensating nurses at private hospitals grew by 8.8 percent during 2002, four times the average rate of increase during the last half of the 1990s (HSC 2003). This escalation may have been partly the result of hospitals increasing their number and proportion of RNs in response to quality-of-care concerns, after research established that better RN staffing is associated with lower rates of mortality and complications (Aiken et al. 2002, Needleman et al. 2002). But in the BLS

**TABLE  
2A-4****Overall Medicare margins by hospital group, 2000–2003 and estimated 2005**

Hospital group	2000	2001	2002	2003	2005*
All hospitals	5.2%	5.0%	2.3%	-1.9%	-1.5%
Urban	6.2	5.8	3.0	-1.3	-1.3
Rural	-2.6	-1.3	-3.3	-6.2	-3.1
Major teaching	14.2	13.4	11.5	5.8	5.0
Other teaching	5.0	4.5	2.0	-1.9	-1.7
Nonteaching	0.3	0.6	-2.6	-5.8	-4.7

Note: Data are for all hospitals covered by Medicare acute inpatient prospective payment system in 2003. 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.

\*2005 margins are projections that reflect the effects of policy changes to be implemented in 2006.

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

data, the 4.4 percent average growth in compensation for the four quarters ending in June 2003 declined to 3.9 percent for the four quarters ending in June 2004 (Figure 2A-7, p. 52). Similarly, the growth rate of hospital employment peaked at the beginning of 2002 and has since trended down. The average increase of 2.0 percent for the four quarters ending in June 2003 fell to 1.3 percent through June 2004 (Figure 2A-8, p. 53).

Because labor costs are the product of compensation and employment, the drop in rate of compensation growth in 2004 (0.5 percent) and the drop in employment growth (0.7 percent) together approximate the reduction in the growth of overall labor costs (1.2 percent).

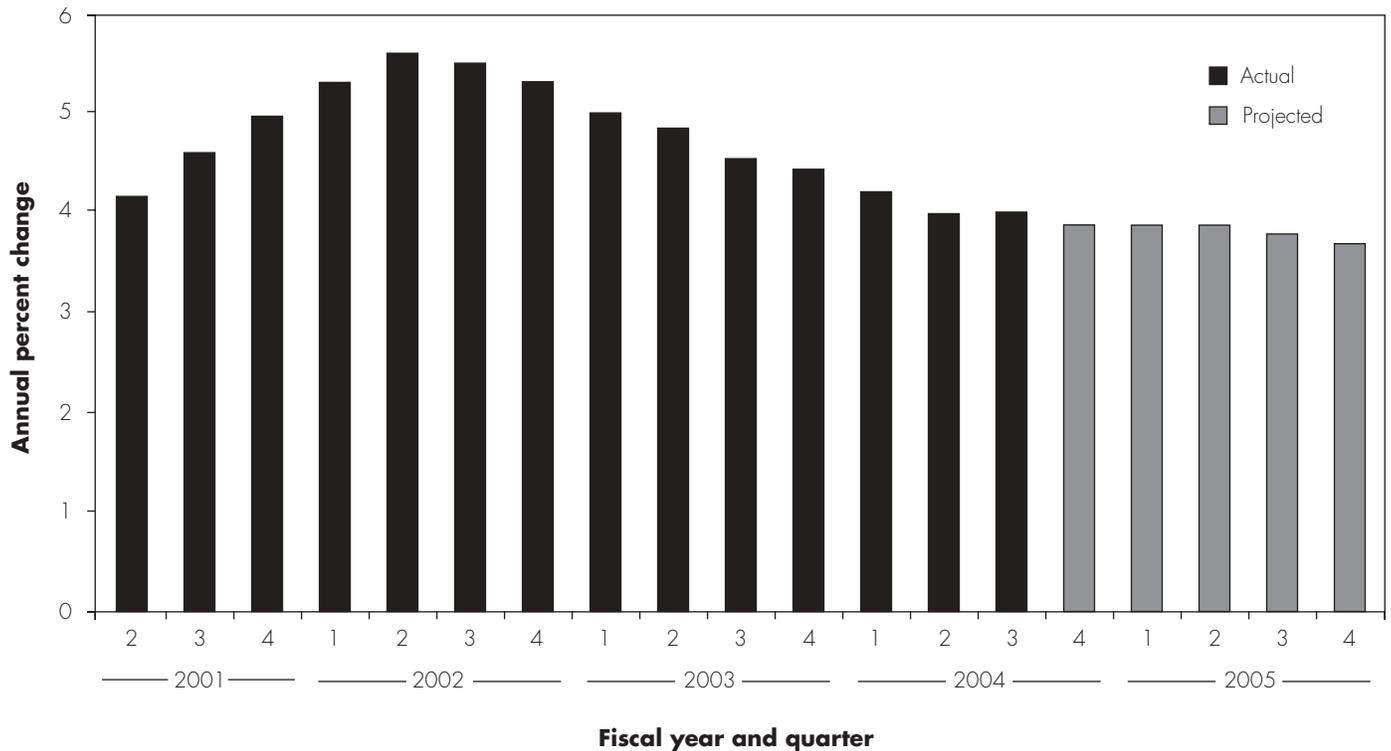
The text box on page 54 summarizes the growth in hospital costs by cost component.

**TABLE  
2A-5****High growth in Medicare costs per discharge in 2002 moderated only slightly in 2003**

Hospital group	Inpatient costs per discharge				Outpatient costs per unit of service (case-mix adjusted) 2003
	Unadjusted		Case-mix adjusted		
	2002	2003	2002	2003	
All hospitals	8.3%	6.2%	7.4%	5.6%	2.5%
Urban	8.1	6.1	7.3	5.7	2.2
Rural	8.0	5.7	7.2	4.4	3.9
Major teaching	6.1	5.9	4.9	5.6	1.2
Other teaching	8.5	6.2	7.6	6.0	2.5
Nonteaching	8.9	6.3	8.1	5.3	3.1

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

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

**FIGURE  
2A-7****Increase in average compensation rate for hospital employees peaked in early 2002**

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

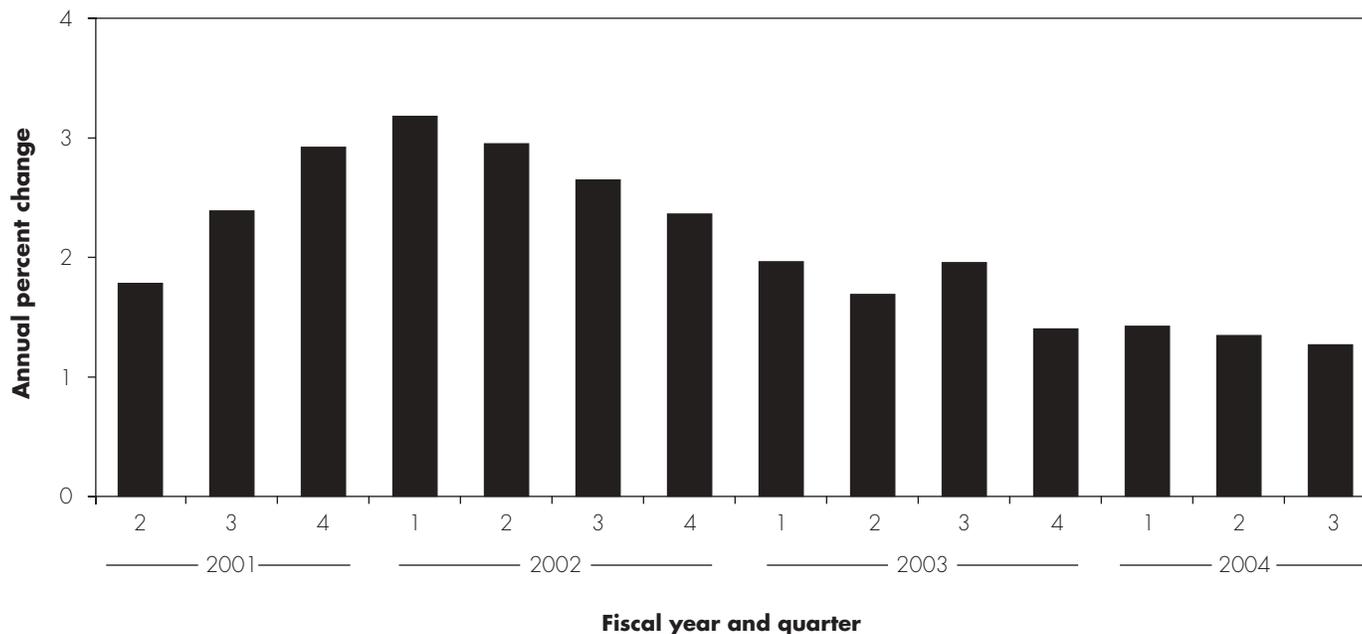
Source: Global Insights, third quarter 2004 baseline.

**Policy changes increased some payments and decreased others** Payment policy changes, along with high cost growth, contributed to the decline in the overall Medicare margin from 2002 to 2003. Specifically, policy changes affecting Medicare inpatient, outpatient, home health, and SNF payments all contributed to the decline.

For inpatient services, two policies substantially affected payments in 2003. One was a drop in outlier payments resulting from a 60 percent increase in the outlier threshold and changes CMS made toward the end of the year to address abuse of the outlier payment policy. Outlier payments were much higher than intended in 2001 and 2002. The other policy change was a 15 percent reduction in the indirect medical education adjustment paid to teaching hospitals (later reversed temporarily by the MMA). Under the outpatient payment system, the number and dollar value of items eligible for pass-through

payments fell in 2003. In addition, transitional corridor payments were reduced as part of a three-year phaseout of these payments.

Hospital-based SNF and home health payment rates also declined in 2003 as payment add-ons expired and the home health base payment was reduced, although these changes had limited effects because SNF and home health together account for only about 3 percent of Medicare's payments to hospitals. For SNFs, two temporary add-ons ended at the close of fiscal year 2002. One was a 4 percent add-on to base payment rates, and the other a 16.7 percent add-on to the nursing component of the resource utilization group (RUG) rates. For home health care providers, a 10 percent add-on for care provided to rural beneficiaries expired (later replaced by a 5 percent add-on). In addition, home health payment rates were set about 5 percent lower in 2003 than in 2002 because of a large reduction in home health payment rates that the BBA had

**FIGURE  
2A-8****The rate of increase in hospital employment has slowed since early 2002**

Note: Values are for four-quarter averages ending in the quarter shown, covering employment of nonsupervisory paid workers.

Source: MedPAC analysis of current employment survey series, 2000–2004, from Bureau of Labor Statistics.

required but which had been put off for several years by intervening legislation.<sup>12</sup> In contrast to these payment reductions, rehabilitation units' payments increased substantially in 2003 after coming under the new PPS for inpatient rehabilitation services.

Our projection of the 2005 margin is affected by a number of payment policy changes, particularly provisions adopted in the MMA. These include provisions scheduled for implementation in 2006. Medicare acute inpatient margins are expected to increase as a number of provisions add money to the system. Many of the provisions primarily affect rural hospitals; these include:

- increasing the base rate for hospitals in rural and small urban areas by 1.6 percent to match the rate for hospitals in large urban areas;
- raising the maximum DSH add-on to 12 percent (from 5.25 percent) for most rural hospitals and urban hospitals with less than 100 beds;

- increasing payments to hospitals in low-wage areas by reducing the labor share from 71 percent to 62 percent in areas with wage indexes below 1.0;
- creating a low-volume adjustment that provides an add-on of up to 25 percent for hospitals with less than 200 total inpatient discharges; and
- allowing critical access hospitals to use up to 25 beds for acute inpatient care.<sup>13</sup>

The outpatient margin, on the other hand, is expected to fall, as two payment policies that were in place in 2003 expire. The first was the removal of transitional corridor payments at the end of 2003. The second is the removal of the hold-harmless provision, which applies to small rural and sole community hospitals, at the end of 2005. The hold-harmless provision pays hospitals the maximum of outpatient PPS payments or payments they would have received under the system that preceded the outpatient PPS.

## Most cost components have risen rapidly

The high cost growth of 2003 is broad based, with most components of hospital costs rising faster than the hospital market basket. Growth differs across major service categories, however, with the rate of increase for some cost elements far exceeding the current growth trend and others rising more slowly.

Malpractice costs, as reported on the Medicare cost reports, were the fastest growing component of hospital costs in 2003, rising 34 percent per adjusted discharge, up from 26 percent in 2002. Malpractice insurance expenses account for only 1 percent of total hospital costs, but even with the very high growth rate, this cost element added only 0.3 percent to the total increase in costs per adjusted discharge in 2003. This component varies over time, however; it decreased in 2000.

Salaries and benefits paid by hospitals account for 52 percent of expenses and grew 5.2 percent per adjusted discharge in 2003. This growth was close to the average for all services but still about 2 percentage points above the market basket increase. But benefits alone grew by 10.5 percent. The large increase in the cost of benefits may be attributable to hiring bonuses to help alleviate labor shortages, particularly for nurses and pharmacists, as well as to higher costs for health insurance.

Despite major increases in construction spending by hospitals, capital expenses—composed mostly of depreciation and interest—grew only 1.1 percent per adjusted discharge in 2003, down from a 2.4 percent increase in 2002.<sup>14</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). So the full acquisition costs of capital assets are spread over many years and

are not reflected immediately in hospital expenses. Lower growth in 2003 is also likely due to hospitals taking advantage of historically low interest rates to refinance debt. Despite what appears to be slow growth in capital costs, the 1.1 percent increase was actually 0.5 percentage points above the increase in the capital market basket for hospitals in 2003.<sup>15</sup>

Spending on medical supplies grew 10.9 percent per adjusted discharge in 2003—one of the few expense categories to see an increase in growth rate over 2002. The increase in medical supply costs, which account for 5 percent of hospital spending, may be fueled by a combination of growth in the number of devices used and increased use of high-cost devices that recently came to market, such as drug-eluting stents and implantable cardiac defibrillators. Drug costs grew 5.0 percent in 2003, down from 8.0 percent in 2002.

The remaining hospital expenses, such as utilities, food, maintenance, and contracted services, grew more than a percentage point faster than the hospital market basket in 2003, contributing to the broad-based pattern of growth in hospital costs.

Administration and general (A&G) expenses account for about 15 percent of hospital costs and include most of hospitals' main administrative functions.<sup>16</sup> A&G was one of the fastest growing cost components in 2003, rising 7.5 percent per adjusted discharge. A substantial portion of this increase, 1.9 percentage points, was due to malpractice insurance expenses. The rest of A&G grew 5.4 percent, which still is substantially above the increase in the hospital market basket. ■

**Distribution of margins expected to change** Overall Medicare margins fell across all hospital groups between 2002 and 2003 (Table 2A-4, p. 51). The drop was greatest for major teaching and urban hospitals because outlier payments were reduced and the IME adjustment for teaching hospitals was lowered. The overall Medicare margin dropped 4 percentage points for urban hospitals, compared with 3 points for rural facilities.

For 2005, the overall Medicare margin for rural hospitals is projected to increase but still remain negative at -3.1 percent, even with implementation of the MMA provisions designed to help these hospitals. The margin for urban hospitals is expected to hold at -1.3 percent.

Last year the Commission projected that the overall Medicare margin for rural hospitals would surpass the margin for urban hospitals. That estimate, however, was

for 2004, reflecting 2005 payment policies. Our current estimate for 2005, reflecting payment policies going into effect in 2006, shows that rural hospitals' margin will remain below the urban hospital margin. The change from last year is due primarily to the outpatient hold-harmless provision, which expires at the end of 2005. This change will affect only rural hospitals.

Overall Medicare margins for major teaching hospitals will remain much higher than other hospitals at 5.0 percent in 2005, roughly 10 percentage points above the margin for nonteaching hospitals. The difference between these groups, though, has narrowed slightly, partly because of MMA payment provisions that helped raise margins for nonteaching hospitals in rural and small urban locations, but also due to pre-MMA policies that reduced outlier overpayments for teaching hospitals in 2003.

### **Financial pressure affects cost growth**

We have shown that a large part of the rapid decline in Medicare inpatient margins is due to costs per discharge rising at a faster rate than hospital input prices. But why have hospital costs risen faster than the prices of goods and services that go into producing patient care?

To some extent, the rapid growth in costs reflects unusual cost pressures, such as large percentage increases in malpractice expenses and labor cost increases in response to shortages of nurses as well as pressure to improve the quality of care. Another possible answer, however, is that hospital costs rise faster during periods when hospitals are under less pressure to cut costs. We found that over the past two decades, hospital costs grew slowly when hospitals were under significant pressure to cut costs and grew faster when that financial pressure diminished. Moreover, data from a cross section of hospitals show that hospitals under financial pressure had smaller cost increases during the past five years (1998–2003). Although hospitals that were under financial pressure had below-average cost growth, even they experienced rates of increase that slightly outpaced the growth rate of input prices. Taken together, the data suggest that financial pressure can explain some, though clearly not all, of the rapid cost growth that has driven down Medicare margins.

**Market factors affect financial pressure** Financial pressure on hospitals will lessen when private-payer revenues increase. Revenues from private-payer patients (which in aggregate match hospitals' revenues from Medicare) may have risen in recent years partly due to consolidation of competing hospitals into hospital systems

that own the hospitals and negotiate with insurance companies. Provider consolidation has compounded the effects of plans having to respond to consumers' strong preference for choice of providers. The Federal Trade Commission (FTC) (2004) and the Blue Cross and Blue Shield Association (2002) have argued that industry consolidation forces private insurers to pay higher prices for hospital services. The general hypothesis is that for-profit and nonprofit hospitals will negotiate higher prices with insurers when they have market power (Keeler et al. 1999).

Although the FTC contends that less competition leads to higher prices, hospital advocates often disagree. Hospital advocates contend that consolidations can create efficiencies, and these efficiencies will allow the hospitals to hold down prices charged to private insurers. This claim may be correct, at least in the short run, when the merger of two hospitals results in the partial or full closure of one hospital. When one hospital closes, the remaining hospital may experience a one-time gain in occupancy and efficiency. This gain may slowly erode, however, if there is not enough competition in the market to restrain cost growth. A second type of consolidation involves hospitals joining systems without merging operations. This type of consolidation may be motivated primarily by hospitals' desire to gain negotiating leverage over suppliers and insurers, and does not appear to generate any efficiency gains (Dranove and Lindrooth 2003).

If industry consolidation leads to higher hospital profits, what do hospitals do with the extra revenue? One scenario is that they expand their volume of services (Newhouse 1970). Another scenario is that hospital costs per unit of service rise (Gaskin and Hadley 1997). Gaskin and Hadley concluded that financial pressure through mechanisms such as managed care penetration in the early 1990s could restrain cost growth. A lack of financial pressure could mean greater cost growth.

Hospital profits can lead to higher costs for at least three reasons. First, labor unions may be in a stronger bargaining position when they are negotiating with a highly profitable hospital. They may be able to convert a share of hospital revenue increases into higher salaries for nurses and other employees. Second, hospital boards may approve larger compensation increases or other benefits for employees when their hospital is profitable. The possibility of extra compensation gives employees an incentive to work toward improving their hospital's profitability. Finally, because nonprofit hospitals have

missions that are broader than profit maximization, they may construct new buildings, buy new equipment, and fund quality-enhancing but unprofitable services as their revenues increase. Because the impact of “charitable missions” on costs will be stronger for nonprofit hospitals, we expect the relationship between financial pressure and costs to be stronger for nonprofit hospitals.

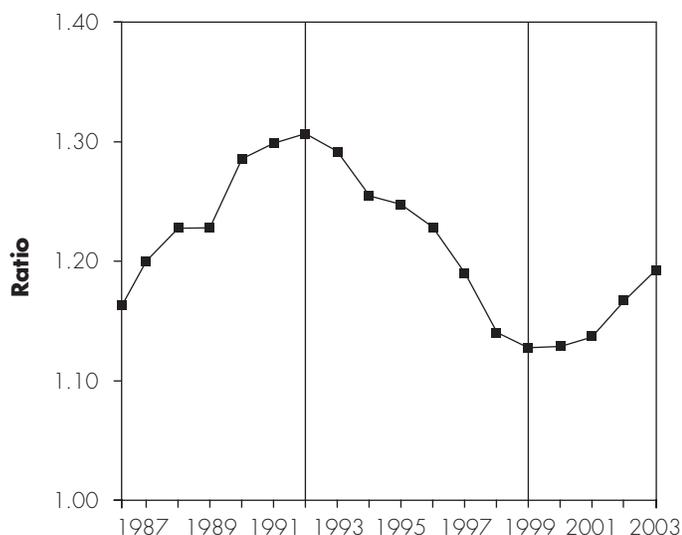
If financial pressure does restrain cost growth, we should see industry-wide cost containment during the years when the industry is under financial pressure. On an individual hospital level, we should see slower cost growth at hospitals facing financial difficulty and faster cost growth at highly profitable hospitals. The following sections present the results of analyses addressing these hypotheses.

#### Cost growth follows changes in private sector profitability

Over the 17-year period from 1986 through 2003, pressure on hospitals’ revenues from private insurers has gone through three distinct phases (Figure 2A-9).<sup>17</sup> The pattern of industry-wide growth in Medicare costs per discharge over this period makes it clear that hospitals have responded strongly to the incentives posed by the rise and fall of financial pressure.

**FIGURE 2A-9**

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



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

Source: MedPAC analysis of American Hospital Association annual survey of hospitals.

In the first period, 1986 through 1992, payments from private insurers rose much faster than the costs hospitals incurred in treating these insurers’ patients. The payment-to-cost ratio for private payers increased by 1.9 percentage points a year, leading to a 16-percentage point increase in hospitals’ profits from treating privately insured patients (Table 2A-6 and Figure 2A-9). Most insurers still paid hospitals on the basis of their charges at this point, and they engaged in little price negotiation or selective contracting. With the almost complete lack of pressure from private payers, hospitals’ costs per discharge rose an average of 8.3 percent per year, exceeding the increase in Medicare’s market basket index, on average, by more than 3 percentage points per year (Table 2A-6 and Figure 2A-10).

In contrast, the payment-to-cost ratio for private payers declined by 2.2 percentage points annually in the second period, 1993 through 1999, with hospitals’ profitability on their private sector business falling 19 percentage points (Table 2A-6 and Figure 2A-9). HMOs and other private insurers began to negotiate harder with hospitals, and the majority switched to paying for inpatient services on the basis of DRGs or flat per diems for broad types of services, rather than charges.

As private payers began exerting pressure during this period, the rate of cost growth plummeted. Over a six-year period, the growth rate dropped from nearly 10 percent to

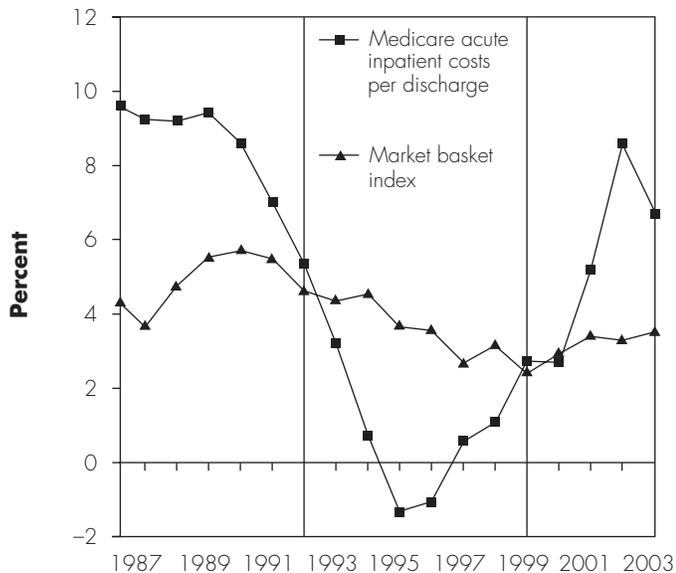
**TABLE 2A-6**

**Cost growth has been large when private payers exert little financial pressure**

	1986–1992	1993–1999	2000–2003
Change in private payer payment-to-cost ratio	1.9%	-2.2%	1.3%
Change in Medicare cost per discharge	8.3	0.8	5.6
Change in market basket index	4.7	3.3	3.3
Actual update	2.5	1.5	2.6

Note: Values shown are average annual changes.

Source: MedPAC analysis of American Hospital Association annual survey of hospitals, Medicare Cost Report file from CMS, and CMS’s rules for the acute inpatient prospective payment system.

**FIGURE  
2A-10****Cost growth exceeded market  
basket growth in the late  
1980s and recently**

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

below zero (Figure 2A-10). On average, from 1993 through 1999, the annual increase in cost per discharge was only 0.8 percent, more than 2 percentage points a year below the increase in the market basket. One of the industry's key tools for cutting costs was reducing length of stay, largely by discharging patients to various forms of post-acute care earlier in their stays. But they also cut costs in other ways, such as reducing staffing levels, providing smaller increases in compensation, and substituting less skilled workers (such as nurse aides for RNs).

In 2000, private payer payments once again began rising faster than costs. The payment-to-cost ratio for private payers rose 1.3 percentage points per year through 2003—almost as rapidly as in the late 1980s—and hospitals' profits from privately insured patients have already gone up by 6 percentage points (Table 2A-6 and Figure 2A-9). Health plans continue to negotiate prices with hospitals, but many providers have gained the upper hand in these negotiations. The primary leverage payers have in price negotiations is the threat of selective contracting, but their

use of this tool has been limited by both hospital consolidation and consumers' reluctance to accept limitations on their choice of providers. Pressure from private payers has waned considerably (Nichols et al. 2004).

As the payment-to-cost ratio for private payers turned up slightly in 2000, the rate of cost growth stayed at about the level of the market basket. But as provider pushback lessened the financial pressure from private payers over the next three years, the rate of hospital cost growth climbed back to levels not seen since the early 1990s and once again exceeded growth in the market basket, on average, by more than 3 percentage points a year.

During the first period of our analysis, which saw rapidly rising costs per discharge, the Prospective Payment Assessment Commission (ProPAC)—one of MedPAC's two predecessor commissions—continued to develop update recommendations anchored by the market basket. ProPAC's recommendations (ignoring adjustments made to offset the base payment rates having been set too high in the first PPS year) averaged market basket minus 0.7 percent, even as the Medicare inpatient margin dipped below zero for three consecutive years. The actual updates averaged 2.5 percent, which was below the increase in the market basket and well below the rate of growth in hospitals' Medicare costs per case.

During the second period, with unusually low cost growth, ProPAC recommended updates that exceeded the rate of increase in hospitals' costs, on average, by a full percentage point per year. In the continuing third period, policymakers once again face an environment of rapidly rising costs much like that of the late 1980s and early 1990s.

**Market characteristics and hospital characteristics affect cost growth** Now we shift from looking at trends over time to examining individual hospitals and the hospital characteristics that may affect cost growth. We test whether financial pressure, as measured by the profitability of serving non-Medicare patients, affects hospital cost growth. Medicare cost report data allow us to divide hospital profits into two categories: profits on Medicare patients and profits from all other sources. Non-Medicare revenue is primarily from private payers but also includes revenue from Medicaid, self-payment, and investments.

First, we show that hospitals facing financial pressure tend to have lower cost growth. Second, we show that nonprofit hospitals in competitive markets tend to have lower cost growth. This second finding could be due to high levels of competition constraining non-Medicare profit margins, which forces hospitals to limit costs. We measured competition using a standard Herfindahl index, which is the sum of the squares of each hospital system's market share.<sup>18</sup>

Nonprofit hospitals may behave differently from for-profit hospitals because they are required to reinvest their profits into their mission and do not have the option of returning profits to shareholders. We present data on nonprofit hospitals in Tables 2A-7 and 2A-8. Financial pressure also appeared to restrain cost growth among our fairly small sample of for-profit hospitals, but we did not find a relationship between competition and cost growth. The for-profit data should be taken with some caution given the small sample size and dramatic changes in some hospitals' charging practices during the 1998 to 2003 period.

Hospitals with low profits on non-Medicare patients had below-average rates of cost growth (Table 2A-7). We see that not only is cost growth lower but standardized costs per discharge tend to be lower. Standardized costs per discharge are adjusted for case mix, severity level, teaching costs, disproportionate share program costs, and

**TABLE  
2A-8**

**Higher rates of competition are associated with lower rates of Medicare cost growth in nonprofit hospitals**

Level of competition 1999-2002	Growth in Medicare costs per discharge* 1998-2003	Medicare costs per discharge in 2002
Low (n=361)	10.1%	\$5,041
Moderate (n=972)	8.9	5,034
High (n=491)	6.7**	5,162

Note: Standardized costs do not differ significantly by level of competition. Low competition refers to markets with a Herfindahl index above 4,800; high competition refers to markets with a Herfindahl index below 1,800.  
\*Growth is adjusted for inflation using the hospital market basket index.  
\*\*Cost growth among nonprofit hospitals was significantly lower in markets with high levels of competition than in markets with low or moderate competition, using a p=.05 criterion.

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

area wages. We also examined differences in costs by only adjusting for area wages and reached a similar finding—that financial pressure is associated with lower costs per discharge. These findings assume that lower costs did not come at the expense of lower quality of care.

If competition reduces non-Medicare margins and low non-Medicare margins reduce cost growth, we would expect to see competition reducing cost growth. As expected, hospitals in competitive markets had lower levels of growth in Medicare costs per discharge (Table 2A-8); however, hospitals' ending level of costs per discharge was not significantly different from the costs of hospitals in less competitive markets. This finding suggests that hospitals in low-competition markets were starting from a lower level of costs in our base year of 1998. The finding is consistent with the literature which suggests that low-competition markets tended to have lower costs in the 1980s, but in recent years costs in these markets have been growing faster than in other markets.

**TABLE  
2A-7**

**Hospitals with lower non-Medicare margins tend to have lower rates of Medicare cost growth**

Nonprofit hospitals' mean non-Medicare margin 1999-2002	Growth in Medicare costs per discharge* 1998-2003	Medicare costs per discharge in 2002
Over 5% margins (n=834)	11.7%**	\$5,345
0-5% margins (n=347)	7.9**	5,003
Losses (n=643)	4.6**	4,750

Note: Costs are standardized for the all patient refined diagnosis related group (APR-DRG) severity level of patients, wage levels, and the estimated effect of medical education and disproportionate share payments on Medicare costs.  
\*Growth is adjusted for inflation using the hospital market basket index.  
\*\*The differences in the rate of cost growth and costs per discharge among the three categories are all statistically significant, using a p =.05 criterion.

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

**Hospitals' financial performance and cost growth vary**

Both hospitals' Medicare margins and their rates of cost growth 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 their managers have

considerable influence over. Then we show that very high cost growth for some hospitals can lower the aggregate Medicare margin for the industry.

**Hospitals with consistently negative Medicare margins have high costs** Provider financial performance can vary substantially from one year to the next. For half of all hospitals the overall Medicare margin differs by 4 percentage points or more from one year to the next, and for a quarter of hospitals the difference exceeds 8 percentage points. Year-to-year differences can occur, for example, because hospitals change the services they offer, change ownership or system affiliation, or are affected by neighboring hospitals opening or closing. 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. The analysis focuses primarily on the role various cost factors play in providers’ financial performance.<sup>19</sup>

The Commission previously presented an analysis showing that about half the variation in inpatient margins in 1998 was attributable to components of the payment formula, such as the IME and DSH adjustments (MedPAC 2003a). About one-fifth of the variation was related to hospital operating characteristics that were thought to be at least partially under management control, such as occupancy rates and length of stay.

Between 1999 and 2002, about 29 percent of hospitals had consistently negative overall Medicare margins, while more than two-thirds had either consistently positive margins or margins that were intermittently positive and negative (Table 2A-9). The largest fraction, 37 percent, had consistently positive margins. A small subset of hospitals—less than 2 percent—had consistently negative Medicare and consistently negative total (all payer) margins.

Hospitals with consistently negative margins tended to perform poorer on two key cost-influencing factors compared with hospitals that consistently perform well under Medicare—namely occupancy rate and length of

**TABLE  
2A-9**

**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 (Share of total)	861 (29%)	1,106 (37%)	2,991 (100%)
Occupancy rate	46%	57%	51%
Annual change in length of stay (1994–2002)			
Medicare	-2.9%	-3.2%	-2.9%
All payers	-1.2	-1.4	-1.3
Average age of plant (years)	9.5	10.1	9.8
Medicare share of patient days	54%	48%	52%
Medicaid share of patient days	10	13	11
Medicare costs per discharge (2002)*	\$5,934	\$4,792	\$5,315
Annual change in Medicare costs per discharge (1999–2002)	5.1%	4.8%	5.1%

Note: Values shown are medians for all hospitals with positive or negative margins for four consecutive years, 2000–2003. Data are for 2002 unless otherwise noted.  
\*Standardized for differences in case mix and wage index.

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

stay. The negative margin group had much lower occupancy rates, which should translate into higher unit costs because fixed costs (such as plant and equipment) are spread over fewer units of output. Similarly, Medicare length of stay dropped more for the positive margin group than for the negative margin group, which should result in lower costs per discharge because the drop in days of care reduces variable costs such as nursing time and meals.

Other factors, including aging infrastructure and payer mix, had little effect on profitability. It is often thought that an aging plant may raise a hospital's operating costs and thus reduce its profitability. On the other hand, newer plant and equipment may increase capital costs (measured as depreciation plus interest expenses), thereby raising overall costs and lowering margins. The analysis showed only small differences by age of plant between the negative and positive margin groups, with the negative margin hospitals having slightly younger plants. Similarly, only small differences distinguished the groups by payer mix. Medicare patient share was slightly higher in the negative margin group, while the reverse was true for Medicaid patient share.

In addition to examining specific factors that affect costliness, we also directly compared the costs of consistently negative and positive margin hospitals, using a measure of Medicare costs per discharge that standardizes for differences among hospitals in case mix and input prices.

Negative margin hospitals had above-average costs, while positive margin ones had below-average costs. Specifically, the median costs per discharge of the negative margin group was 12 percent above the national median and 24 percent above the median of the positive margin group.

In addition, the costs of positive margin hospitals have continued to increase more slowly over the past four years; thus the difference in performance between the two groups continues to grow.

Finally, we compared hospitals with consistently negative or positive margins to their competitors, defined as hospitals covered by Medicare's acute inpatient PPS that are located within 15 miles. Almost all of the hospitals studied had such competitors. The typical positive margin hospital has three competitors, the closest of which is about four miles away. In contrast, the typical negative

margin hospital has one PPS hospital competitor about 12 miles away. Negative margin hospitals are frequently located in rural areas, and so some have critical access hospitals within their service areas as well. A third comparison group was used for this part of the analysis: the subset of hospitals with negative Medicare margins that also had negative total margins. This group accounts for only about 2 percent of all hospitals, and the typical hospital in the group has four competitors.

Facilities with negative Medicare and total margins had even lower occupancy than those with negative Medicare margins alone (42 percent compared with 46 percent) (Table 2A-10). They also had even higher costs (about \$6,000 compared with \$5,900). Both groups of hospitals have considerably lower occupancy and higher costs than their competitors, and those with negative Medicare and total margins compared worst with their competitors on these measures. The positive margin hospitals, on the other hand, had close to the same occupancy rates as, and lower costs than, their neighboring facilities.

**TABLE 2A-10** Hospitals with consistently negative Medicare margins have poorer competitive position in their markets

Group of hospitals	Occupancy rate (2002)	Costs per discharge (2001)*
Hospitals with consistently negative Medicare and total margins	42%	\$6,012
Competitors within 15 miles	57	5,630
Hospitals with consistently negative Medicare margins only	46	5,934
Competitors within 15 miles	55	5,654
Hospitals with consistently positive Medicare margins	57	4,792
Competitors within 15 miles	59	5,182

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, 2000–2003.

\*Costs per discharge are Medicare costs, standardized for differences in case mix and wage index.

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

We conclude that higher costs—and cost growth—play a major role in explaining the differences in financial performance under Medicare. Of course, various features of the payment system also play a role, as noted earlier, but the implication of this analysis is 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 do not attract as many patients, which then contributes to higher unit costs and ultimately to lower Medicare margins. But 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 have both a negative Medicare margin and a negative total margin exhibit 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 high costs and high cost growth drive down margins** Hospitals exhibit a wide range of cost growth for Medicare inpatient services, even when measured over four years to eliminate the effect of short-term fluctuations and adjusted to reflect changes in case mix. Cost growth averaged 11 percent a year between 2000 and 2003 for hospitals in the top quartile of cost growth, compared with just 1 percent for those in the bottom quartile. Hospitals with the highest cost growth, however, tended to start the period with below-average standardized costs, and hospitals with the lowest cost growth tended to start the period with above-average costs.

This movement from below-average to above-average costs and vice versa may just reflect a long-run cyclical pattern that will push most hospitals to the average over time (regression to the mean). But other forces at play may explain some of the variation. For example, hospitals with low cost growth appeared to have much larger increases in patient volume, indicating that their ability to spread fixed costs over more patients may have contributed to their lower cost growth.

Hospitals that had both high costs and high cost growth contributed substantially to the recent industry-wide drop in margin. The Medicare inpatient margin in 2003, for example, would have been 2.3 percentage points higher if

hospitals with above-average costs in 2000 had held their annual cost growth from 2000 to 2003 to no more than the hospital market basket plus 2 percentage points. If this dynamic had carried through all patient care services, then, all else being equal, the aggregate overall Medicare margin in 2005 would have been slightly positive, rather than negative. Thus, efficient hospitals are not performing as poorly as the average margin would suggest.

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## How should Medicare payments change in 2006?

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When we consider whether Medicare's aggregate payments are adequate, we look at most hospital service lines—inpatient, outpatient, rehabilitation, home health, psychiatric, and SNF. We make separate update recommendations, though, for services covered by Medicare's inpatient operating PPS and for those covered by the outpatient PPS.<sup>20</sup> What are the appropriate payment updates for inpatient and outpatient services in 2006?

For the inpatient PPS, the update in current law for fiscal year 2006 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 for calendar year 2006 equal to the forecasted increase in the market basket.

To help guide our thinking about update recommendations, our update framework combines the Commission's judgments on the adequacy of current payments (including the appropriateness of hospitals' costs) and on how much Medicare costs per unit of output for efficient hospitals should change in 2006. As discussed below, the judgment about efficient providers' cost growth focuses on two factors that are likely to affect future costs: the projected increase in input prices and whether to apply a policy goal for improving productivity.

### 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 2006 is 3.2 percent, although the forecast will be updated twice before it is used for updating payments in 2006.

## 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 help 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 incentive. Our inpatient recommendation in the past has included an explicit allowance for cost-increasing and quality-enhancing new technologies. But in the MMA, the Congress broadened and liberalized the mechanisms in the inpatient and outpatient payment systems for making additional payments for new technologies.

### 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 those payments were made on a budget-neutral basis, but the MMA removed the budget-neutrality constraint starting in 2005.

To date, CMS has approved pass-through payments for four new technologies. The MMA, however, liberalized the criteria that new technologies must meet to qualify for pass-through payments. 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). Information technology has the potential to improve the quality of patient care as we discuss in Chapter 4, and so we recommend that the Congress direct CMS to include measures of functions supported by the use of IT in measures used for pay for performance. Pay for performance will give providers the “business case” to adopt IT and allow them to reap rewards from payments for quality that flow from better clinical information.

### Outpatient technology payments

In previous years, MedPAC has not adjusted the outpatient payment update for cost-increasing, quality-enhancing new technology, and we will continue that policy. The outpatient PPS has two mechanisms to directly account for new technology.

One mechanism is new technology APCs. These are completely new services, such as positron emission tomography (PET) scans, 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 number of services covered under new technology APCs has remained fairly constant since 2002: 77 in 2002, 78 in 2003, 88 in 2004, and 73 in 2005.

The services covered under new technology APCs generate payments for each service rendered, resulting in increased expenditures. 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 in 2001 and 1.7 percent in 2002 and 2003.

The second mechanism is pass-through payments for new inputs to a service, such as a drug or medical device. 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.

MedPAC includes a target for productivity improvement 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, therefore, Medicare should also require some productivity gains each year from its providers.

MedPAC'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 currently equals 0.8 percent. When included in our update recommendation, the 0.8 percent is a policy objective, not an empirical estimate. To the extent that hospitals fail to fully achieve our productivity target in a given year, the causes and consequences are considered in our analyses of payment adequacy in following years.

## Conclusion

Our indicators of payment adequacy present a mixed picture. Most important, access to care remains strong, as exhibited by a small net increase in the number of hospitals participating in the Medicare program and an increase in the share of hospitals offering a representative set of inpatient, outpatient, and ancillary services. In addition, the volume of both inpatient and outpatient services continues to rise. In the quality area, a number of patient safety indicators have not shown progress, but mortality rates as well as the indicators of clinically appropriate care developed by CMS's quality improvement organizations have shown improvement. Access to capital is generally good, as evidenced by increases in construction spending, bond issuances, and plans for continued expansion. In reviewing the appropriateness of hospitals' costs, however, we found that unusually large cost increases have lowered reported Medicare margins.

Our analysis shows that, on the one hand, the rate of cost growth may have been affected by unusual cost pressures, such as escalating malpractice costs and additional labor costs to meet demands for quality care. But on the other hand, the increases were likely influenced by management decisions and the lack of fiscal pressure from the private sector. Hospitals with consistently negative Medicare margins have lower occupancy, higher costs, and higher cost growth than other hospitals in their markets—all factors subject to management influence. Moreover, hospitals with high costs and cost growth have played a substantial role in bringing down the industry's average margin. If hospitals with above-average costs as of 2000 had held their cost growth to just 2 percentage points above the market basket since then, the overall Medicare margin in 2005 likely would have been positive rather than negative.

Private payers' bargaining power with hospitals has deteriorated in recent years due to provider consolidation and the emphasis on products that give consumers a relatively free choice of providers. As was the case in the late 1980s and early 1990s—the last period when private payers did not exert fiscal pressure on hospitals—the rate of increase in Medicare costs per discharge has escalated. In addition, individual hospitals that have not experienced financial pressure and hospitals in less competitive markets have had larger cost increases.

On the one hand, the Commission is concerned about the trend in Medicare margins, which may leave hospitals with a limited monetary cushion for dealing with pressures that may arise in the coming year. On the other hand, the current cost trend is unsustainable and may be driven by a lack of cost-containment pressure. Moreover, the MMA requires that we consider the efficient provision of services in making update recommendations, and some facilities' cost levels and growth have been excessive, pulling down industry margins. Beyond cost considerations, the other indicators of payment adequacy we consider are mostly positive. On balance, these findings have led us to conclude that updates of market basket minus 0.4 percent are appropriate for both the inpatient and outpatient PPS. These updates should be considered in the context of other important policy changes MedPAC is recommending, as we discuss below.

## Payment for performance and PPS refinements

MedPAC has concluded that Medicare should take the lead in developing incentives for high-quality care, and in Chapter 4 we recommend that the Congress establish a quality incentive payment policy under Medicare for hospitals. A number of accepted quality measures are available, enabling CMS to implement the program fairly quickly and then to enhance and expand the set of measures used in future years.

Payment 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 around 1 percent of aggregate payments. This means that most hospitals would receive a net increase in payments from the update and pay for performance of around 2 percent, sending a strong signal to restrain cost growth. But Medicare would be providing many high-quality hospitals

with a net increase in payments higher than the update alone, which would provide a strong incentive to improve quality. Our recommended update of market basket minus 0.4 percent and the pay-for-performance program for hospitals would replace the current law provision that reduces a hospital's update by 0.4 percent if it fails to report required quality data to CMS.

In our forthcoming Congressional report on physician-owned specialty hospitals, MedPAC is recommending several refinements to the acute inpatient PPS that will improve the accuracy of payments at the case level (MedPAC 2005). These include:

- refining the current DRGs to more fully capture differences in severity of illness among patients;
- 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 costs in each DRG; and
- adjusting the DRG relative weights to account for differences in the prevalence of high-cost outlier cases.

Our recommendations for the update, pay for performance, and PPS refinements will together improve the effectiveness of the PPS in matching payments to the costs of efficient providers. The update recommendations coupled with pay for performance will provide a sufficient overall level of funding, encourage fiscal discipline, and allocate payments according to the quality of the services provided. The case-mix refinements will improve the accuracy of payments, encouraging hospitals to compete with each other based on cost and quality, not on the types of patients they treat.

## Update recommendations

This section presents our update recommendations for both inpatient and outpatient payments, along with a summary of our rationale and implication of the recommendations. For outpatient payments, our update recommendation and our recommendation on hold-harmless payments for certain rural hospitals (in the next section) will together define the funds available for providing hospital outpatient care in fiscal year 2006.

### RECOMMENDATION 2A-1

**The Congress should increase payment rates for the inpatient prospective payment system by the projected increase in the hospital market basket index less 0.4 percent for fiscal year 2006.**

### RECOMMENDATION 2A-2

**The Congress should increase payment rates for the outpatient prospective payment system by the projected increase in the hospital market basket index less 0.4 percent for calendar year 2006.**

### RATIONALE 2A-1 AND 2A-2

Our assessments of beneficiaries' access to care, service volume growth, and access to capital are positive, while the results on quality are mixed. But hospitals' average margins under Medicare have fallen. The key factor in the decline in Medicare margins through 2003 was unusually large cost growth. To some extent, this growth reflects unusual cost pressures, but it also was influenced by the lack of financial pressure to constrain costs. In addition, hospitals with both high costs and high cost growth helped pull down the industry-wide margin. Balancing these considerations, we conclude that an update of market basket minus 0.4 percent—approximately a 2.8 percent increase in payments—is appropriate for both inpatient and outpatient services.

### IMPLICATIONS 2A-1 AND 2A-2

#### Spending

- These recommendations 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 decline by \$50 million to \$200 million the first year and by less than \$1 billion over five years.

#### Beneficiary and provider

- These recommendations should have no impact on beneficiaries or providers.

#### Outpatient hold-harmless payments

Rural hospitals' financial performance under the outpatient PPS is expected to decline by 2006. Much of this change is attributable to the expiration of two special payment policies under the outpatient PPS. These are hold-harmless payments, which expire at the end of

calendar year 2005, and transitional-corridor payments, which expired at the end of calendar year 2003. Hold-harmless payments are targeted to rural sole community hospitals and other rural hospitals with 100 or fewer beds.<sup>21</sup> To determine a hospital's hold-harmless payments, CMS first estimates for a given year the payments the hospital would have received under the payment system that preceded the outpatient PPS.<sup>22</sup> Qualifying hospitals receive the greater of the estimated payments from the previous system or the actual outpatient PPS payments.

Transitional corridor payments were targeted to hospitals not eligible for hold-harmless payments. This policy also compared a hospital's PPS payments with the payments the hospital would have received under the preceding system. In this case, however, if the PPS payments were smaller, the hospital received the PPS payments plus transitional corridor payments equal to a fraction of the difference between payments under the previous system and PPS payments.<sup>23</sup>

Extending either of these policies would improve the financial performance of rural hospitals. But the hold-harmless policy is the better of the two to extend because it targets the specific rural hospitals most affected by the two policy changes. Still, we recommend limiting the extension of the hold-harmless policy to one year because it has imperfections. Hold-harmless payments are directly linked to hospital costs, so they reduce a hospital's incentive to hold down its costs. In addition, the hold-harmless policy does not specifically target hospitals with relatively poor Medicare performance. Consequently, hospitals with good financial performance can receive these extra payments.

Extending the hold-harmless policy for one year provides MedPAC—and other analysts—time to better determine the reasons that some rural hospitals are not performing as well under Medicare. Once identified, policies can be developed, if necessary, to address the issues these hospitals face. For example, MedPAC research indicates that low-volume hospitals have relatively high costs per case because they cannot take advantage of economies of scale to the extent that higher-volume hospitals can (MedPAC 2001). Most low-volume hospitals are rural, and many are isolated.

The MMA directed CMS to study whether rural hospitals' costs under the outpatient PPS are higher than those of urban hospitals. If CMS finds that rural hospitals do incur greater costs, the Secretary is required to recommend payment policy adjustments by January 2006. We will consider CMS's findings as we conduct our own analysis.

### RECOMMENDATION 2A-3

**The Congress should extend hold-harmless payments under the outpatient prospective payment system for rural sole community hospitals and other rural hospitals with 100 or fewer beds through calendar year 2006.**

### RATIONALE 2A-3

Rural hospitals' financial performance under Medicare is expected to decline by 2006. This reduction is attributable primarily to transitional corridor and hold-harmless payments being eliminated. Continuing hold-harmless payments for isolated and small rural hospitals would maintain their financial circumstances while the Commission considers the reasons some rural hospitals are projected to perform poorly when this policy ends.

### IMPLICATIONS 2A-3

#### Spending

- This recommendation would increase federal program spending by \$50 million to \$200 million for 2006. The policy would not affect program spending after 2006.

#### Beneficiary and provider

- This policy would help ensure access to hospital care among rural beneficiaries and increase Medicare's payments to isolated and small rural hospitals. ■

## Endnotes

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- 1 PPS hospitals refer to those whose inpatient payments are determined by Medicare's acute inpatient prospective payment system (PPS). PPS hospitals now account for about 3,500 of the approximately 5,000 short-term hospitals. They do not include the 1,050 critical access hospitals and others that are paid partly based on their costs.
- 2 Most services provided in the hospital outpatient department are now covered under the outpatient PPS, including clinic and emergency visits, procedures, imaging, and most ancillary services. Outpatient services not covered by the outpatient 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 still reimbursed on a cost basis (such as organ acquisition and, beginning in 2003, some vaccines). In 2003, 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.
- 3 This payment adjustment is set at a much higher level than MedPAC's estimate of the impact of teaching on hospital inpatient costs per discharge.
- 4 MedPAC's March 2004 Report to the Congress, page 73, has a summary of the MMA provisions affecting outpatient and acute inpatient payment policies.
- 5 We made this exclusion because most of the drugs and devices eligible for pass-through payments in 2002 had their pass-through eligibility expire at the end of 2002. In 2003, all of these devices and more than half of these drugs were packaged with a procedure and were not paid separately (GAO 2004). This packaging prevents us from counting the volume of those devices and drugs in 2003.
- 6 These indicators are taken from the medical records of Medicare beneficiaries and compare care in 2000 and 2001 with care in 2003 and 2004.
- 7 Earnings before interest, taxes, depreciation, and amortization (EBITDA) divided by maximum annual debt service.
- 8 A margin is calculated as the difference between payments and costs divided by payments.
- 9 Although the overall Medicare margin has only been available since 1996, its trend is similar to that of the inpatient margin, because inpatient services account for about three-quarters of Medicare's payments to hospitals.
- 10 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.
- 11 This survey, known as the National Hospital Indicators Survey (NHIS), is sponsored by CMS and MedPAC and conducted by the American Hospital Association and the Lewin Group. The survey found that costs per adjusted discharge grew 5.3 percent in 2003 in contrast to our finding of 5.1 percent in 2003 using Medicare cost report data. In addition to employing a sample in contrast to near universe coverage for the cost report data, NHIS covers a consistent time period for all hospitals (calendar year 2003) in contrast to varying time periods for the cost reports. The weighted midpoint of our 2003 cost report data is about March 1, 2003.
- 12 The BBA required that home health payment rates under prospective payment be set to 85 percent of what would have been paid under cost-based reimbursement. Rates under the new home health PPS were estimated to be about 7 percent above this level, so base payment rates were reduced by about 7 percent to reflect final implementation of this cut. The net effect for 2002 was a 5 percent reduction in payment rates, as home health providers received an update of 2.0 percent in 2003.
- 13 The CAH provision will not affect the margin of hospitals remaining under the PPS, but likely will raise the average of all rural hospitals by removing facilities with negative margins from the calculation.
- 14 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.
- 15 CMS maintains separate hospital market basket indexes for operating and capital expenses.
- 16 Specific cost elements within the administrative and general category include top management; accounting; budgeting and reimbursement; billings and collections; data processing, including IT; legal affairs; and malpractice insurance.
- 17 We began the analysis in 1986 because that is when MedPAC's predecessor, the Prospective Payment Assessment Commission, began to issue update recommendations. However, beginning the analysis in 1984, when the PPS was implemented, would have made less than a half percentage point difference in the rate of growth in costs per discharge in the first of our three periods of measurement.

- 18 In this study, markets with a Herfindahl score below 1,800 are deemed highly competitive. A cutoff of 1,800 was chosen to match a Federal Trade Commission (FTC) threshold regarding competition. Markets with scores between 1,800 and 4,800 are considered moderately competitive. Markets with scores above 4,800 are considered to have a low level of competition, corresponding to the level at which the FTC has litigated in an attempt to stop mergers in the past (Cueller and Gertler 2003).
- 19 The analysis examines hospital margin data from 1999 through 2002, using Medicare cost reports. Hospitals included in the analysis had to have complete Medicare and total (all payer) margin data in all four years and not have converted to CAH status as of September 30, 2003. More than 80 percent of inpatient PPS hospitals are included in the analysis. In order to be identified as consistently negative (positive), a hospital had to have negative (positive) margins in all four years of the analysis.
- 20 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.
- 21 Two other hospital types have permanent hold-harmless status, cancer hospitals and children's hospitals.
- 22 The payment a hospital would have received under the previous payment system is estimated by applying its payment-to-cost ratio in 1996 to current year costs.
- 23 The fraction used to determine transitional corridor payments declined over time. In the final year of the corridors (2003), if PPS payments were between 90 percent and 100 percent of what they would have been in the system preceding the outpatient PPS, transitional corridor payments were 60 percent of that difference. If PPS payments were less than 90 percent of payments under the previous system, transitional corridor payments were 6 percent of the payments from the previous system.

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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 by the projected change in input prices less 0.8 percent in 2006.

**COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1**

# SECTION 2B

## Section 2B: Physician services

### In this section

- Are current Medicare payments for physician services adequate?
- How should Medicare payments for physician services change in 2006?
- Update recommendation

Our analysis of beneficiary access to physician care, physician supply, private payment level comparisons, and the volume of physician services used finds that Medicare payments for physician services are adequate. Many of these indicators are stable and show that the large majority of beneficiaries are able to obtain physician care. Additionally, the volume of services used per beneficiary continues to grow. In consideration of expected input costs for physician services and our payment adequacy analysis, the Commission recommends that payments for physician services be updated by the projected change in input prices, less an adjustment for productivity growth. At the time of this report's publication, a substantial negative update to physician fees is legislated to occur in 2006. MedPAC's recommendation for an increase in payments in 2006 would thus increase Medicare spending and beneficiary liability, but would maintain access to physician care and physician willingness to serve Medicare beneficiaries.

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## Background

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Medicare pays for physician services according to a fee schedule. The fee schedule assigns each service 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.

In 2005, Medicare's fees for physician services increased modestly through a 1.5 percent growth in the conversion factor, as legislated by the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA). The MMA updated the conversion factor by the same amount in 2004. The MMA also targeted additional payments to certain physicians—primarily those who practice in rural areas. For example, services provided by physicians in newly established physician scarcity areas (determined separately for primary care physicians and specialists) receive a 5 percent bonus in Medicare payments through 2007.<sup>1</sup> The MMA also established a floor for 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 increase effectively raises payments through 2006 for services furnished in areas with below-average physician work GPCIs, which are largely rural.

Before the MMA was enacted, Medicare was slated to decrease 2004 and 2005 fees for physician services by applying the sustainable growth rate (SGR) formula. Required by statute, 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. Because the MMA overrode those reductions when it legislated conversion factor increases for 2004 and 2005, the SGR now calls for a 5.2 percent cut in the conversion factor in 2006 (Boards of Trustees 2004). Chapter 3 of this report discusses some of the problems associated with the SGR formula and reviews some alternative payment approaches to encourage efficient practice. In recommending an update for Medicare's payment for physician services in 2006, MedPAC follows its usual two-step approach. This

approach first considers the adequacy of current payments and then assesses the factors that will affect efficient providers' costs in the coming year—2006.

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## Are current Medicare payments for physician services adequate?

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MedPAC's framework for assessing payment adequacy for physician services relies on indicators of beneficiary access to physicians and physician availability. Physicians are not required to report their costs to Medicare, as are other providers, like hospitals. Because we cannot look at financial performance directly, we first consider available information on beneficiary access to physician care, which includes a review of beneficiary and physician survey information and physician supply data. Second, we compare Medicare's reimbursement levels with those of the private sector. Third, we examine changes in the volume of physician services to assess trends that may be associated with payment levels.

In future work, MedPAC intends to examine how changes in service use and the development of new technologies and procedures, including imaging, have affected pricing—and potential mispricing—of physician services. Chapter 3 discusses this issue in more detail.

## 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 physicians' 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 concepts such as timeliness may vary across individuals and subpopulations.

## Beneficiary surveys on access to physicians

Results from several surveys conducted between 2003 and 2004 show that beneficiary access to physicians appears to be good overall. The majority of beneficiaries report that they are able to find new doctors and schedule medical appointments in an acceptable amount of time. Small subsets of beneficiaries, however, report that they experience problems.

To obtain current access measures, MedPAC sponsored a 2004 telephone survey. This survey updates results from a 2003 pilot study presented in MedPAC's March 2004 Report to Congress. For our second round—the 2004 survey—we included both Medicare and non-Medicare privately insured individuals 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. Medicare beneficiaries younger than age 65 were excluded due to sample-size limitations.

Results from this telephone survey show that access to physicians for Medicare beneficiaries is good. Further, Medicare beneficiaries and privately insured people age 50 to 64 report very similar access experiences (Table 2B-1, p. 74). Indeed, for some indicators, Medicare beneficiaries enjoyed slightly better access than their privately insured counterparts. Differences between the sample groups are generally small and statistically insignificant. The same holds true when excluding beneficiaries age 75 and older. Changes between 2003 and 2004 for Medicare beneficiaries are too small, in most cases, to be statistically significant; future rounds of the survey would capture trends that compound over longer time periods.

The large majority of Medicare beneficiaries and people age 50 to 64 reported either no problem or a small problem with access to physicians in 2004.<sup>2</sup> Both groups reported more difficulty finding a primary care physician than a specialist, but most were able to access either type of physician with little or no problem. Specifically, the same share of Medicare beneficiaries and privately insured individuals—88 percent—reported that they experienced no problem or a small problem finding a primary care physician. Although the 4 percentage-point increase in

Medicare respondents who reported major problems accessing primary care physicians in 2004 is not statistically different from 2003, it will be important to continue tracking this question over time. Access to specialists is somewhat higher; 94 percent of Medicare beneficiaries and 91 percent of privately insured individuals reported either no problem or a small problem accessing specialists.

When categorizing the 2004 samples by urban, suburban, and rural groupings, again, Medicare beneficiaries and privately insured individuals age 50 to 64 reported similar access experiences. For both groups, access problems for primary care physicians were reported more often in urban areas than rural areas. For all three areas, at least 85 percent of the people surveyed reported no problem or a small problem finding either primary care physicians or specialists.

The 2004 survey found that most Medicare beneficiaries and people age 50 to 64 did not have to delay getting an appointment due to scheduling issues. For routine care, among those who tried to schedule an appointment, 73 percent of Medicare beneficiaries and 66 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 77 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.

Another measure of access to physicians examines reasons respondents give for not seeing a physician for their medical problems. In the 2004 survey, 6 percent of Medicare beneficiaries and 11 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 subset, physician availability issues (appointment time, finding a doctor) were listed as the problem by just 7 percent of the Medicare beneficiaries and 11 percent of the privately insured people. The remaining reasons given by individuals in this subset included cost, low perceived seriousness of the problem at the time of the illness, and procrastination.

**TABLE  
2B-1**

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

Survey question	Medicare			Privately insured
	Age 65 and older	Age 65-74		Age 50-64
	2003	2004	2004	2004
<b>Getting a new physician:</b> Among those who tried to get an appointment with a new primary care physician or a specialist in the past year, "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%
Small problem	18	11	14	15
Big problem	7	11	9	13
<b>Specialist</b>				
No problem	85	89	91	83
Small problem	8	5	3	8
Big problem	5	5	2	8
<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*
Sometimes	21	21*	21	26*
Usually	3	4	3	5
Always	5	2	2	3
<b>For illness or injury</b>				
Never	80	83*	82	77*
Sometimes	16	13*	14	19*
Usually	3	2	2	3
Always	1	2	2	2
<b>Not accessing a doctor for medical problems:</b>				
"In the past year, do you think you should have seen a doctor for a medical problem, but did not?"	7	6*	6	11*

Note: Numbers may not sum to 100% due to rounding. Missing responses are not presented. For the 2003 survey, n=1040 Medicare beneficiaries; for the 2004 survey n= 4122 (2087 Medicare; 2035 privately insured).

\* Indicates a statistically significant difference between the 2004 Medicare and privately insured populations, at a 95% confidence level.

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

A much larger beneficiary survey, the Consumer Assessment of Health Plans Survey for Medicare fee-for-service (CAHPS-FFS), includes questions related to beneficiary access to physicians. We focused on two questions: 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 community-dwelling, institutionalized, and disabled individuals. The data from this survey are not as recent as the data we have from the MedPAC-sponsored telephone survey discussed earlier.

Results from the CAHPS-FFS survey questions we examined also show that the large majority of Medicare beneficiaries report good access to physicians—consistent with responses from the MedPAC-sponsored telephone survey. Specifically, more than 90 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. On this indicator, the CAHPS-FFS survey shows a slight decline between 2000 and 2003, but a slight improvement from 2002 to 2003.

In 2003, CMS 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. 2004). These 11 market 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 2003 study found that even in these selected areas, only a small percentage had access problems attributed to physicians not taking new Medicare patients. Scheduling delays were more common in these market areas. Overall, the study showed that access problems were more likely among certain subgroups in these markets.

Specifically, the TBS found that 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, 73 percent reported that they always got an appointment as soon as they wanted and 21 percent said they usually got an appointment as soon as they wanted. Among those seeking urgent care, 83 percent reported that they always receive care as soon as they wanted and 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.) When looking at the ability to obtain timely appointments, results in the 11-market survey are similar to those found in MedPAC’s survey.

Transitioning beneficiaries—those new to a market area, new to Medicare, or recently disenrolled from a Medicare+Choice plan—had slightly higher rates of reported problems seeing a specialist and “getting a personal doctor they were happy with since joining Medicare,” but 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.

**TABLE  
2B-2**

**Most beneficiaries report good access to specialty and routine care**

Survey question	2000	2001	2002	2003
<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 a specialist?				
No problem or small problem	93.6%	94.8%	94.3%	94.5%*
Big problem	6.4	5.2	5.7	5.5*
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*
Sometimes	6.4	6.7	7.9**	6.8*
Never	1.2	1.2	1.8**	1.6*

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

\*Indicates a statistically significant change between 2000 and 2003, at a 95% confidence level.

\*\*Indicates a statistically significant change between 2002 and 2003, at a 95% confidence level.

Source: MedPAC analysis of 2000–2003 Consumer Assessment of Health Plans Survey (CAHPS) data for fee-for-service Medicare from CMS.

Overall, 95 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, fewer than 4 percent 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.

### 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 kept pace with growth in the beneficiary population in recent years. For our supply analyses, we examined the ratio of physicians who bill FFS Medicare to FFS beneficiaries. In our calculations, we conservatively categorized physicians who saw fewer than 15 patients as out of the Medicare market, 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.

Comparing growth in the number of physicians with growth in the Medicare population, we see that from 1999 to 2003, the number of physicians who regularly saw Medicare FFS patients grew by 8.8 percent, but Medicare Part B enrollment grew by only 3.6 percent (Table 2B-3). This difference in growth rates led to an increase in the number of physicians per 1,000 beneficiaries, from 11.7 to 12.3.<sup>4</sup>

A large share of the physicians who regularly treated FFS beneficiaries in 2003 (83 percent) did so in 1999, and thus appeared to stay in the Medicare market during those years. Moreover, physicians who started seeing Medicare beneficiaries on a regular basis during that time period outnumbered those who stopped—by about 1.6 to 1.0. (Again, we consider physicians to be regularly treating FFS beneficiaries when they bill for at least 15 in the year.<sup>5</sup>) 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-

**TABLE  
2B-3**

**The number of physicians regularly billing FFS Medicare has increased**

	Number of physicians	Number of beneficiaries enrolled in Part B (millions)	Physicians per 1,000 beneficiaries
<b>1999</b>	432,355	37.022	11.7
<b>2000</b>	444,187	37.315	11.9
<b>2001</b>	457,292	37.657	12.1
<b>2002</b>	466,299	37.946	12.3
<b>2003</b>	470,213	38.364	12.3
<b>Change 1999-2003</b>	8.8%	3.6%	5.1%

Note: FFS (fee-for-service). Calculations include physicians (allopathic and osteopathic) treating at least 15 different beneficiaries in a given year. Nurse practitioners, physician assistants, psychologists, and other health care professionals are not included in these calculations. The beneficiary count includes those in FFS and Medicare Advantage, on the assumption that physicians are providing services to both types.

Source: MedPAC analysis of Health Care Information System, 1999-2003 from CMS.

physician relationships and could explain, in part, the small, but persistent, share of beneficiary complaints about access problems.<sup>6</sup>

Looking at supply trends in the past decade, the Government Accountability Office (GAO) also found increases in physician supply across the United States between 1991 and 2001 (GAO 2003). GAO reports that during the study period, the number of physicians in the United States increased by 26 percent—twice the rate of total population growth in the study period. The mix of generalists to specialists remained about the same—one-third generalists to two-thirds specialists. These findings, therefore, do not suggest current physician supply problems on a national level.

This chapter does not address future physician workforce issues. Research that projects long-term physician supply trends draws varying conclusions (IOM 1996, Cooper et al. 2002). Further research to examine long-term future physician supply issues and policy options to address possible concerns is needed.

### Physician survey 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.

The National Ambulatory Medical Care Survey (NAMCS) is conducted in 52 reporting periods to ensure that responses are spread evenly throughout the year. Results from the 2003 NAMCS survey indicate that among physicians with at least 10 percent of their practice revenue coming from Medicare, 94 percent accepted some or all new Medicare patients (Burt 2004). In comparison, 96 percent of *all* office-based physicians reported that they had open practices, and thus were accepting some or all new patients. These figures do not differ significantly from the percentage reported on the 2002 NAMCS. Both the overall patient acceptance rate and the Medicare acceptance rate increased by 1 percentage point. Additionally, the number of physicians accepting Medicare patients increased between 2002 and 2003.

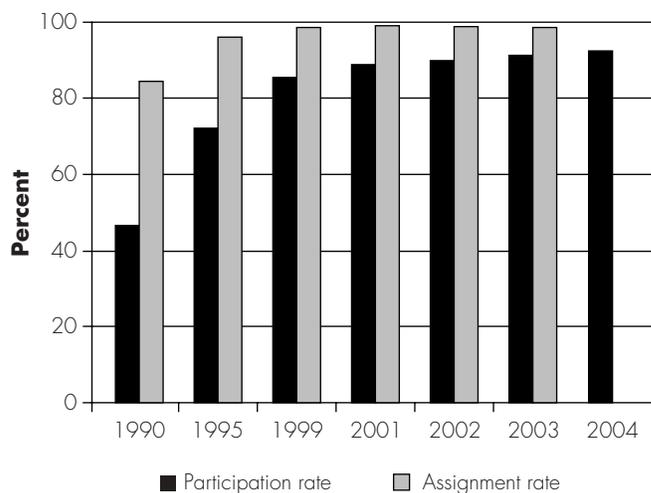
The small share of physicians who leave the Medicare market, or who report reluctance to serve Medicare beneficiaries, may be responding to a variety of factors other than, or in addition to, payment adequacy. These other factors may relate to local conditions such as physician supply, demand for physician 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. It is difficult to disentangle these other factors from Medicare payment adequacy. 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 2003 (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.

Further, 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.<sup>7</sup>

The number of participating physicians as well as the participation rate has increased. Physicians report that they sign participation agreements and accept assignment to take advantage of several associated benefits. Chief among them 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 provides a major convenience for many physicians. 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 2004 (Figure 2B-1).

**FIGURE 2B-1** Participation and assignment rates have grown to high levels, 1990–2004



Note: Participation rate is the percent of physicians and nonphysician providers signing Medicare participation agreements. Assignment rate is the percent of allowed charges paid on assignment. The assignment rate for 2004 is not shown; it requires calculations from claims not yet available.

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

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 agreement does not require physicians to take Medicare patients.

### Private payer payment rates for physician services

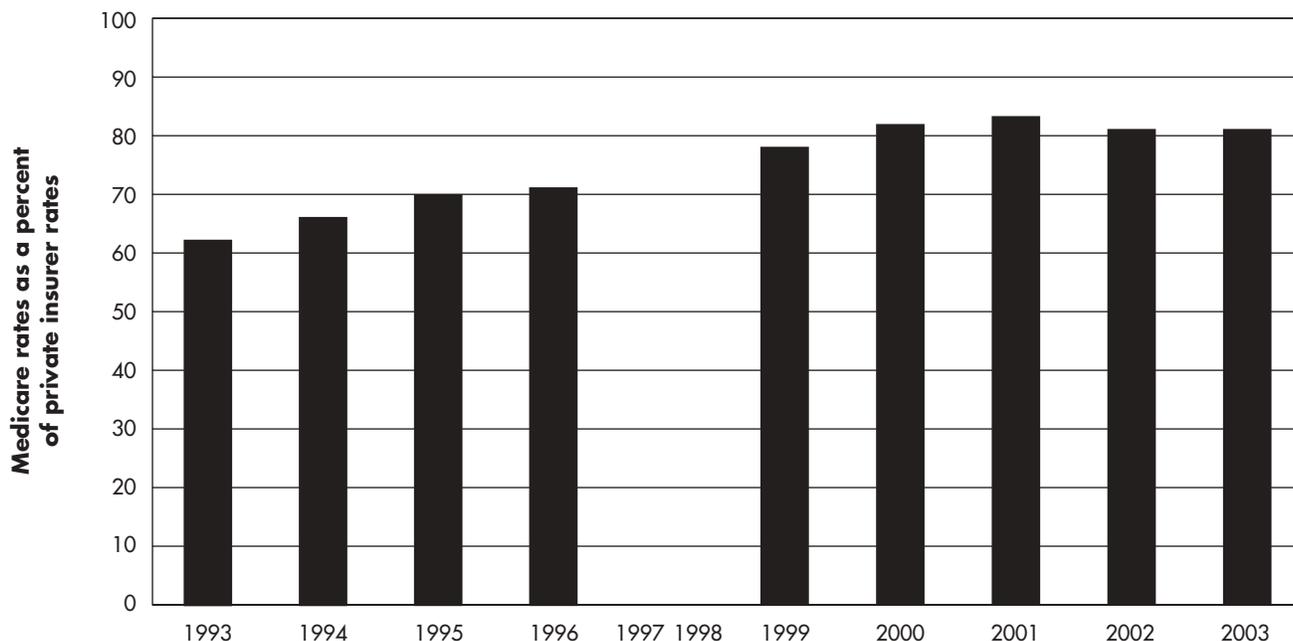
Although Medicare payment rates for physician services have historically been below private insurer rates, on average, between 2002 and 2003, we see no change in the ratio of Medicare to private physician rates (Figure 2B-2). Averaged across all services and areas, 2003 Medicare rates were 81 percent of private rates—identical to the 2002 ratio (Hogan 2004). Hence, private and Medicare fees rose at the same rate, on average, between 2002 and 2003.

To analyze trends in Medicare rates for physician services relative to private rates our contractor, Direct Research, LLC, used two large private claims databases.<sup>8</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 HMOs, preferred provider organizations (PPOs), and traditional indemnity insurance. This research finds that the difference between Medicare and private payment rates 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.

Between 2001 and 2002, private insurance payment rates continued to fall—about 1 percentage point—due primarily to enrollment in lower-paying plans, but Medicare rates fell more, due to a 5.4 percent cut in Medicare’s fee schedule conversion factor. The net effect, therefore, was that overall Medicare rates for physician services, as a percentage of private rates, fell from 83 percent in 2001 to 81 percent in 2002.

**FIGURE 2B-2**

**Medicare payment rates for physician services as a percent of average private insurer rates, 1993–2003**



Note: Data are not available for 1997 and 1998.

Source: Direct Research, LLC.

Between 2002 and 2003, a slight reversal in private enrollment occurred toward plan types with higher physician fees—namely, PPOs and traditional indemnity plans (Gabel et al. 2004). This change in private enrollment mix had the effect of increasing average private fee levels by 1 percentage point. Simultaneously, Medicare’s fee schedule conversion factor increased modestly. In consideration of these shifts and payment rate differences, the net effect was that Medicare fees and private insurance fees increased at about the same rate, resulting in no change to the ratio of Medicare fees to private fees—81 percent—in 2003.

## 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 2003, 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 (RVUs) 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-4, p. 80). 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.

Across all services, per-capita volume grew 4.9 percent between 2002 and 2003. This growth is slightly lower than the average annual volume growth seen in previous years (i.e., 5.2 percent between 1999 and 2002).<sup>9</sup> 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 and tests grew the most. From 2002 to 2003, the imaging volume growth rate was 8.6 percent, and the growth rate for tests was 9.4 percent.

The imaging category includes the services that have the highest volume growth. Nuclear medicine, computed tomography, and magnetic resonance imaging (MRI) all had double-digit growth (ranging from 13.2 percent to 16.5 percent per capita) between 2002 and 2003. Although quite high, these services appear to be growing at a slightly slower pace than in previous years. Between 2001 and 2002, for example, volume growth for MRI was 17.4 percent per capita. Chapter 3 of this report discusses the

issue of volume increases in imaging and explores some ways to address volume growth in imaging services through a variety of policy options.

These continued increases in per capita volume have raised Medicare spending and are in part responsible for the negative updates required by the SGR formula. The SGR target accounts for a moving average of changes in real gross domestic product (GDP) per capita, input prices, growth in FFS enrollment, and other legislated factors. By 2003, the cumulative impact of actual spending was about \$6 billion higher than the SGR target for that year (Office of the Actuary, CMS 2004). MedPAC recently released a report that looks in more detail at the factors that underlie growth in the volume of physician services and spending for those services (MedPAC 2004a).

Although all broad categories of service increased in volume, some individual services decreased. The largest decrease (8.6 percent) was for coronary artery bypass graft (CABG). This decrease was the steepest of all procedures and follows a several-year trend. Between 2000 and 2001, CABG volume declined 4.1 percent (MedPAC 2004b). One likely explanation for this decrease is that it 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).

Between 2002 and 2003, there was a 1.2 percent decrease in the volume of new-patient office visits. Although average annual growth for these services has historically been low, a decline is unusual. The decline indicates that beneficiaries are seeing new doctors slightly less often, on average. It is important to monitor this trend closely over time to determine if this measure signals problems in accessing physicians for new-patient appointments. This slight decrease, however, could suggest that beneficiaries are satisfied with their physicians and are seeking new doctors less frequently.

## Quality incentives in payment to physicians

Other chapters in this report, which examine payment adequacy for types of services, analyze the quality of care provided to Medicare beneficiaries. Medicare does not routinely collect information on the quality of physician care. Through our pay-for-performance initiative, discussed in Chapter 4, Medicare could begin to assess physician quality.

**TABLE  
2B-4**

**Use of selected physician services per beneficiary  
in fee-for-service Medicare, 1999–2003**

Type of service	Percent change in units of service per beneficiary		Percent change in volume per beneficiary*		Percent of total volume*
	Average annual 1999–2002	2002–2003	Average annual 1999–2002	2002–2003	
<b>All services</b>	<b>4.3%</b>	<b>3.6%</b>	<b>5.2%</b>	<b>4.9%</b>	<b>100.0%</b>
<b>Evaluation and management</b>	<b>2.3</b>	<b>2.2</b>	<b>3.4</b>	<b>3.9</b>	<b>42.1</b>
Office visit—established patient	2.4	2.5	3.2	3.9	18.1
Hospital visit—subsequent	2.2	1.8	2.8	3.5	8.4
Consultation	4.5	3.3	5.9	5.0	5.9
Emergency room visit	3.7	1.9	6.8	4.8	2.7
Hospital visit—initial	0.6	1.3	0.9	2.1	2.1
Office visit—new patient	0.7	-1.9	0.4	-1.2	2.0
Nursing home visit	-0.1	1.8	1.4	4.0	1.8
<b>Imaging</b>	<b>5.4</b>	<b>4.2</b>	<b>10.1</b>	<b>8.6</b>	<b>14.8</b>
Echography—heart	9.4	6.2	11.8	7.6	2.1
Standard—nuclear medicine	13.8	9.1	17.8	13.2	2.2
Advanced—CT: other	14.3	12.9	16.6	14.6	2.0
Advanced—MRI: other	17.4	15.9	19.5	16.5	1.6
Standard—musculoskeletal	3.6	3.6	5.9	4.5	1.3
Advanced—MRI: brain	16.9	8.0	15.5	8.6	1.0
Standard—chest	0.4	0.5	-0.3	0.1	0.7
Advanced—CT: head	5.6	4.6	5.1	4.2	0.4
Imaging/procedure—heart, including cardiac catheterization	5.6	1.6	8.0	4.6	0.3
<b>Major procedures</b>	<b>3.6</b>	<b>2.8</b>	<b>3.4</b>	<b>2.9</b>	<b>9.9</b>
Coronary artery bypass graft	-0.9	-7.4	-2.6	-8.6	0.8
Knee replacement	9.5	11.9	8.6	11.1	0.7
Coronary angioplasty	8.5	5.8	7.6	6.0	0.5
Hip fracture repair	-1.6	0.4	-1.4	1.5	0.4
Hip replacement	6.4	6.1	5.9	5.9	0.4
Explore, decompress, or excise disc	8.7	7.6	9.6	7.6	0.4
Colectomy	1.0	-2.2	0.2	-2.3	0.3
<b>Other procedures</b>	<b>8.7</b>	<b>5.8</b>	<b>6.3</b>	<b>4.9</b>	<b>20.8</b>
Minor—other, including outpt rehab	19.1	7.1	17.5	9.8	3.6
Cataract removal/lens insertion	0.9	0.0	1.1	0.2	1.9
Colonoscopy	11.3	2.8	11.4	3.1	1.2
Upper gastrointestinal endoscopy	4.1	2.6	3.6	2.5	0.6
Cystoscopy	1.7	2.6	1.8	3.2	0.6
Arthroscopy	7.3	12.7	6.7	5.9	0.2
<b>Tests</b>	<b>4.2</b>	<b>4.9</b>	<b>7.9</b>	<b>9.4</b>	<b>3.7</b>
Electrocardiogram	1.7	0.8	1.9	0.8	0.7
Cardiovascular stress test	9.0	4.9	11.0	7.4	0.6
Electrocardiogram monitoring	3.1	1.6	4.4	1.7	0.2
Lab test—other (physician fee schedule)	12.7	10.6	14.8	12.0	0.2

Note: CT (computerized tomography). To put service use in each year on a common scale, we used the relative weights for 2003. For billing codes not used in 2003, 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.

Medicare's fee-for-service program does not pay physicians based on quality. A physician who provides high-quality care receives the same payment as one who provides low-quality care. Further, fee-for-service payments provide financial incentives for physicians to deliver a higher volume of services, regardless of whether the services are clinically appropriate.

The Commission recognizes that the quality of care physicians provide has a tremendous effect on the health and health care of Medicare beneficiaries. Chapter 4 of this report provides further discussion and recommendations on how Medicare could establish payment incentives for physician services to improve quality. The chapter outlines the Commission's goals, objectives, and criteria for paying providers based on the quality of their performance.

## How should Medicare payments for physician services change in 2006?

After considering current payment adequacy, we also analyze changes in costs projected for the coming year. For physicians, we examine two factors to forecast input costs: change in input prices and MedPAC's policy goal of increased productivity. Input price changes, which include inflationary growth, generally increase expected physician expenses; productivity growth, on the other hand, reduces costs and thereby decreases expected physician expenses.

### Input price inflation

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 (AMA). The MEI provides a weighted average of price changes for inputs used to provide physician services. For 2006, the MEI forecasts that input prices for physician services will increase by 3.5 percent (Table 2B-5). For our calculations, we exclude CMS's adjustment for productivity in the MEI.

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

**TABLE  
2B-5**

**Medicare Economic Index weights and forecasted input price changes for physician services for 2006**

Input component	Category weight	Price changes for 2006
Total	100.0%	3.5%
<b>Physician work</b>	<b>52.5</b>	<b>3.4</b>
Wages and salaries	42.7	3.2
Fringe benefits (nonwage compensation)	9.7	4.2
<b>Physician practice expense</b>	<b>47.5</b>	<b>3.6</b>
Nonphysician employee compensation	18.7	3.5
Wages and salaries	13.8	3.2
Fringe benefits (nonwage compensation)	4.8	4.3
Office expense	12.2	2.0
Professional liability insurance	3.9	8.4
Medical equipment	2.1	1.6
Drugs and supplies	4.3	3.0
Pharmaceuticals	2.3	3.7
Medical materials and supplies	2.0	2.2
Other professional expense	6.4	2.1

Note: 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 sum to 100% due to rounding.

Source: Unpublished, fourth-quarter 2006 estimates from CMS, dated September 21, 2004.

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 (CMS 2004). In 2004, CMS updated its input category weights based on 2000 survey data from 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 (including an increase in the PLI share from 3.2 percent to 3.9 percent).<sup>10</sup>

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 3.4 percent, based on increases of 3.2 percent in wages and salaries and 4.2 percent in nonwage compensation. Practice expenses are projected to increase by 3.6 percent. This projection includes an 8.4 percent increase in PLI, which continues to be the fastest growing input cost. As 2006 approaches, this figure may change to reflect updated premium information.

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 make 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 is designed to account 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.<sup>11</sup>

## Productivity growth

In making our update recommendation, MedPAC has adopted a productivity objective, or goal, to encourage provider efficiency. The beginning of this chapter (p. 36) 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 0.8 percent for 2006. This estimate is similar to CMS's when it adjusts the MEI. In considering both expected productivity growth and forecasted input price inflation, the cost of producing physician services would be adjusted by an increase of about 2.7 percent during the coming year.

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## Update recommendation

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### RECOMMENDATION 2B

**The Congress should update payments for physician services by the projected change in input prices less 0.8 percent in 2006.**

### 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. Our analysis finds that current Medicare payments for physician services are adequate. Currently, the projected change in input prices for 2006 is 3.5 percent, and MedPAC's goal for 2006 productivity growth is 0.8 percent. Because CMS updates the MEI forecast quarterly, this recommendation allows for the Congress to use the most recent MEI estimates.

### IMPLICATIONS 2B

#### Spending

- Our estimates indicate that this recommendation for 2006 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, at the time of this report's publication, statute calls for substantial negative updates from 2006 to 2012, under the SGR. Over longer periods of time, however, the impact would be lower because the SGR would extract the added spending.

#### Beneficiary and provider

- This recommendation would increase beneficiary liability for cost sharing and premiums, but would maintain current levels of beneficiary access to physician care. It would also help maintain physician willingness to provide services to Medicare beneficiaries. ■

## Endnotes

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- 1 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 At the 95 percent confidence level, the margin of error ranged from  $\pm 7.2$  percent to  $\pm 2.15$  percent, depending on the survey question.
- 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 the CAHPS-FFS measures, 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 previous analyses on this topic, we included physicians who saw fewer than 15 patients. Because we excluded such physicians in our current analysis, the total number of physicians presented in this chapter is lower than that reported in our March 2004 Report to the Congress (MedPAC 2004b).
- 5 If we considered the threshold for being in the Medicare market as having at least *one* FFS patient, the ratio of physicians who started seeing FFS beneficiaries exceeded those who stopped by 1.84 to 1.0.
- 6 As another supply analysis, we analyzed changes in physicians' median caseload of Medicare patients. We found that between 1999 and 2003 median caseloads grew by 13 patients, but fluctuated less than 5 percent from year to year.
- 7 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, which is equal to 115 percent of the nonparticipating physicians' allowed charge (95 percent of the fee schedule amount).
- 8 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.
- 9 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 definition of physician services, such as Medicare Part B drugs and laboratory services. Estimates of volume growth from CMS illustrate this point (Grissom 2003). According to these estimates, volume growth for 2001 to 2002 was 6 percent to 8 percent. The low end of this range is volume growth for services paid under the physician fee schedule, which is the definition of physician services used in this report. The high end of the range includes volume growth for the broader definition of physician services.
- 10 As of 2004, CMS updated its input category weights based on 2000 survey data from 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, with an increase in the PLI share.
- 11 The final rule for the 2005 physician fee schedule adjusted the PLI relative value units to account for new data on PLI differences by service and geographic area (CMS 2004). These budget-neutral adjustments primarily resulted in increases for surgical services and other medical procedures.

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SECTION  
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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

**2C-1** The Congress should eliminate the update to payment rates for skilled nursing facility services for fiscal year 2006.

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

.....  
**2C-2** The Secretary should develop a new classification system for care in skilled nursing facilities. Until this happens, the Congress should authorize the Secretary to:

- ▶ remove some or all of the 6.7 percent payment add-on currently applied to the rehabilitation RUG–III groups, and
- ▶ reallocate the money to the nonrehabilitation RUG–III groups to achieve a better balance of resources among all of the RUG–III groups.

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

.....  
**2C-3** CMS should:

- ▶ develop and use more quality indicators specific to short-stay patients in skilled nursing facilities,
- ▶ put a high priority on developing appropriate quality measures for pay for performance, and
- ▶ collect information on activities of daily living at admission and discharge.

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

# SECTION 2C

## Section 2C: Skilled nursing facility services

### In this section

- Are Medicare payments adequate in 2005?
- How should Medicare payments change in 2006?
- Update and distributional recommendations
- Improving quality measurement for monitoring SNF care

Aggregate Medicare payments for skilled nursing facility (SNF) services are more than adequate. Most beneficiaries appear to have access to SNF care, although those who do not need rehabilitation therapy but need complex care or special services may experience delays in finding SNF care. The number of facilities providing SNF care to Medicare beneficiaries remained almost unchanged in the past year, but the volume of SNF services provided increased. Access to capital for for-profit SNFs that dominate the industry seems to have improved over recent years, but nonprofit SNFs continue to have limited access to capital. The aggregate Medicare margin for freestanding SNFs is 13 percent in fiscal year 2005. To address the concern that payments for patients needing nontherapy ancillary services may not be aligned with their resource use, the Commission again recommends that the Congress authorize the Secretary to reallocate Medicare payments from the rehabilitation to nonrehabilitation payment groups until the SNF payment system is refined. Evidence on the quality of SNF care shows small and mixed changes, with most measures indicating small reductions in quality of care provided to Medicare SNF patients. This chapter contains a recommendation to improve quality measurement for care provided to Medicare SNF patients.

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## Background

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Medicare beneficiaries who need short-term skilled nursing care or rehabilitation services on a daily basis in an inpatient setting after a medically necessary hospital stay of at least three days qualify for covered services in a skilled nursing facility (SNF).<sup>1</sup> Either freestanding or hospital-based SNFs can provide this care, with freestanding SNFs representing about 90 percent of all SNFs. A freestanding SNF is typically part of a nursing home that also provides residential long-term care, which Medicare does not cover.

Medicare pays SNFs a set amount for each day of care, adjusted for the case mix of the patients.<sup>2</sup> These per diem payment rates cover all routine, ancillary, and capital costs, as well as costs for many items and services previously reimbursed under Medicare Part B.<sup>3</sup> Case mix is determined by the SNF's assignment of each Medicare patient receiving care in its facility to 1 of 44 groups, called resource utilization groups, version III (RUG-III), that are intended to predict the patient's resource needs. The RUG-III classification system is hierarchical. The 44 groups are divided into seven categories: rehabilitation, extensive services, special care, clinically complex, impaired cognition, behavior problems, and reduced physical function.<sup>4</sup> Medicare does not typically reimburse SNFs for the last three RUG-III 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.

In the Medicare, Medicaid, and SCHIP Benefits Improvement & Protection Act of 2000 (BIPA), the Congress directed CMS to study alternative systems to the RUG-IIIs. In response, CMS sponsored research on RUG-III alternatives that categorize patients in a manner that accounts for the relative resource use of different patient types. A report on this study, including proposed alternatives to the RUG-IIIs, was due to the Congress no later than January 1, 2005. As of this report going to press, however, CMS has not released the results of this research.

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## Are Medicare payments adequate in 2005?

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We examine the following factors for changes that can be attributed to the adequacy of Medicare payments to SNFs:

- access to care
- supply
- volume of services
- quality
- access to capital
- payments and costs

Overall, our analysis finds no major changes in these factors that would indicate problems for beneficiaries who need SNF services. Most beneficiaries appear to have access to SNF care, although those who do not need rehabilitation therapy but need complex care or special services may experience delays in finding SNF care. The stabilization in the number of facilities providing SNF care to Medicare beneficiaries and the increase in the volume of SNF services provided are indicators that access to SNF care has not declined. Available evidence on changes in the quality of SNF care is mixed, with most measures indicating small reductions. Nonprofit SNFs continue to have relatively limited access to capital, but some large for-profit SNFs reported capital spending to construct or expand facilities. Our analysis of SNFs' Medicare payments and costs found that payments will cover SNFs' costs of caring for Medicare patients in 2005.

### Changes in access to care

Available evidence suggests that most beneficiaries have access to SNF care. Research on Medicare beneficiaries' use of post-acute care between 1996 (pre-PPS) and 2002 (post-PPS) found that the number of acute care hospital discharges to a SNF increased 36 percent during this period (Hogan 2004). In addition, the proportion of Medicare beneficiaries who were discharged from a hospital to a SNF increased from 10 percent in 1996 to 13 percent in 2002.<sup>5</sup>

Past reports by the Health and Human Services Office of Inspector General (OIG) found that beneficiaries had little difficulty accessing SNF services, especially if they needed physical, occupational, or speech rehabilitation therapies, which more than three-quarters of Medicare SNF patients receive. Some patients needing nontherapy ancillary services such as intravenous therapy, dialysis, expensive drugs, or specialized feeding, however, were

more likely to have experienced delays (OIG 1999a, 2000, 2001). These results were based on interviews with more than 200 discharge planners across the United States about their ability to place patients in SNFs. Subsequent work by MedPAC supports these conclusions (MedPAC 2004a).

Beneficiaries who do not need rehabilitation services but do need certain nontherapy ancillary services may experience delays in accessing SNF care in part because the Medicare payment rates for these services may not be aligned with their costs. MedPAC and the Government Accountability Office (GAO) have pointed out that the RUG–III classification system may not pay enough to cover the costs of patients who require nontherapy ancillary services, such as expensive drugs and ventilator care services (MedPAC 2004a, GAO 2002d, GAO 1999). As a result, SNFs may try to avoid patients who need these services. Similarly, ready access to SNF services for patients receiving rehabilitation therapies may also be related to Medicare payments for these services. Payment for rehabilitation RUG–IIIs reflects minutes of therapy provided or estimated to be provided and may encourage SNFs to provide unnecessary services in order to increase the amount of Medicare’s payment (GAO 2002e).

As the Commission has recommended in the past, it is critical to continue monitoring the ability to place patients who need skilled nursing facility care in a SNF in order to detect access problems. Consistent with a previous MedPAC recommendation, the OIG is currently conducting a follow-up study on beneficiaries’ most recent experiences accessing SNF and home health services (MedPAC 2003). Results are expected in spring 2005.

### Changes in supply of facilities and volume of services

The most recent data on the supply of SNFs serving Medicare beneficiaries and the volume of SNF services provided to Medicare show that the availability and use of SNF services have not declined. There was a very small net increase in the number of SNFs serving Medicare beneficiaries between 2003 and 2004. The overall supply of Medicare-participating SNFs nationwide has stabilized in recent years. The rate of hospital-based SNF closures appears to have slowed somewhat, while the number of freestanding SNFs continues to increase at a rate of about 1 percent per year (Table 2C-1). The total number of SNFs that participated in Medicare in 2004 is slightly greater than the number of SNFs that participated in 1999—the first full year of the prospective payment system for SNFs.

**TABLE 2C-1**

**The number of skilled nursing facilities serving Medicare beneficiaries has stabilized in recent years**

	1999	2003	2004	Percent change 2003–2004	Annual change 1999–2004
All facility types	14,933	14,918	14,941	0%	0%
Freestanding	12,859	13,455	13,568	1	1
Hospital-based	2,074	1,463	1,373	–6	–8

Note: Data do not include swing bed units.

Source: MedPAC analysis of CMS Online Survey, Certification, and Reporting system (OSCAR) data.

The volume of SNF services, as measured by payment and use, increased between 2001 and 2002 (Table 2C-2, p. 90). Specifically,

- payment increased by 10 percent,
- discharges increased by about 5 percent,
- covered days increased by 10 percent, and
- average length of stay increased by 6 percent.

Total payments to SNFs continued to rise between 2001 and 2002, even though the average payment per day declined slightly during this period; therefore, the 10 percent growth in total payments is explained entirely by a 10 percent increase in covered days of SNF care between those two years. Covered days increased because more patients were admitted to SNFs and because patients were staying longer.

The small decline in average payment per day between 2001 and 2002 followed steady increases since 1999 and a 13 percent increase between 2000 and 2001. The expiration of temporary payment add-ons lowered payments per day in the last quarter of 2002, but relatively steep increases in volume more than offset those reductions, resulting in an increase in total payments to SNFs. As of October 1, 2002, two payment increases ended: the 4 percent increase across all RUG–IIIs from the Balanced Budget Refinement Act of 1999 (BBRA) and the 16.66 percent increase for the nursing component of the base rate from the BIPA. Other payment add-ons—including a 6.7 percent increase for the 14 rehabilitation

**TABLE  
2C-2**

**Total payments to and use of skilled nursing facilities are growing**

Measure	1998	1999	2000	2001	2002	Percent change, 2001–2002	Annual change, 1998–2002
Payment (billions)	\$11.3	\$9.5	\$10.4	\$12.7	\$14.0	10.3%	5.5%
Average payment/day	250	223	236	266	265	–0.2	1.5
Discharges (1,000s)	1,588	1,450	1,439	1,520	1,601	5.3	0.2
Covered days (1,000s)	45,240	42,535	44,103	47,776	52,787	10.5	3.9
Average days/discharge	29	29	31	31	33	6.5	3.3

Note: Data include Puerto Rico, Virgin Islands, and unknown locations. Data do not include swing bed units. The prospective payment system for skilled nursing facilities was implemented for cost reporting periods beginning on or after July 1, 1998.

Source: Health Care Information System from CMS Office of Information Services.

RUG–IIIs; a 20 percent increase for the 12 extensive care, special care, and clinically complex RUG–IIIs; and a 128 percent increase for patients with AIDS—remain in effect until case-mix refinements to the SNF prospective payment system are implemented. Yet, the nature of such refinements and a timetable for their implementation have not been determined. In 2004, SNF payments were increased by the full market basket (3.0 percent) plus 3.26 percent. The added 3.26 percent was made to correct for cumulative market basket forecast error since the implementation of the PPS for SNFs.

**Changes in quality of care**

Most short-term skilled nursing care is provided to Medicare patients in the same facilities that provide custodial long-term care. Nevertheless, experts we interviewed believe that quality measures should distinguish between the quality of care provided to short-stay and long-stay patients, because the goals of care for these two types of patients can be different (see text box, opposite). We examined two sets of SNF-specific quality indicators to determine quality trends across the industry.<sup>6</sup> Our analysis found positive and negative changes in quality since the SNF prospective payment system was implemented, but most indicators found small reductions in quality of care. We also examined the quality indicators for short-stay patients, which are part of CMS’s Nursing Home Compare measure set for nursing facilities. We found improvement on one measure and no change on another. As we discuss in detail later in this chapter, these indicators may not accurately assess the quality of SNF

care because they are limited by the focus of the Minimum Data Set (MDS), the questionable accuracy of the data, and the timing of data collection.

Rates of preventable readmission to an acute care hospital for five conditions—electrolyte imbalance, respiratory infection, congestive heart failure, sepsis, and urinary tract infection—all increased slightly between 1999 and 2002 (Table 2C-3). These five conditions were selected by researchers as short-stay quality indicators because they are affected by nurse staffing levels, are of a sufficiently high incidence to be stable, can be adjusted for risk, and have accurate data available to measure their incidence (Kramer and Fish 2001). These rates are calculated using all Medicare SNF stays, are controlled for diagnosis and functional severity of patients, and indicate when a short-stay patient may be receiving poor-quality care.<sup>7</sup>

A comparison of Medicare SNF patients’ rates of death, hospital readmissions, and return to the community within 30 days in 2002 with those rates in 1996 shows mixed trends (Hogan 2004).<sup>8</sup> Specifically, SNF patients had lower than expected rates of mortality in 2002, but higher than expected rates of readmissions, and lower than expected rates of discharge to the community (Table 2C-4). Although this study calculated expected rates for 2002 using the rates for a given principal post-acute care diagnosis in 1996, the analysis cannot rule out that SNF patients with a given post-acute care diagnosis in 2002 were sicker than those with the same diagnosis in 1996.

## Care of short-term patients in nursing homes differs from care of long-term residents

Nursing facilities care for short-term patients in need of skilled nursing facility (SNF) care and long-term residents. Most long-term residents only require custodial care, although some may require skilled services. The components of care for these two groups differ. SNFs provide daily posthospital skilled care. If the task can be performed safely and effectively only by or under the general supervision of skilled nursing or rehabilitation personnel, then it is considered skilled.<sup>9</sup>

In contrast to SNFs, nursing homes—sometimes called nursing facilities—provide nonskilled or custodial services to most individuals residing there. These residents frequently live in a nursing facility for an extended period of time. Medicare does not pay for this type of care when it is the only care required, although some of this care is provided as a matter of course to SNF patients. Examples of custodial services are:

- administration of routine oral medications, eye drops, and ointments;
- general maintenance care;
- routine services or care;
- assistance in dressing, eating, and other activities of daily living;

- periodic turning and positioning in bed; and
- general supervision of exercises and performance of repetitive exercises that do not require help from skilled rehabilitation personnel.

In 2004 almost all facilities that treat SNF patients (94 percent) were nursing homes that were also certified to care for nursing facility residents paid for by Medicaid. Nevertheless, SNF patients make up only 8 percent of the residents in a nursing home.

Other differences between SNF patients and residents of nursing facilities are:

- The main goal of care for SNF patients is recovery to maximum level of functioning; more than three-quarters of SNF patients receive rehabilitation services (Liu et al. 2003). The main goal of care for most nursing facility residents is to maintain function to the extent possible. Estimates of SNF patients who remain in nursing homes to receive long-term care range from 58 percent (Datapro Team 2002a) to 30 percent (Kramer et al. 1999).
- Average length of stay for SNF patients is 25 days versus 24 months for nursing facility residents.<sup>10</sup> ■

**TABLE 2C-3**

**Adjusted readmission rates for five conditions increased between 1999 and 2002**

Condition	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 based on stays beginning between January and May 2002; results from other years reflect a full year of data.

Source: MedPAC analysis of Medicare claims data.

**TABLE 2C-4**

**Measures of skilled nursing facility quality show mixed trends**

Endpoint	1996 actual	2002 actual	2002 expected
Death	21%	18%	21%
Readmission to hospital	22	25	23
Discharge to community	56	54	55

Note: The 2002 actual values for each measure were statistically significantly different from the 1996 values at least  $p < .05$ , two-tailed test. Expected endpoint was based on principal diagnosis and type of post-acute care, using endpoint rates observed in 1996. Data are from claims and enrollment data for a 5 percent sample of fee-for-service enrollees.

Source: Hogan 2004.

We also analyzed data from 2002 through 2004 on the proportion of each facility's short-stay residents with delirium and pain, as reported on CMS's Nursing Home Compare public website. We found no change in reporting facilities' median proportions of short-stay residents with delirium and a slight decline in facilities' median proportion of short-stay residents with moderate to severe pain. Data on the proportion of residents with pressure sores were available only for 2004, so we could not analyze the trend for this indicator. As we discuss later in this chapter, however, some experts we consulted believe that these measures are limited in their ability to assess quality.

### Access to capital

SNFs' access to capital can be difficult to determine because SNFs are not typically independent financial entities. They are usually part of another facility—either a hospital or a nursing facility. About 90 percent of SNFs are part of a freestanding nursing facility, most of which provide long-term care, which Medicare does not cover. About 10 percent of facilities are part of a hospital and,

therefore, access capital through their hospital organizations. In addition, Medicare payments account for only about 12 percent of all nursing home revenue and are less likely to have an impact on access to capital than other payers (Levit et al. 2003). Although providers currently regard Medicare payments favorably, they assert that potential refinements to the RUG–IIIs and the loss of current payment add-ons introduce uncertainty about their ability to continue to subsidize what they contend are inadequate Medicaid payments (see text box below). The remainder of this section focuses on freestanding SNFs' access to capital.

### For-profit SNFs

Determining the freestanding SNF industry's access to capital is further complicated by the paucity of measures that provide reliable information on total overall financial performance of all types of facilities. Information on the financial performance of the large for-profit chains that operate freestanding nursing facilities is relatively accessible, while similar information on other owners is not. While for-profit companies dominate the industry, the

## Medicare and Medicaid

The nursing facility industry and others are concerned about the level of Medicaid payments to nursing facilities. Although 31 states increased Medicaid payments to nursing facilities in 2005, the industry contends that these payments are still too low (Kaiser 2004). In addition, facilities may still face the prospect of rate cuts or freezes as states attempt to trim their budgets in the future. The industry regards Medicare payments favorably, but it has suggested that MedPAC consider total nursing facility margins when making payment update recommendations and that Medicare pay more than the cost of providing care for Medicare beneficiaries to compensate facilities for inadequate Medicaid payment rates.

It would be inefficient to use Medicare payments to compensate for any perceived inadequacies in Medicaid payments. 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.

Although one goal of Medicare is to maintain access to necessary covered services for Medicare beneficiaries, the Commission remains concerned about the coordination of care for Medicare beneficiaries who remain in nursing homes and receive long-term care even though Medicare does not cover it. Some of these beneficiaries are or become dually Medicare and Medicaid eligible and have their long-term care paid for by Medicaid. In our June 2004 report we presented information on the spending and care patterns, access to care, and the coverage and payment policies affecting dual eligibles (MedPAC 2004b). During the coming year, we plan to study the characteristics of Medicare beneficiaries who remain in a nursing facility, exhaust their Medicare skilled nursing facility benefit, and receive long-term care in a nursing facility. ■

10 largest nursing home chains account for only about 16 percent of nursing home beds. So although the majority of facilities are for profit, the financial experiences of the large for-profit chains do not necessarily apply to the population of SNFs serving Medicare beneficiaries.

The financial situation of companies that operate for-profit, chain nursing homes appears to have improved over recent years. In their annual Securities and Exchange Commission filings, several of these chains discuss the financial benefits of increasing the share of Medicare patients and the favorable effect this has on their bottom lines. One financial firm that analyzes SNF performance sees evidence that “the industry is improving, wants to renew ties to capital providers and that some smaller operators are searching for acquisitions” (Legg Mason Wood Walker 2004). Several large chains reported capital spending to construct or expand facilities in 2003. An index of seven publicly traded companies operating SNFs increased 12 percent between January and October 2004 compared with the broader Standard & Poor’s 500 Index, which declined 0.47 percent during this period (Cain Brothers 2004).

### **Nonprofit SNFs**

FitchRatings, a firm that analyzes credit markets, reported that the overall outlook for nonprofit nursing facilities, which are about one-quarter of freestanding SNFs, remains negative in 2004. According to FitchRatings, this “negative outlook is due to the significant challenges in the industry, which will continue to pressure already weak financial performance” (FitchRatings 2004). These challenges are identified as “inadequate Medicaid reimbursement; rising insurance, labor, and benefits expense; and increased capital needs.” The firm also notes that “[c]apital needs continue to increase due to deferred spending on plant[s],” which its analysts explain “is usually the result of weak financial performance and limited free cash flow.”

This situation is no different from recent years. Access to capital for smaller nursing homes and for many nonprofit nursing homes has typically been limited compared with their larger, for-profit counterparts. From a peak of more than \$2 billion in 1998, annual public debt issuance has declined to about half a billion dollars in 2002. Bond issuance for nursing homes dropped yet again in 2003 to \$382 million. FitchRatings expects 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 2004). Smaller organizations often have to issue unrated bonds, resulting in higher interest rates. Facilities that are part of a larger organization with assisted-living or continuing-care retirement communities may also have access to more sources of capital because of their affiliation with these larger entities. In addition, due to recent low interest rates, small nonprofit facilities may be able to access relatively cheap funds through mortgages and loans from banks. But the extent of this type of lending is unclear.

### **Payments and costs for 2005**

To assess the adequacy of Medicare payments, we calculate an aggregate Medicare margin for all SNFs. This margin is the difference between Medicare SNF payments and costs, as a percentage of Medicare payments to SNFs. Conceptually, this represents the percentage of revenues that the providers keep.

#### **Freestanding SNF payments and costs**

Based on 2003 cost report data, we estimate that the 2005 aggregate Medicare margin for freestanding SNFs is 13 percent.<sup>11</sup> This margin represents a decrease of 2.3 percentage points from the 2004 margin (MedPAC 2004a). Our estimates do not reflect any changes to the payment system that may result from the report on proposed alternatives to the RUG–IIIs that was due to the Congress by January 1, 2005. As of this MedPAC report going to press, CMS has not released the report or disclosed any intentions to modify the payment system in response to the report. Because we do not yet know whether or when these proposals will be implemented, nor what their payment effects may be, including them in our margin calculations would require us to speculate about changes in law, the timing of those changes, and how changes would affect SNF payments.

An analysis of SNFs’ Medicare margins from 2000 to 2003 found that 5 percent of SNFs had negative Medicare margins in all four years.<sup>12</sup> Sixty percent of facilities had positive margins in all four years, and 35 percent had both positive and negative margins during this period. The cohort of SNFs with a higher share of Medicare days were more likely to have consistently positive Medicare margins than those with the lowest share of Medicare days.

## Hospital-based SNF payments and costs

The aggregate Medicare margin for hospital-based SNFs was -87 percent in 2003. This margin represents a decrease from the 2001 Medicare margin of -62.7 percent that we reported last year (MedPAC 2004a). Interpreting the negative Medicare margin for hospital-based SNFs is complicated by the standard practice of allocating the hospital's overhead costs across all of the units in its facilities, including its SNF units. The effect of this practice may be that hospital-based SNF units likely record higher overhead and total costs than they otherwise would if they had recorded only the costs of providing services to SNF patients. Hospitals also may have higher cost structures than freestanding nursing homes.

## How should Medicare payments change in 2006?

When recommending appropriate Medicare payment changes for fiscal year 2006, MedPAC first considers whether payments appear adequate in 2005 and then examines how costs are likely to change in 2006. In this section we discuss recent cost growth in the SNF industry.

SNFs' costs of providing care have changed dramatically since the prospective payment system for SNFs was implemented. In the 1980s and 1990s, before the PPS, Medicare payments were based on incurred costs. During this period, Medicare imposed payment limits for routine services, such as room and board, but did not limit payments for capital and ancillary services, including therapy. The GAO and the OIG found that costs during this period were excessive (GAO 2002e, OIG 1999b). For example, cost growth for ancillary services averaged 19 percent per year between 1992 and 1995, while the cost of routine services increased an average of 6 percent annually (GAO 2002e). According to the GAO, Medicare spending growth on SNF services also was high, averaging 30 percent per year between 1986 and 1996. Much of this growth was due to an increase in the provision of ancillary services, such as therapy (GAO 2002d).

Under the PPS, SNFs have incentives to decrease the costs of providing each day of care. Research suggests that SNFs have reduced their costs in response to these incentives (MedPAC 2004a). MedPAC's analysis of SNFs' reported costs also found that cost growth has slowed since the PPS was implemented. Freestanding

SNFs' average annual per-day cost growth for Medicare beneficiaries was 3.6 percent between 2000 and 2003.<sup>13</sup> At the 25<sup>th</sup> percentile of the distribution, average annual SNF per-day cost growth was 0.4 percent; at the 75<sup>th</sup> percentile it was 7.9 percent.

## Update and distributional recommendations

SNFs should be able to accommodate cost changes in 2006 with the Medicare margin they have in 2005; therefore, we recommend:

### RECOMMENDATION 2C-1

**The Congress should eliminate the update to payment rates for skilled nursing facility services for fiscal year 2006.**

### RATIONALE 2C-1

The evidence generally indicates that Medicare beneficiaries continue to have access to skilled nursing facility services. We project the Medicare margin for freestanding SNFs will be 13 percent in fiscal year 2005, and we expect prior cost trends to continue. Our analysis of cost growth finds that average per-day Medicare cost growth was 3.6 percent between 2000 and 2003. Given these circumstances, SNF payments appear adequate to accommodate cost growth; thus no update is needed.

### IMPLICATIONS 2C-1

#### Spending

- This recommendation reduces Medicare spending relative to current law by \$200 million to \$600 million for fiscal year 2006 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.

## Recommendation to improve the distribution of payments

We reiterate our recommendations from the past two years to distribute payments more equitably across SNF services.

## RECOMMENDATION 2C-2

**The Secretary should develop a new classification system for care in skilled nursing facilities. Until this happens, the Congress should authorize the Secretary to:**

- **remove some or all of the 6.7 percent payment add-on currently applied to the rehabilitation RUG-III groups, and**
- **reallocate the money to the nonrehabilitation RUG-III groups to achieve a better balance of resources among all of the RUG-III groups.**

## RATIONALE 2C-2

The Commission remains concerned that the current SNF patient classification system does not appropriately distribute resources among patients with different resource needs. This is due to the following:

- Payments for rehabilitation services are based on the actual or estimated number of minutes of therapy, rather than on a patient's clinical characteristics.
- The RUG-III classification system does not directly capture differences in patient costs that arise from nontherapy ancillary services, such as prescription drugs and respiratory therapy.
- Payment rates for the RUG-IIIs 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 disparity could explain why patients with expensive nonrehabilitation therapy ancillary service needs may experience longer delays in accessing SNF services than other patients. This recommendation would provide a more equitable distribution of resources among patients with different resource needs within the SNF payment system.

## IMPLICATIONS 2C-2

### Spending

- This recommendation would not affect federal program spending relative to current law.

### Beneficiary and provider

- This recommendation is expected to improve beneficiary access and could have redistributive effects on providers.

## Improving quality measurement for monitoring SNF care

Medicare is responsible for monitoring the quality of care provided to skilled nursing facility patients. MedPAC also uses quality measures in determining whether Medicare payments for SNFs are adequate. MedPAC relies on data collected by CMS to assess quality in other sectors (e.g., hospitals and home health care). Although CMS collects quality information on nursing facilities, few of these indicators address the short-stay, skilled care provided to SNF patients as distinct from those for nursing home residents. In addition, the quality indicators CMS reports for short-stay patients have shortcomings.

To better understand both the importance of quality measures specific to the care of short-stay patients and the information CMS currently collects to monitor quality, as well as to identify ways to improve the SNF-specific information available to assess quality, we interviewed representatives of CMS, researchers, clinicians, nursing home quality improvement experts, the National Quality Forum (NQF), quality improvement organizations (QIOs), and the nursing home industry. We also reviewed the literature.

In this section, we synthesize what we learned from our interviews and literature review and examine ways to improve Medicare's and MedPAC's ability to monitor quality for SNF patients. Our focus here is on measuring quality for SNF patients exclusively for the purposes of quality monitoring and assessing payment adequacy, as distinct from paying for performance. Further work is needed to determine whether these measures or other measures are appropriate for paying facilities based on the quality of care they provide.

### Why SNF-specific information is important

CMS has always been responsible for monitoring the quality of care provided to SNF patients as part of its responsibilities for the Medicare program. Monitoring the

quality of care is especially important when providers are paid prospectively for a fixed unit of care, such as the per diem payment made to SNFs. The concern under PPS is whether providers have incentives to reduce or improve quality of care under a payment system adjusted for case mix (Grabowski 2002).

The experts we interviewed agreed that the quality of SNF care and nursing home care are not necessarily related even though SNF care is frequently provided in nursing homes. They pointed out that the goals and type of care provided to short- and long-term patients are very different (see text box on p. 91). Nevertheless, few researchers study SNFs separately from nursing homes, and some explicitly exclude short-term patients from their analysis. One reason short-term patients are excluded might be the small number of these patients in a nursing home at any one time—half of nursing homes have five or fewer Medicare patients per day (Liu et al. 2003). The lack of independent research on SNF-specific quality issues makes it even more imperative for Medicare to monitor SNF quality and to explicitly distinguish between the quality of short- and long-term care in nursing homes.

### **The SNF-specific information CMS currently collects is too limited**

CMS has only three quality indicators focused specifically on measuring the quality of SNF patient care—delirium, pain, and pressure ulcers—derived from questions on the MDS.<sup>14</sup> The MDS is a standardized assessment filled out for every patient in a nursing home and every patient with skilled nursing facility care needs in a hospital (see text box on MDS opposite). Information on these three indicators is posted on CMS’s Nursing Home Compare public website, although CMS reports no information on these indicators for about one-third of SNFs because they have too few SNF patients or 14-day assessments to report. CMS currently has no other way of monitoring SNF quality.<sup>15</sup>

The quality measures for short-term patients that CMS creates from the MDS information are:

- percentage of patients with symptoms of delirium that represent a departure from usual functioning on a 14-day assessment,
- percentage of patients at 14-day assessment with moderate pain at least daily or horrible/excruciating pain at any frequency, and

- percentage of patients who develop a pressure ulcer between 5-day and 14-day assessment or percentage of patients who had any stage pressure ulcer at the 5-day assessment that worsened by the 14-day assessment.

Based on our interviews with experts, the indicators do not reflect whether beneficiaries benefit from the care they receive in SNFs. Most experts suggested that instead of identifying the major concerns about quality in SNFs and what one needs to know to assess quality in those areas, CMS created quality indicators from available MDS data. In effect, the three SNF-specific quality indicators are limited by the focus of the MDS, the questionable accuracy of the data, and the timing of data collection.

### **Focus of the indicators**

The experts we interviewed are concerned about the indicators’ lack of focus on the SNF stay. The MDS was developed to assess patients with long-term care needs. Although some short-term patients may experience a care trajectory that leads to a long stay or to death, many are in skilled care to recover from surgery or other acute events and are expected to improve their functioning. Because most short-term patients are expected to improve, our experts suggested that important measures of quality of care should assess whether patients benefited from the care provided and whether the care resulted in patients achieving the goals of the care plan. For example, more than three-quarters of Medicare SNF patients receive rehabilitation services. CMS could assess whether these rehabilitation services improved patients’ functioning. In addition, most Medicare beneficiaries want to return to the community after their SNF stay. Yet estimates, from two sources, of SNF patients being discharged to the community range from 42 percent to 70 percent.<sup>16</sup> Comparisons of expected and actual discharge destination could provide information on whether patients’ goal of returning home is achieved.

### **Accuracy of the data**

The GAO has questioned the accuracy of information from the MDS (GAO 2002a, 2002b). It found that when some states began to monitor MDS accuracy, as many as 85 percent of MDS assessments had errors (GAO 2002a). The GAO attributed these errors to high turnover in the nursing home staff who complete the MDS and misunderstandings of the MDS definitions. The GAO also expressed concerns about the MDS data because two studies of MDS error rates by the same CMS contractor

## What is the minimum data set?

The minimum data set (MDS) is a tool of 300-plus items (more than 500 data points) used to assess individuals who receive services in nursing facilities. It began in 1987, when the Congress directed the Secretary of Health and Human Services to identify a core set of elements for nursing homes to use in assessing residents' care needs. By the early 1990s nursing homes that served either Medicare or Medicaid patients were collecting MDS data on all residents. The MDS is now the basis for measuring quality for long- and short-term patients and for determining the level of Medicare payment for short-term patients and Medicaid payments in some states. The MDS also is used to identify nursing homes that may need special attention during the survey and certification process.

During the 1990s the percentage of short-term nursing home residents was very low (less than 5 percent). Thus, the MDS was primarily aimed at residents who did not require skilled care and were not expected to

improve. Over time, the percentage of nursing home patients who are considered in need of skilled care but who are expected to stay for a shorter time period has increased to 8 percent (Liu et al. 2003).

The nursing home is required to complete the MDS on skilled nursing facility (SNF) patients by the 5<sup>th</sup>, 14<sup>th</sup>, and 30<sup>th</sup> day of their stays and every 30 days thereafter. For short-term patients, a nursing home is expected to fill out the MDS by reviewing patient information for the past 14 days. The assessment includes questions that require observing the patient, asking the patient questions, and retrieving information from the medical record. Unlike home health agencies, nursing homes are not required to assess a patient on discharge. Because the first assessment is not required in the first 24 hours, technically SNFs are not required to use the MDS to assess a patient at admission. ■

produced different results. In one study, the contractor found high rates of error for the MDS items at the individual facility level, especially for the items that make up the quality indicators (Abt 2001b). In a later but similar study, the contractor reported that the three SNF-specific quality indicators reflected actual quality of care the facility provides, given the patients it served (Abt 2003). In comments on the GAO's findings, CMS attributed these different results to actual improvement in MDS coding accuracy, but the GAO claimed there was little evidence of efforts that would have led to improvements in MDS data accuracy. The GAO also questioned the representativeness of the data used in the later study because the sample of SNFs was drawn from six states and because 50 percent of the facilities that were asked to participate declined (GAO 2002b). Given the concerns raised by the GAO about the MDS data and the studies that evaluated MDS data, we believe that the data collected using the MDS have not been conclusively found to be accurate. Quality measures based on these data, therefore, may not adequately reflect the quality of care provided in a SNF.

### Timing of the assessment

Although SNF patients are assessed frequently—on the 5th, 14th, 30th, 60th, and 90th day of their stay—they are not assessed upon admission or discharge. Because our interviewees support the concept of assessing progress over time, they suggested two changes in timing to expand and improve the MDS for quality indicators. These changes would not necessarily increase the number of times the MDS is completed. Assessment upon discharge and admission could be done using an abbreviated instrument or could possibly substitute for one of the other routine assessments.

- **Assessment on discharge.** Our experts uniformly agreed that an assessment on discharge would provide missing information for several measures of quality, in particular functional improvement. An assessment strategy focusing on the change between the initial assessment and the discharge would help answer many of the quality concerns raised by experts, including whether the goals of care were achieved and whether pressure sores or delirium were appropriately

managed. They did not believe a full MDS assessment is necessary; rather it could focus on quality indicators for short-term patients, activities of daily living (ADLs), or even be done using a different instrument.

- Assessment on admission. Currently, the facility has to fill out the initial MDS assessment by the fifth day, and the nurse looks back two weeks into the patient's history to better understand his or her condition. Some experts told us that this two-week look back and the time allotted for filling out the MDS are important for care management but questioned whether they improved quality measurement. They suggested that it might be more appropriate to use a few items (e.g., ADLs) measured at admission to measure quality.

### **Improving Medicare's ability to monitor SNF quality**

The experts we interviewed identified several indicators that CMS does not use to monitor quality of SNF care—rehospitalization, discharge of patients to the community, and improvement in functioning. They pointed out that these indicators would provide better information on whether beneficiaries benefit from SNF care and whether the goals of the care plan are achieved.

Two of the three indicators suggested by experts—rehospitalization and discharge to the community—are readily available from existing administrative data, although not from the MDS.

### **Rehospitalization**

The experts we interviewed unanimously suggested that rehospitalization be used as an indicator of SNF quality of care. NQF also suggested that rehospitalization be used as a quality indicator for SNF patients (GAO 2002b). Recent evidence points to an increase in rehospitalizations, with Hogan finding that SNF patients were rehospitalized more than was expected in 2002 (Hogan 2004).

There are several ways to consider rehospitalization by analyzing SNF and hospital claims. To examine trends in the quality of SNF care, CMS could examine a range of measures from all rehospitalizations to only those that SNFs can prevent. A set of avoidable rehospitalizations for five conditions that are risk-adjusted have been developed by a CMS contractor specifically as a measure of SNF quality (Abt 2001a). We have adopted these measures as part of our examination of changes in quality in assessing payment adequacy for SNFs (see page 90).

### **Discharge to the community**

Most beneficiaries prefer to return home from SNFs, rather than stay in a nursing home. Hogan found that the share of beneficiaries discharged home from SNFs in 2002 was lower than expected based on pre-PPS discharge patterns (Hogan 2004).

The MDS is collected on all nursing home residents, which allows CMS and researchers to determine from data already collected whether patients discharged from the SNF remained in a nursing home. SNF claims combined with hospital claims and dates of death enable researchers to determine the discharge destination for SNF patients. In addition, the Colorado QIO and researchers at the University of Colorado (and others) have developed and tested a method to predict discharge home that would allow the actual and expected outcomes to be compared (Datapro Team 2002b).

### **Improvement in functional ability**

More than one-half of SNF patients—51 percent—do not have a second MDS assessment (Liu et al. 2003). As a result, improvement in functional status cannot be assessed for most SNF patients.

Although Medicare pays for rehabilitation services for more than three-quarters of SNF patients, CMS currently has no way to determine if beneficiaries' functional abilities improve during their SNF stay. An indicator of ADL improvement for all SNF patients could be constructed if ADLs were assessed and reported at admission (without a look-back period) and at discharge. Because SNFs have to establish a care plan for a patient within 24 hours of admission, ADLs could be available at admission. Several of our experts suggested that SNFs could report the discharge ADLs on a revised tracking form.

To improve Medicare's monitoring of the quality of care SNFs provide, we recommend:

### **RECOMMENDATION 2C-3**

#### **CMS should:**

- **develop and use more quality indicators specific to short-stay patients in skilled nursing facilities,**
- **put a high priority on developing appropriate quality measures for pay for performance, and**
- **collect information on activities of daily living at admission and discharge.**

## RATIONALE 2C-3

Currently, CMS has only three quality indicators for SNF patient care, all of them limited. Most important, these indicators—delirium, pain, and pressure ulcers—do not focus on determining whether Medicare patients benefit from SNF care or whether the goals for a SNF patient’s care are achieved. The experts we interviewed suggested three quality indicators—rehospitalization, discharge to the community, and ADL improvement—that would change the focus of SNF quality. Medicare urgently needs quality indicators that allow the program to assess whether patients benefit from SNF care. Rehospitalization and discharge to the community are currently available from administrative data.

## IMPLICATIONS 2C-3

### Spending

- This recommendation would not affect federal program spending relative to current law.

### Beneficiary and provider

- This recommendation is expected to improve quality for beneficiaries. 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. ■

## Endnotes

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- 1 Medicare covers 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 \$115 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 their swing beds based on their costs of providing care.
- 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 still covers these services. In addition, 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. But the per diem rates do cover the costs of physical, occupational, and speech therapies, even if a physician supervises.
- 4 The rehabilitation category includes patients who would qualify for one of the other RUG-III skilled care categories if they were not receiving or expected to receive at least 45 minutes of rehabilitation therapy each week. The extensive services category includes patients who have received intravenous medications or tracheostomy care or 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 and tube-fed. The clinically complex category includes patients who are comatose; have burns, septicemia, pneumonia, internal bleeding, or dehydration; or receive dialysis or chemotherapy.
- 5 Data are for SNF as the sole post-acute care modality and exclude deaths and transfers.
- 6 Quality indicator is a generic term in this chapter.
- 7 MedPAC used a program developed by Andrew M. Kramer, M.D., and Ron Fish, M.B.A. at the Center on Aging, University of Colorado Health Sciences Center.
- 8 The episode endpoint was determined by events occurring within 31 days of the last bill in the episode. Only episodes that were not truncated by the end of the year were used in the analysis. For this analysis, episode terminations were made mutually exclusive by creating a hierarchy of the possible end points. For example, all deaths within a month of episode termination were counted as a single category even if death occurred after a readmission to the hospital. To make results comparable, 2002 rates were adjusted for case mix using the principal post-acute care diagnosis. Expected rates in 2002 were determined by first calculating the 1996 average rates of episode end points by principal post-acute care diagnosis. Next, the average episode endpoint rate for each post-acute care diagnosis in 1996 was applied to the 2002 data to determine the 2002 expected episode endpoint.
- 9 SNF services, covered by Medicare under Part A, must be furnished within 31 days of a 3-day hospital stay, pursuant to a physician's orders, be reasonable and necessary for the treatment of the patient's injury or illness, and must be reasonable in length and quantity.
- 10 The average length of stay (ALOS) for SNF patients is from MedPAC 2004a; ALOS for nursing facility residents is from Bates-Jensen et al. 2003. The ALOSs are mutually exclusive.
- 11 When calculating SNFs' aggregate costs in the base year, we increase the estimated nursing share of the average routine costs reported on the SNFs' cost reports by the additional nursing costs of caring for Medicare patients. This adjustment reduces the Medicare margin as it increases SNFs' routine costs.
- 12,13 This analysis included freestanding SNFs with complete cost report data in each year between 2000 and 2003.
- 14 NQF endorsed these indicators.
- 15 The Nursing Home Compare also lists staffing levels and complaints and deficiencies reported by nursing homes through the Online Survey, Certification and Reporting (OSCAR) system. The information, however, is facility specific and is not broken down by whether the individual is a short-term patient or a long-term resident. CMS, GAO, and the OIG all have reported concerns about the reliability of OSCAR data (GAO 2002b, HCFA 2000, OIG 2004).
- 16 The 42 percent is from Datapro Team 2002a; the 70 percent is from Kramer et al. 1999.

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# SECTION 2D

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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 2006.

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

# SECTION 2D

## Section 2D: Home health services

Access to home health care for most beneficiaries is good, though some beneficiaries report some difficulties. Quality has improved slightly. The number of certified agencies increased in the past year. The projected Medicare margin for home health services in 2005 is 12.1 percent, suggesting that Medicare's payments more than cover the costs of caring for

Medicare home health users. We continue to be concerned that the payment system may not be distributing payments accurately and may affect access to care for some eligible beneficiaries. MedPAC and others should continue to examine the payment system's design.

### In this section

- Are Medicare payments adequate in 2005?
- How should Medicare payments change in 2006?
- Should the prospective payment system's structure change?

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## Are Medicare payments adequate in 2005?

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We find evidence of good access to care for most beneficiaries, though some beneficiaries continue to experience some difficulties. The quality of care has improved. We also observe an increase in the number of home health agencies (HHAs). In terms of volume, the numbers of episodes and users have risen, while the amount of service within an episode continues to fall. Few home health agencies seek capital through publicly traded shares or public debt; thus, these measures of access to capital are not very instructive in this sector.

### Background: What is home health and the home health payment system?

Home health care is skilled nursing, therapy, 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. There are 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 patients' care is not completed within 60 days, another episode of payment may start without a break in their care.

Agencies will receive a base payment of \$2,268 per episode for home health services in calendar year 2005. The base payment is adjusted to account for differences in patients' expected resource needs, as reflected by their clinical and functional severity, recent use of other health services, and therapy use. Payment also is adjusted for differences in local prices by the hospital wage index. Adjustments for several other special circumstances, such as unusually high costs or very short episodes, can also modify the payment:

- An outlier payment can offset some of the excess cost of an episode if the labor cost 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 the payment for days remaining in an episode after a major change in a patient's health.
- A partial-episode payment allows two agencies to split the payment for a patient who transfers from one agency to another during an episode.

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 other post-acute care benefits in Medicare. For example, in 1996 care from home health aides made up 49 percent of all visits provided; skilled nursing visits, 41 percent; and therapy visits, the remainder (HCFA 1998). One-third of all visits were provided to beneficiaries who received more than 300 visits a year (MedPAC 1998).

The 1990s trends prompted changes in the enforcement of integrity standards, eligibility, and the payment system. The Secretary initiated Operation Restore Trust,<sup>1</sup> which scrutinized Medicare home health and prompted the involuntary closure of many agencies that did not comply with the program's integrity standards. The Congress also established civil liabilities for physicians who knowingly falsely certified the eligibility of a beneficiary. The Balanced Budget Act of 1997 (BBA) included refinements to the eligibility standards and changes to the payment system that made the service more similar to Medicare's other post-acute care services. The act's changes led to fewer visits and reemphasizing skilled nursing and therapy as a share of services. After these changes, the number of beneficiaries using home health care fell by about 1 million, and one-third of agencies providing services left the program. Spending decreased by about half.

More recently, the trends have changed direction. The total number of beneficiaries using the benefit grew for the first time in several years between 2001 and 2002, from about 2.4 million users to 2.5 million, and again in 2003 to 2.6 million. The Congressional Budget Office (CBO) projects that home health spending will grow 12.6 percent in 2005 and continue to grow at around 10 percent each year for the next five years (CBO 2004).

## Ambiguity of product definition and standards seriously limits analysis of this sector

Although Medicare's home health benefit seems relatively straightforward, the particulars of this benefit are not clear (MedPAC 1999, 2000). By statute, the purpose of the home health benefit must be the same as the general purpose of all the services covered by the Medicare program—that is, the diagnosis or medically necessary treatment of illness, injury, or deformity over a spell of illness. But precisely how the concepts of medical necessity and spell of illness pertain is less clear for this service than for others. Home health has few definitive clinical practice standards to determine what treatments are necessary and for what kinds of patients they are appropriate. The lack of standardization is also evident in the large variation in the average minutes of services per episode for similar types of patients (see discussion “Should the prospective payment system change?” in this chapter).

The eligibility criteria for home health provide some limit to the amount of service the program will cover. As set forth in regulation and interpreted in the manuals for home health, the program only covers home health services for beneficiaries who need part-time or intermittent skilled care to treat their illness or injury; the patients must be homebound—that is, be unable to leave their homes without considerable effort. Patients who need full-time skilled nursing care over an extended period generally would not qualify for Medicare home health benefits (CMS 2001).

Using these eligibility criteria to determine coverage leaves a great deal up to interpretation. Coverage decisions are made by regional fiscal intermediaries, and the benefit varies across the country. In addition to varying geographically, interpretations have varied over time. Initially, beneficiaries' need for care had to be part time *and* intermittent to qualify; a subsequent judicial review interpreted the criteria as part time *or* intermittent, which allowed a much larger number of beneficiaries to qualify.

The lack of definition and clinical guidance for this benefit makes it difficult to interpret some of the indicators we use to assess payment adequacy, especially access and quality. How do we know whether beneficiaries have appropriate access when it is not clear who among them requires the service? How do we know whether beneficiaries receive

the right service without clinical guidelines? As we have recommended, it is important to establish clear eligibility and coverage guidelines in statute (MedPAC 1999) and to pursue the research agenda to develop clinical guidelines (MedPAC 2000). In the interim, serious ambiguities will persist in any assessment of this benefit.

## Beneficiaries' access to care

In the home health setting, we have three indicators to give us information about access:

- Do communities have providers?
- Do beneficiaries obtain care?
- Do beneficiaries obtain appropriate care?

The answer to the first question indicates whether beneficiaries could receive home health if they needed it; though it does not tell us whether beneficiaries do get that care. By surveying beneficiaries who got home health care and those who did not, the second indicator tells us how many beneficiaries sought care and whether they got it. It does not tell us whether ineligible beneficiaries sought care and were denied it. Finally, we use outcome measures as indicators for the third question because good outcomes should be closely linked to beneficiaries receiving the care they need.

In answer to our first question: Most communities have a Medicare-certified home health agency. In 2004, 99 percent of all Medicare beneficiaries lived in an area that is served by at least one home health agency.<sup>2</sup> Ninety-seven percent of beneficiaries live in an area that is served by more than one agency; most beneficiaries thus have a choice among providers. This evidence suggests that no substantially populated areas of the country lack HHAs. These results are essentially the same as they were in 2003.

In answer to our second access question, it appears that most beneficiaries can obtain care with little or no difficulty. Nearly 90 percent of the beneficiaries who responded to the Consumer Assessment of Health Plans Survey (CAHPS) about their home health experiences in 2003 reported that they had little or no difficulty accessing home health services when they sought them (Table 2D-1, p. 108).<sup>3,4</sup> The percentage of beneficiaries who did *not* have a problem was higher in 2003 than in 2002, while the percentage of beneficiaries who had a small problem was lower in 2003 than in 2002.

**TABLE  
2D-1****Most beneficiaries had little or no problem accessing home health services, 2000–2003**

	2000	2001	2002	2003
Did you experience a problem?				
No problem	76%	74%	76%	77%*
A small problem	13	13	13	12*
A big problem	11	12	12	11

Note: Percentages are proportions of those who answered the question. Missing responses are not included. Columns do not total 100 due to rounding.  
\*The difference between 2002 and 2003 is significant at the  $P < .05$  level.

Source: Consumer Assessment of Health Plans Survey, 2000–2003.

Policymakers, concerned about rural beneficiaries' access to home health care, included add-on payments for services for rural beneficiaries until April 2003. The add-on expired in April 2003 and was not available for one year; it returned at a lower rate for one year in April 2004 and will expire again in 2005. We compared the access to care that rural beneficiaries reported in 2002 and in 2003 as an indicator of the impact of the lapse of the add-on. We found that rural beneficiaries reported better access to care than their urban counterparts did in both years and the percentage of rural beneficiaries who did not have a problem with access remained at 80 percent in both years. This suggests that while the expiration of the add-on did lower the margins of rural home health agencies, it did not have an impact on beneficiaries' access to care.

The CAHPS measures include all beneficiaries who sought care, both those who acquired it and those who did not. Also, the question is not restricted to only beneficiaries who sought care following a hospitalization, as were some surveys in the past. Unlike similar surveys of hospital discharge planners or home health agencies, however, it cannot differentiate between beneficiaries who are eligible for the home health benefit and those who are not. Thus, the survey may overestimate the difficulties of beneficiaries who are eligible for the benefit because it includes beneficiaries who were ineligible and had a "big problem" getting home health because they were not qualified for the Medicare home health benefit.

To answer our third access question, we look at outcomes measures. Outcomes are important measures of access because they are the only ones that suggest whether beneficiaries are getting the care that they need, rather than merely using care. The fact that outcomes have slightly improved suggests that home health users' access to appropriate care has not diminished. If fewer patients were able to access the care they need, we would expect outcomes to decline. This finding is discussed later in this chapter, in the section "Changes in quality."

## Changes in the volume of services

The term "volume" encompasses three concepts: the number of users, the number of episodes they use, and the amount of service per episode. Recently, the numbers of users and episodes have risen, but the amount of service within an episode continues to fall:

- From 2001 to 2003 the number of home health users rose from 2.4 million beneficiaries to 2.6 million.
- Over the same period the number of episodes rose from 34 million to 36 million.
- The amount of service within an episode continued to fall. In 2001 the average number of visits per episode was 18.9; in 2003 it was 17.3—a decrease of 8.5 percent in two years.
- The average number of total minutes per episode fell 8 percent from 2001 to 2003 (Table 2D-2). Minutes of skilled nursing and aide service declined; therapy minutes remained about the same; thus, therapy increased as a proportion of total visits per episode.<sup>5</sup>

The trend in minutes by visit type in this table suggests that the benefit continues to encourage growth in therapy services as a proportion of all services. The home health prospective payment system (PPS) includes a threshold for therapy visits; if met or exceeded, the payment for that episode increases substantially. There is no threshold for skilled nursing or aide visits.

## Changes in quality

The improvement in quality scores suggests that beneficiaries' access to appropriate care has not decreased (Table 2D-3). These scores represent the percentage of patients who did improve out of the total number who could improve (improvement) or the percentage of

**TABLE  
2D-2****Nursing and aide service  
continue to decrease****Average minutes per episode**

	2001	2002	2003
Skilled nursing	354	355	332
Home health aide	279	270	229
Physical therapy	180	187	184
Occupational therapy	32	34	33
Speech (therapy)	7	7	6
Medical Social Work	10	10	9
Total	944	945	865

Note: Excludes outlier episodes. Averages by visit type do not total the average total minutes because few episodes include visits of all types.

Source: MedPAC analysis of 20 percent sample of the Datalink file from CMS.

patients who did not decline out of those who could decline (stabilization). The share of patients who achieved a positive outcome is greater in the most recent period (from June 2003 to May 2004) than it was in the previous period (from June 2002 to May 2003).<sup>6</sup> More home health patients may thus be receiving appropriate care, enabling good outcomes.

These quality indicators are risk-adjusted to account for the diagnoses, comorbidities, and functional limitations of patients. Thus, to the extent possible, the improvements

**TABLE  
2D-3****Share of patients achieving positive  
outcomes increased**

Measure	June 2002 to May 2003	June 2003 to May 2004
Improvement in:		
Walking around	34%	36%
Getting out of bed	49	51
Toileting	60	62
Bathing	57	60
Managing oral medications	35	38
Getting dressed	62	65
Stabilization at bathing	91	92
Patients who are confused		
less often	40	42
Patients have less pain	57	59

Source: 2003 and 2004 Home Care Compare from CMS.

over time represent small increases in the quality of care from home health agencies, rather than changes in patient characteristics. It is possible, however, that improvements in coding the patient assessments are occurring and could contribute to the trend in scores.

**Changes in supply of agencies**

Over the past 10 years the number of home health agencies in the program has risen and fallen dramatically. Under the earlier cost-based payment system, hundreds of agencies entered the Medicare program. At its high point 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 several years after the PPS was implemented in 2000, the number of agencies remained around 7,000.

Looking at agency entry over the past 12 months shows a break from the steady state. As of October 2004 there were 7,530 agencies in the Medicare program—a 9 percent increase in one year. This growth rate could indicate that payments are attractive. The increase, however, may not reflect the creation of new agencies. Over the same period, CMS has been assigning unique identification numbers to branches of agencies. We do not know how many of the “entering” agencies were formerly branches of existing agencies and therefore not truly new.

The composition of the market has recently changed a little (Table 2D-4). Freestanding agencies were a slightly larger portion of agencies in 2003 than they had been in

**TABLE  
2D-4****Number of Medicare-certified  
agencies has recently increased**

	1998	2000	2002	2003
Total agencies	9,284	7,317	6,888	7,530
Freestanding	72%	70%	72%	75%
Facility-based	28	30	28	25
Rural	32	35	34	—
Urban	68	65	66	—
Proprietary	55	49	52	55
Voluntary	31	35	34	31
Government	14	16	15	14

Source: 1998, 2000, 2002, and 2003 Provider of Service files from CMS.

the past several years. The distribution of agencies by type of control (proprietary, voluntary, or government) has returned to that of 1998, with a larger proportion of proprietary agencies. The proportion of agencies located in urban or rural areas has shifted only slightly.

The number of HHAs is an indicator of whether agencies have chosen to enter, remain in, or exit the program and as such is related to their judgment of the adequacy of Medicare's payments. However, the number 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 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 (for example, number of exam rooms or operating rooms). Even the number of employees is not a capacity measure, because many HHAs can and do use contract therapists, aides, or nurses to meet their patients' additional needs.

### **Home health agencies' access to capital**

Some evidence suggests that home health agencies have good access to capital. The Braff Group, which specializes in buying and selling home care companies, was strongly positive about Medicare home health as a sector (Braff Group 2004). The Group predicted that 2004 would be "a break-out year for merger and acquisition activity for Medicare certified home health agencies," citing a \$150 million purchase of an agency out of bankruptcy and a very steep increase in the value of invested capital in another home health agency. The Group concludes that "access to debt appears to be improving" for the publicly traded home health sector.

A report from Smith Barney on the largest publicly traded home health agency rated the agency a "buy" with "high risk." (Ripperger and Bao 2003). The report forecasts a Medicare margin between 12 percent and 15 percent for home health agencies and asserts that agencies with high Medicare shares are attractive investments. Nevertheless, it also notes the challenge of predicting regulatory changes and the history of fraud and abuse as risks.

Few home health agencies access capital through publicly traded shares or public debt. Capital seekers' access to capital appears to be largely determined by their size and the perception of regulatory risk for the industry. In the

broadest definition of the industry, national health expenditures for home health in 2001 totaled \$33 billion, quite a small figure compared with the \$450 billion for hospital care or even the \$100 billion for nursing homes. The largest publicly traded home care company has only a 2 percent or 3 percent market share (CMS 2003).

Furthermore, the industry's access to capital is not indicative of the adequacy of Medicare's payments because Medicare is not the dominant player in the broadly defined home health industry. The industry includes all home care services, such as private duty nursing from agencies without Medicare certification and Medicaid home care services. Of this total, Medicare payments account for less than 30 percent. Medicaid's share of the broadly defined industry is nearly equal to Medicare's.

Though Medicare is not a dominant player in the home health industry, it is a substantial payer for many of the agencies that participate in Medicare. Medicare's share of revenue among those agencies that are Medicare-certified varies substantially from agency to agency. Among the six largest publicly traded HHAs, Medicare's share of payments ranges from less than 5 percent to nearly 90 percent (CMS 2003). Among agencies that are Medicare-certified, 70 percent of patients are Medicare fee-for-service beneficiaries. Medicare+Choice enrollees, Medicaid recipients, and patients with private pay sources each comprise about 10 percent of the remainder of the caseload of Medicare-certified agencies (Outcome Concept Systems 2002).

Although investor analyses of publicly traded agencies may be interesting, they probably do not provide useful evidence for gauging the availability of capital—nor the adequacy of payments—for most of the providers in this sector. Most HHAs are not publicly traded. Home health is not a capital-intensive service compared to "bricks-and-mortar" services such as inpatient hospital. Many HHAs might not seek capital in a given year or might use capital that we cannot measure, such as personal loans.

### **Payments and costs for 2005**

One method the Commission uses to evaluate the adequacy of current payments is to calculate the relationship between payments and costs using current and projected data.

In modeling 2005 payments and costs, we incorporate policy changes that went into effect between the year of our most recent data, 2003, and our target year, 2005, as well as those scheduled to be in effect in 2006. These include:

- the expiration of the 10 percent rural add-on for services provided to beneficiaries living outside metropolitan areas on April 1, 2003;
- the restart of the rural add-on at 5 percent on April 1, 2004;
- the full market basket increase in October 2003;
- the decrease in the base rate of 0.8 in April 2004;
- the payment increase of 2.3 percent (market basket less 0.8 percent) in January 2005; and
- the expiration of the 5 percent rural add-on on April 1, 2005.

We did not include the January 2006 update of market basket minus 0.8 percent in the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) because that update is the question at hand. Our model of home health agencies' financial performance is based on data from freestanding home health agencies.

This model projects a current aggregate margin of 12.1 in 2005, which is a decline from our base year of 2003 (Table 2D-5). This margin indicates that the payments are more than adequate to cover the costs of caring for Medicare beneficiaries. A relatively small share of agencies are doing poorly in terms of their Medicare costs and payments, as the distribution of margins from 2003 indicates that 80 percent of agencies had positive margins.

Though the aggregate margin is high, some agencies will fare better than others. Variation in financial performance exists among private, typically for-profit agencies and those operated by voluntary organizations or the government. The relationship between financial performance and agency size that we noted in previous years persists this year: Generally, larger HHAs have higher margins.

In the absence of rural add-on payments, the margins of agencies that serve rural beneficiaries will be lower than those of urban agencies. We did find evidence of some impact of the expiration of the add-on in 2002: Rural

**TABLE  
2D-5**

**Freestanding home health Medicare margin, by agency group, 2003 and estimated 2005**

Agency group	2003	2005
All agencies	13.6%	12.1%
Caseload of agency		
Urban	14.1	13.2
Mixed	13.2	11.6
Rural	10.6	6.1
Type of control		
Voluntary	10.6	9.1
Private	15.8	14.3
Government	5.0	3.3
Volume group		
Very small (20 <sup>th</sup> percentile)	10.6	9.1
Small (20 <sup>th</sup> –40 <sup>th</sup> )	10.1	8.6
Medium (40 <sup>th</sup> –60 <sup>th</sup> )	10.9	9.4
Large (60 <sup>th</sup> –80 <sup>th</sup> )	15.5	14.0
Very large (80 <sup>th</sup> )	14.1	12.6

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

agencies' service areas decreased 4.2 percent between 2002 and 2003. We noted, however, in the earlier section "Changes in beneficiary access to care" that the decrease in rural margins in 2003 was not accompanied by a loss of access for rural beneficiaries. We also found that use of home health services in rural areas grew in 2002 and again in 2003, at a faster rate than urban use.

In addition to considering the average, aggregate margin, we also considered the median margin and the distribution of margins among agencies. In 2003 the median agency had a margin of 15.0, while the agency at the 10<sup>th</sup> percentile of financial performance had a margin of –12.6. The agency at the 25<sup>th</sup> percentile had a margin of 2.6. At the other end of the distribution, the agency at the 75<sup>th</sup> percentile had a margin of 26.6, and at the 90<sup>th</sup> percentile the margin was 37.2.

We also considered multiyear margins by aggregating payments and costs for all agencies for 2001, 2002, and 2003. The three-year financial performance was generally similar to the performance of 2003, which we have just discussed. The annual aggregate average margin was 14.5;

at the 25<sup>th</sup> percentile the margin was 3.8, and at the 75<sup>th</sup> it was 28.2. About 80 percent of all agencies had a positive three-year margin. Private agencies fared better than voluntary or government-controlled agencies. We did find, however, a smaller gap between urban and rural agencies, which had margins of 14.7 and 13.6, respectively.

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## How should Medicare payments change in 2006?

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Do we think the adequacy of payments will change over the coming year? We consider the market basket, recent trends in cost per unit, productivity, and technology to determine how costs may change.

The projected market basket for home health for 2006 is 3.3 percent. The market basket reflects the increased prices of transportation, nursing wages, and other inputs that affect the cost of providing an episode of care.

Even though input prices have risen over the past several years, the cost of producing an episode of care has fallen. In 2003 episodes consisted of fewer visits, shorter stays, and more therapy, with less aide service and skilled nursing than they did in previous years. We examined the changes in costs of producing an episode of home health among a cohort of about 1,800 agencies that were in the program from 2001 to 2003. We found that their average cost of producing an episode fell 1 percent over that period. Behind the aggregate trend in costs there was wide variation from agency to agency: The largest agencies decreased their costs by 6 percent, while the smallest agencies saw their costs rise by 4 percent.<sup>7</sup> Urban and rural agencies varied as well; rural agencies reported much greater cost decreases than their urban counterparts, with decreases of 13 percent and 1 percent, respectively.

Although the product is changing, the outcomes are staying about the same because a slight increase in quality has accompanied the change. Because quality has not declined, we also conclude that HHAs are becoming more productive, generating the same outcomes with fewer inputs.

The important role nurses and aides play in home health exposes the sector to input price increases from labor shortages and increasing wages. The Government Accountability Office (GAO) found that demographic trends and low job satisfaction created the nursing shortage in 2001 and that these were likely to continue

(GAO 2001). The GAO also found that demographic changes, low compensation, and difficult working conditions were contributing to the shortage of nurse aides. Other data suggest that this trend peaked in the middle of 2002 and has been reversed over the past several years (see Section 2A, Figure 2A-7, “Increase in average compensation rate for hospital employees peaked in early 2002”).

This past summer organized groups of home health aides successfully bargained for higher wages. Home health services employ about 700,000 aides (Bureau of Labor Statistics 2004); the largest home health workers’ union estimates that it has 290,000 members (Service Employees International Union 2004). This suggests that unionized workers make up a little less than half of the total home health care aides workforce. These upward pressures on wages may offset the cost decreases that we observed between 2001 and 2003.

Some current and future product change and productivity growth is caused by technological advances that lower costs as well as enhance quality. We discuss these in the chapter on information technology. Additional payment is not necessary to promote the adoption of these advances because the home health PPS provides an incentive and reward for the adoption of technologies that reduce the number of visits necessary to deliver care. The PPS payment is based primarily on the condition of the patient, rather than the number of visits; thus, technology that reduces visits generates its own financial return. Technological advances already have begun to proliferate in the home health care industry, slowly, and will probably continue to do so, enhancing quality over the long run.

### RECOMMENDATION 2D

**The Congress should eliminate the update to payment rates for home health care services for calendar year 2006.**

### RATIONALE 2D

We find evidence that access to care for most beneficiaries is good. The numbers of users and episodes have risen, but the amount of service within an episode continues to fall. Quality has risen slightly. There are more certified agencies now than there were one year ago. 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.

**Spending**

- This recommendation decreases federal program spending relative to current law by between \$200 million and \$600 million in one year and \$1 billion and \$5 billion over five years.

**Beneficiary and provider**

- No adverse impacts on access are expected. This recommendation is not expected to affect providers' ability to provide care to Medicare beneficiaries.

**Should the prospective payment system's structure change?**

The home health PPS may not be distributing payments accurately. We find there is wide variation in costs within payment groups. If the case-mix system were accurately predicting the costs of patients, we would expect to find much less variation in the amount of service provided within the payment groups.

Also, some beneficiary characteristics that regularly lead to high costs are not accounted for in the case-mix adjustment. If some types of beneficiaries are much more likely to lead to high costs relative to payments, there may be an incentive to avoid these patients. More research is needed to determine whether agencies can manipulate the inaccurate case-mix adjustment of the PPS for financial gain. If some agencies are avoiding patients whose costs of care are not accounted for in the case-mix adjustment, then the variations we observed in agencies' margins could be partially explained by the failure of the system.

The high-cost outlier provision might help certain types of beneficiaries find an agency that is willing to serve them and to get sufficient care once they are accepted. Still, the high-cost outlier is only one of several provisions in the home health PPS designed to accommodate cost variations. Furthermore, additional research is needed to understand cost variations and the efficacy of the PPS as a whole. That research could suggest replacing the PPS altogether, rather than making incremental changes to its existing structure.

**Costs may vary widely within case-mix groups**

Our analysis of the variation in the number of minutes per episode suggests that costs may vary widely from patient to patient within the same case-mix group.<sup>8</sup> On one hand, this suggests that the case-mix adjuster may merit further examination. But it also suggests that an outlier provision could be an important part of the home health PPS, especially if the variation is caused by patient characteristics we would not wish to include explicitly in the case-mix adjustment, such as the availability of a caregiver.

We measured variation using the coefficient of variation (CV). This statistic is the standard deviation in the number of minutes divided by the average number of minutes. Out of the 80 case-mix groups in the home health PPS, 42 had CVs greater than 1.00. CVs greater than one imply that the standard deviation is greater than the average; it is not unusual for some patients to receive more than twice as much service as others in the same case-mix group. The lowest CV was 0.67. These scores imply a very wide dispersion of minutes per episode within case-mix groups. For example, patients in one of the case-mix groups receive an average of 1,300 minutes of care per episode, and the standard deviation is also 1,300. The CV for the case-mix group is 1, so most people in that group receive 1,300 minutes of care—*give or take 1,300 minutes*.

The wide variation in minutes per episode is not unexpected, given the large unit of payment and the persistent challenges of defining the home health benefit. Over the course of the two months included in an episode, high-cost patients could receive dozens of visits more than the average patient in the same case-mix group. Even if the number of visits did not vary widely (it does; data not shown), the length of visits required for patients with unusual home health needs may be much longer than average. The lack of product definition contributes to the variation in minutes because few evidence-based protocols of care standardize care from one patient to another or from one agency to another.

This analysis cannot determine the causes of the variation in minutes per episode by resource group nor the relationship between minutes and costs. Variation in costs per minute could be caused by differences in quality or

efficiency from agency to agency. The measurement of minutes may be subject to substantial data errors because this is a relatively new report and it is not audited.

### Some patient characteristics often lead to high costs relative to payments

Several patient characteristics that are measured in the patient assessment but are not used to adjust payment are associated with higher-than-average percentages of high-cost outliers. For example, the average percentage of outliers is 2.7, but among patients who use a ventilator or cannot administer their own injectable medication, the average percentage of outliers is 4.0 and 7.2, respectively (Table 2D-6). If patient characteristics such as ventilator use are related to high costs, perhaps a refinement of the case-mix system could include measures like these.

The availability of informal caregivers—family, friends, or paid caregivers not provided by the home health agency—can affect the amount of care the agency provides. Payments do not vary based on the availability of these other sources of care. Not surprisingly, with decreasing availability of informal care comes a higher likelihood that the episode will become a high-cost outlier episode for the agency (Table 2D-7).

**TABLE 2D-6**

### Some patient characteristics appear to be related to outlier frequency

Patient characteristic	Share of all episodes	Incidence of outliers
Unable to self-administer injectable medication	13%	7.2%
Uses a ventilator	<1	4.0
Obese	14	3.9
Manages injectable medication if prompted	3	3.2
Primary symptoms poorly controlled	29	3.1
History of re-hospitalization	5	3.1
Uses continuous airway pressure	<1	3.1
Smokes heavily	7	3.0
Requires prompting under stress	24	2.9
Confused in new situations	31	2.8
All patients	100	2.7

Source: MedPAC analysis of the 20 percent Datalink file from CMS.

**TABLE 2D-7**

### Outliers are more common when beneficiaries have less informal care

Use of informal care	Share of episodes	Share of episodes that are outliers
Overall frequency of outliers	100%	2.7%
Multiple times during day or night	66	2.2
Once daily	5	3.8
3+ times per week	5	3.3
Once or twice during week	3	4.2
Less than weekly	1	5.3
None, missing, or unknown	20	3.5

Note: Informal care giver frequency was none, missing, or unknown for many episodes. All differences in level in this table are statistically significant to the  $p < .01$ .

Source: MedPAC analysis of the 20 percent Datalink file from CMS, 2001.

Patients with very frequent care from caregivers—multiple times during the day or night—have a lower than average frequency of outlier episodes. Conversely, patients with infrequent informal care or no caregiver have higher than average frequencies of outliers. Refinement of the case-mix system to include a measure of informal care is very problematic because of the perverse incentive it creates to exclude important, unpaid caregivers from the care process. It may raise legal issues as well.

### Directions for the future

The home health PPS sets episode payments prospectively; the actual cost of an episode for any given patient will rarely be exactly the same as the expected cost. Over multiple episodes the system is designed to pay agencies appropriately, on average. High-cost outlier payments help mitigate especially high costs within a single episode for unusually sick or disabled patients who cannot be reclassified into a different case-mix group.

As such, the outlier payment provision addresses only one source of variation in the relative costliness of patients—higher than average costs within a case-mix group, within a single episode. The significant change in condition (SCIC) and multiple-episode provisions of the home health prospective payment system also perform some of the functions of an outlier policy. The SCIC provision allows the case-mix group to change for the balance of

days (and thus increase the payments for those days) during episodes if patients' conditions deteriorate during episodes. Also, the provision of new episode payments every 60 days is designed to compensate for the high costs of patients with unusually long stays. Thus, two typical circumstances that could lead to some patients' costs being different from the norm are compensated by provisions other than the outlier provision.

We plan to continue our examination of the PPS—its case-mix adjustment and other features—in two other projects. We will examine alternatives to prospective payment in the June 2005 Report to Congress. Perhaps a single payment system is not suited to the task of paying accurately for both posthospital recovery care and for

long-term, chronic care. We will also work with a contractor to conduct an in-depth investigation of case mix and financial performance for a mandated report next fall. Limitations of the case-mix system may have created opportunities for some agencies to benefit from patient populations with higher expected profitability than their peers. The results of our analysis of the outlier payment provision suggest several sources of variation in cost that are not reflected in the payment adjustment, such as the use of informal care. Our examination of case mix and financial performance will include both the characteristics that are included in the case-mix adjustment and some that are not. ■

## Endnotes

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- 1 Operation Restore Trust began as a demonstration project in 1995 in California, Florida, Illinois, New York, and Texas and was expanded to additional states in 1997. It included skilled nursing facilities and other sectors of Medicare in addition to home health.
- 2 This rate is based on a database of agency service areas collected and maintained as part of CMS's "Home Health Compare" database as of September 2004. The service areas are the postal ZIP codes where an agency provided care to at least one beneficiary in the past 12 months. Our estimate may be an overestimate of availability, because agencies' willingness to serve one beneficiary in a ZIP code does not necessarily imply a willingness to serve the entire ZIP code area if the area is particularly large or nonhomogeneous. On the other hand, this estimate might understate the availability of home health care if a ZIP code that an agency is willing to serve produces no requests for service in the 12-month period. A complication in this analysis arises from beneficiaries with post office boxes. We cannot correctly locate the residence of such beneficiaries; most of them enter our analysis as "unserved," but we cannot determine whether they reside in a served or an unserved area.
- 3 CAHPS is an annual survey of about 100,000 fee-for-service beneficiaries conducted by CMS.
- 4 Of all beneficiaries surveyed, 9.4 percent indicated that they needed home health care.
- 5 Our measurement of minutes of service is based on the reported length of face-to-face visits with patients. It does not include other services that could be delivered by other means (such as a phone call or remote monitoring) or services not conducted during a visit (such as care planning or professional consultation). It relies on the accuracy of reported minutes, which is a fairly new data element on the claim and is not audited.
- 6 Measures of functional improvement may not reflect the goals of patients with chronic conditions whose goals are stabilization but who are included in the group of patients who "could" improve.
- 7 We measured the size of agencies in terms of the number of episodes they provided in 2001.
- 8 Ideally, we would have a measurement of the marginal costs of minutes to determine the true variation in costs among different episodes. The literature often uses the number of visits as an approximation of costs. We are able to refine the typical approach by using minutes instead of visits. However, there are no data available to directly translate minutes to costs.

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SECTION  
2E

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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**

The Congress should update the composite rate by the projected rate of increase in the end-stage renal disease market basket index less 0.4 percent for calendar year 2006.

**COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1**

# SECTION 2E

## Section 2E: Outpatient dialysis services

Although the MMA mandates substantial changes to outpatient dialysis payment policy in 2005, the law specifically does not call for broadening the payment bundle, a necessary component for modernizing this payment system. Further, freestanding and hospital-based facilities will continue to be paid differently for providing the same services, which could lead to financial incentives inappropriately affecting decisions about where care is provided.

Notwithstanding the changes to payment policy, most of our indicators of payment adequacy in 2005 are positive. Beneficiaries' access to care is good, providers' capacity is increasing, quality is improving for some measures, and providers' access to capital is good. Nevertheless, we project the Medicare margin for composite rate services and injectable drugs will decline from 4.2 percent in 2003 to about 0 percent in 2005. Because we are concerned about the trend in the Medicare margin and the uncertainty in payments due to recent changes in law and regulation, the Congress should update the composite rate by the projected rate of increase in the end-stage renal disease market basket index less 0.4 percent for calendar year 2006.

### In this section

- The ESRD population is growing, and spending is increasing
- The outpatient dialysis payment system will change in 2005
- Are Medicare payments adequate in 2005?
- How should Medicare payments change in 2006?

End-stage renal disease (ESRD) is a chronic illness characterized by permanent kidney failure. Occurring at the last stage of progressive impairment of kidney function, the illness is caused by a number of conditions, including diabetes, hypertension, glomerulonephritis, and cystic kidney disease. Individuals with ESRD require either chronic dialysis or a kidney transplant to stay alive. The 1972 amendments to the Social Security Act extended Medicare benefits to people with ESRD, and about 300,000 patients were enrolled in 2002.<sup>1</sup>

Until the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) was passed, Medicare's payment system for outpatient dialysis services remained essentially the same since it was first implemented in 1983. The MMA changes outpatient dialysis payment policies by:

- shifting some of the profits previously associated with payments for separately billable drugs to the prospective payment rate for outpatient dialysis services (the composite rate),
- adjusting the composite rate by case mix, and
- paying acquisition cost for most separately billable injectable drugs.

The Commission reviewed the changes mandated by the MMA against Medicare's payment policy objectives, which include providing cost-effective, quality care to patients using the most suitable modality in the most suitable setting; promoting access to services; and giving dialysis providers incentives to control costs.

The MMA improves payment for dialysis in some respects but falls short of MedPAC's recommendations for modernizing the outpatient dialysis payment system. The MMA does not bundle composite rate services and injectable drugs together, a necessary component for modernizing this payment system. In addition, freestanding and hospital-based facilities continue to be paid differently for providing the same services—composite rate services and injectable drugs—which could lead to financial incentives inappropriately affecting decisions about where care is provided. Finally, the MMA does not strengthen efforts to improve dialysis quality.

Consequently, MedPAC reiterates its recommendation to expand the prospective payment bundle and include dialysis injectables as well as other services that providers

can bill separately (MedPAC 2001). The Commission also raises concerns about how the MMA changes payment for composite rate services and injectable drugs. We expect to continue to explore these issues in the coming months.

In the second section of this chapter, we address the two questions posed by our update framework: whether Medicare's payments for dialysis services are adequate in 2005 and whether Medicare's payments should change for calendar year 2006. Most of our indicators of payment adequacy are positive, including beneficiaries' access to care, volume of services, quality, and access to capital. Even so, the Medicare margin for composite rate services and injectable drugs declined from 4.2 percent in 2003 to 0 (-0.03) percent in 2005. Because we are concerned about the trend in the Medicare margin and the uncertainty in payments due to recent changes in law and regulation, the Congress should update the composite rate by the projected rate of increase in the ESRD market basket index less 0.4 percent for 2006. Currently, the index projects that providers' costs will increase by 2.9 percent between 2005 and 2006.

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## **The ESRD population is growing, and spending is increasing**

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Between 1993 and 2002, the number of ESRD patients grew by about 6.3 percent per year (Table 2E-1). Similarly, the number of dialysis patients grew by 6.1 percent per year during this period. Nearly three-quarters of all ESRD patients undergo dialysis because there are a limited number of kidneys available for transplants.

Why did the number of ESRD patients grow between 1993 and 2002? The growth is linked to the aging of the U.S. population as well as to an increase in the number of people with diabetes, a disease that is both a risk factor for ESRD and the most frequent underlying cause of ESRD (Table 2E-2, p. 124). Factors that increase a person's risk of diabetes include older age, lack of exercise, and a family history of the disease; however, being overweight or obese is the single most important predictor.

Although most ESRD patients (93 percent) are eligible for Medicare, not all are insured by Medicare as the primary payer. Medicare is the secondary payer for patients who are insured under employer group health plans when they

**TABLE  
2E-1****The ESRD population is growing, and most patients undergo dialysis**

	1993		1997		2002	
	Patients (thousands)	Percent	Patients (thousands)	Percent	Patients (thousands)	Percent
Total	248.2	100%	334.3	100%	431.3	100%
Dialysis	180.9	73	244.2	73	308.9	72
In-center hemodialysis	149.1	60	210.0	63	280.4	65
Home hemodialysis	0.8	<1	1.7	1	1.2	<1
Peritoneal dialysis	27.3	11	28.6	9	24.9	6
Unknown	3.7	2	3.9	1	2.4	1
Functioning graft and kidney transplant	67.4	27	90.1	27	122.4	28

Note: ESRD (end-stage renal disease). Totals may not equal sum of the components due to rounding.

Source: Compiled by MedPAC from the United States Renal Data System.

develop ESRD. The Balanced Budget Act of 1997 extended the period for which these plans are the primary payer from 18 to 30 months.

Freestanding facilities currently provide the majority of dialysis services, accounting for 84 percent of all facilities and 87 percent of treatments. Medicare spending for outpatient dialysis services provided by freestanding dialysis facilities totaled about \$6.0 billion in 2003. Of this total, payments for composite rate services accounted for 59 percent of all Medicare spending, while payments for injectable drugs comprised 41 percent of spending. (By contrast, payments for injectable drugs comprised about 30 percent of spending in 1996.) On a per-treatment basis, the payment for composite rate services and dialysis injectables averaged \$130 and \$89, respectively, in 2003. Separate payments for medical supplies, laboratory services, and blood products accounted for less than 1 percent of payments for freestanding facilities in 2003.

Total Medicare spending for composite rate services and injectable drugs provided by freestanding facilities increased by 10 percent per year between 1996 and 2003.<sup>2</sup> Two factors that contribute to the growth in Medicare spending are the increasing size of the ESRD population (mentioned earlier) and the diffusion of new technologies—primarily drugs and biologics. Dialysis injectable drugs such as erythropoietin, iron supplements,

and vitamin D analogues were not available when the outpatient dialysis payment system was implemented in 1983. Between 1996 and 2003, spending increased by 14 percent per year for erythropoietin and 17 percent per year for other injectable drugs.

### The outpatient dialysis payment system will change in 2005

The MMA's changes reflect concerns about how Medicare paid for outpatient dialysis services. The law changes the payment system by:

- paying the acquisition cost for most injectable drugs,
- paying an add-on adjustment to the composite rate that represents the difference between Medicare's payments and providers' acquisition costs for injectable drugs (i.e., the profit margin), and
- adjusting both the composite rate and the add-on adjustment by a limited set of case-mix variables.

In addition to these changes, the law updates the composite rate by 1.6 percent in 2005. Table 2E-3 (p. 125) summarizes the pre- and post-MMA outpatient dialysis payment system.

**TABLE  
2E-2**

**Diabetics and the elderly are the fastest growing segments of the ESRD population**

	Percent of total in 2002	Annual percent change 1996–2002
Total (n = 431,284)	100%	6%
Age		
0–19	2	3
20–44	21	2
45–64	42	7
65–74	20	5
75+	15	8
Sex		
Male	55	6
Female	45	5
Race/Ethnicity		
White	62	5
African American	31	5
Native American	1	5
Other	6	10
Underlying cause of ESRD		
Diabetes	36	8
Hypertension	24	5
Glomerulonephritis	16	4
Other causes	25	4

Note: ESRD (end-stage renal disease). Totals may not equal sum of the components due to rounding.

Source: Compiled by MedPAC from the United States Renal Data System.

The MMA does not, however, change the basic structure of the dialysis payment system—separate payment for dialysis treatments and injectable drugs. Providers will continue to be paid the composite rate for each dialysis treatment provided in dialysis facilities (in-center) or in patients’ homes.<sup>3</sup> In 2005 the base composite rate for hospital-based facilities will be \$132—on average \$4 more than 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.

**Post-MMA changes to the composite rate**

In 2005 the composite rate will change in two ways. First, facilities will be paid an add-on adjustment to the composite rate (Figure 2E-1, p. 126). This add-on adjustment is derived by moving the profit margin for the following injectable drugs to the composite rate payment:

- erythropoietin and all other separately billable injectable drugs provided by freestanding facilities, which CMS estimates to be \$385 million in 2005, and
- erythropoietin provided by hospital-based facilities, which CMS estimates to be \$5 million in 2005.

For both freestanding and hospital-based facilities, the add-on adjustment will be 8.7 percent of their composite rate. Implementing a single add-on adjustment results in transferring dollars from freestanding to hospital-based facilities, estimated at \$1.41 per treatment by CMS or \$38.8 million based on an estimated 27.5 million treatments freestanding dialysis facilities will provide in 2005.

Second, the composite rate and the add-on adjustment will be adjusted for case mix.<sup>4</sup> The case-mix measures that will be used beginning in April 2005 are:

- age (<18, 18–44, 45–59, 60–69, 70–79, ≥80 years) and
- two body measurement variables—body surface area and body mass index—calculated from patients’ height and weight when they develop ESRD. Dialysis facilities will be required to update patients’ height and weight on dialysis claims beginning in January 2005.<sup>5</sup>

**Post-MMA changes to payment for injectable drugs**

Under the MMA, facilities will be paid their acquisition cost for most injectable drugs. Beginning in January 2005, freestanding facilities will be paid an average acquisition payment (AAP) for the top 10 injectable drugs that they can bill separately. These 10 drugs—erythropoietin, calcitriol, doxercalciferol, iron dextran, iron sucrose, levocarnitine, paricalcitol, sodium ferric glut, alteplase recombinant, and vancomycin—accounted for 98 percent of all drug spending by freestanding facilities in 2003. CMS will derive the AAPs for these drugs from the first of two studies by the Office of Inspector General (OIG) (OIG

**TABLE  
2E-3**

**Payment policies for outpatient dialysis will change in 2005**

Payment policy for type of service	Freestanding facilities		Hospital-based facilities	
	Pre-MMA 2004	Post-MMA 2005	Pre-MMA 2004	Post-MMA 2005
Composite rate				
Update	None	1.6%	None	1.6%
Add-on adjustment	N/A	8.7 % of the composite rate	N/A	8.7 % of the composite rate
Case-mix adjuster	None	6 age groups; 2 measures of body mass	None	6 age groups; 2 measures of body mass
Injectable drugs	\$10 per 1,000 units for EPO; 95% AWP for all other drugs	AAP for top 10 drugs; ASP+6% for all other drugs	\$10 per 1,000 units for EPO; reasonable cost for all other drugs	AAP for EPO; reasonable cost for all other drugs

Note: MMA (Medicare Prescription Drug, Improvement, and Modernization Act of 2003), N/A (not applicable), AAP (average acquisition payment), EPO (erythropoietin), AWP (average wholesale price), ASP (average sales price). The composite rate includes all nursing services, supplies, equipment, and selected drugs associated with a single dialysis treatment. The add-on adjustment represents the difference between Medicare's payments and providers' acquisition costs for separately billable injectable drugs.

Source: Medicare program; revisions to payment policies under the physician fee schedule for calendar year 2005; final rule. Federal Register, November 15, 2004, Vol. 69, No. 219, p. 66235.

2004).<sup>6</sup> To set the 2005 payment rates, CMS will update the 2003 values of average acquisition costs reported by the OIG using the Producer Price Index. For all other separately billable drugs, including those launched in 2006 and beyond, freestanding facilities will be paid the average sales price (ASP) plus 6 percent. CMS will use the same data on ASP that is used to pay for Part B drugs provided by non-ESRD providers.

The 2005 payment rate for these 10 drugs, on a per-unit basis, is less than the 2004 payment rate. Payment per unit declines the least for erythropoietin (by 2 percent, from \$10 to \$9.76) and the most for levocarnitine (by 61 percent, from \$35.23 to \$13.63) (CMS 2004b). In addition to the changes in per-unit payment, CMS will pay facilities 50 cents per erythropoietin administration to cover the cost of syringes they use. Under pre-MMA policies, the cost of syringes was included in the payment rate for erythropoietin. This change in policy makes payment for erythropoietin consistent with how CMS covers the cost of syringes used for other dialysis

injectables. The 50 cent payment per administration to cover the cost of syringes for other injectable drugs remains unchanged post-MMA.

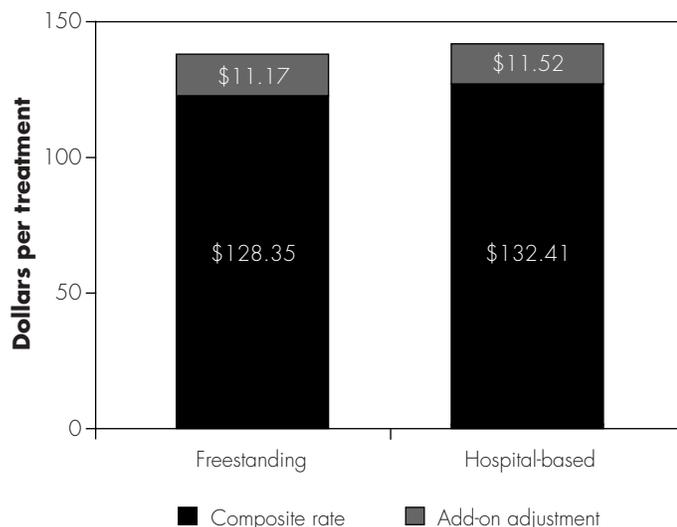
Hospital-based facilities also will be paid AAP for erythropoietin. But payment for all other drugs remains unchanged; hospital-based facilities will continue to be paid reasonable cost.

**How will the MMA affect dialysis providers?**

CMS projects that in 2005 aggregate payments for composite rate services and injectable drugs will increase by 1.0 percent for all facilities (Table 2E-4, p. 126). This overall change reflects the 1.6 percent update to the composite rate, the changes in drug payment, and case-mix adjustment. Overall payments will increase by 1.0 percent because the 1.6 percent update applies only to composite rate payments, which the agency estimates will account for 60 percent of aggregate payments. The MMA mandated that all of the other changes to payment policy be budget neutral.

**FIGURE  
2E-1**

**The add-on adjustment is  
8.7 percent of  
the composite rate**



Note: The composite rate includes all nursing, supplies, equipment, and selected drugs associated with a single dialysis treatment. The add-on adjustment represents the difference between Medicare's payments and providers' acquisition costs for separately billable injectable drugs. These payment rates do not reflect the budget-neutral adjustment of 0.9116 that will be applied to the sum of the composite rate and the add-on adjustment.

Source: Medicare program; revisions to payment policies under the physician fee schedule for calendar year 2005; final rule. Federal Register, November 15, 2004, Vol. 69, No. 219, p. 66235.

The impact on particular types of facilities varies. For example, overall payments for freestanding facilities will increase by 0.4 percent, while payments for hospital-based facilities will increase by 6.6 percent. As mentioned earlier, this difference comes from the single add-on adjustment, which distributes a portion of the margin associated with the injectable drugs from freestanding to hospital-based facilities. Payments to nonprofit facilities are projected to increase more than those to for-profit facilities because most freestanding facilities are for profit. The change will affect rural and urban facilities similarly because the proportion of freestanding facilities in rural and urban areas is similar (80 percent versus 87 percent, respectively, based on MedPAC analysis of facility survey data). CMS projects payments will vary based on the size of the facility.

## Issues concerning the post-MMA outpatient dialysis payment system

The changes mandated by the MMA fall short of MedPAC's previous recommendations for modernizing the outpatient dialysis payment system. Medicare's policies did not appropriately pay for outpatient dialysis services because neither payments for services in the payment bundle nor payments for certain services outside the payment bundle accurately reflected facilities' expected costs pre-MMA. Injectable drug spending has increased significantly since the mid-1990s, and the profitability of these services offset the decreasing payment margins under the composite rate. Therefore, in March 2001 and again in October 2003, MedPAC recommended that the outpatient dialysis payment system be modernized so that Medicare could better achieve its objectives of providing incentives for controlling costs and promoting access to quality services. It remains to be seen how providers' incentives will change post-MMA.

**TABLE  
2E-4**

**CMS projects that outpatient dialysis payments will change in 2005**

Type of facility	Effect of changes in drug payments	Overall effect
All	0.0%	1.0%
Urban	0.0	0.9
Rural	-0.1	1.1
For profit	-0.7	0.1
Nonprofit	3.0	4.3
Freestanding	-0.6	0.4
Hospital based	5.2	6.6
Small (< 5,000 treatments per year)	0.2	1.5
Medium (5,000-10,000 per year)	-0.3	0.7
Large (> 10,000 treatments per year)	0.2	1.0

Note: The second column shows the projected impact of the drug payment policies implemented in 2005 on aggregate payments for dialysis providers, including changes in payment for injectable drugs and the add-on adjustment. The last column shows the projected impact of all changes in dialysis payment policies implemented in 2005 on aggregate payments for dialysis providers, including the composite rate update, the add-on adjustment, the budget-neutrality adjustment, and the case-mix adjustments.

Source: Medicare program; revisions to payment policies under the physician fee schedule for calendar year 2005; final rule. Federal Register, November 15, 2004, Vol. 69, No. 219, p. 66235.

Not only will separate payment for composite rate services and injectable drugs continue in 2005, but the post-MMA payment system will be more complex because of the add-on adjustment to the composite rate. Further, the MMA does not strengthen efforts to improve quality. Under the MMA, payment will not be linked to the quality of care physicians and facilities treating dialysis patients provide. The law, however, does begin to consider expanding the payment bundle. Beginning on January 1, 2006, the Secretary must conduct a three-year demonstration to test a broader payment bundle that includes injectable drugs and clinical laboratory tests that are currently excluded from it.

Because the MMA's changes fall short of MedPAC's approach to modernize the payment system, we reiterate our March 2001 recommendations to:

- Expand the payment bundle to include widely used injectable drugs and laboratory services that are currently excluded from it. The Secretary should also consider including other services needed by ESRD patients, such as vascular access monitoring services, nutritional management, and Medicare-covered preventive services.
- Consider whether the unit of payment—a single dialysis session—should be revised. Changing the unit of payment to either a week or a month might give providers more flexibility in providing care and better enable Medicare to include services in the broader bundle that are not always provided during each session.
- Adjust payments for method, dose, and frequency of dialysis, and patient case mix (which is mandated by the MMA for composite rate services). Doing so will better match payments to efficient providers' costs and will reduce the incentive that providers may have to select less costly patients.
- Adjust the payment rate using a current wage index based on occupations typically used in providing dialysis.

Along with modernizing the payment system, efforts to measure and report on dialysis quality to ensure provider accountability need to be expanded. In March 2000 we recommended that CMS collect information on ESRD patients' satisfaction with the quality of, and their access to, care (MedPAC 2000). In March 2004 we

recommended linking payment to quality for physicians and facilities providing outpatient dialysis services (MedPAC 2004). By modernizing the outpatient dialysis payment system, Medicare can better achieve its objective of controlling costs and promoting access to quality services.

In the next three sections, we raise key issues concerning the post-MMA outpatient dialysis payment system. These issues include payment for composite rate services, payment for injectable drugs, and efforts to improve dialysis quality. The Commission expects to explore these issues in the coming months.

### **Issues concerning the composite rate post-MMA**

The changes mandated by the MMA raise two issues concerning payment for composite rate services. The first is that freestanding and hospital-based facilities will continue to be paid differently for composite rate services. Hospital-based facilities will continue to be paid, on average, \$4 more for composite rate services than freestanding facilities. The 1983 rule implementing the composite rate attributed this \$4 difference to overhead, not patient complexity or case mix.

MedPAC is also concerned that the add-on adjustment increases the complexity of the payment system. This methodology may not be the most appropriate way to pay for dialysis services. MedPAC and other researchers have noted that the pre-MMA drug payment policy promoted a less-than-efficient use of drugs by certain providers. The add-on adjustment continues to base payment on this policy. Another issue is whether the composite rate and add-on adjustment together is the appropriate level of payment for a dialysis treatment. Dialysis care has changed since 1983, but the composite rate has never been re-based. Like other payment bundles, new technologies have replaced older ones, and services are now included in the bundle that were not available when the payment system was first implemented.

### **Issues concerning payment for separately billable drugs post-MMA**

The changes mandated by the MMA raise two issues concerning payment for injectable drugs. The first is that not all drugs will be paid at acquisition cost. For drugs other than erythropoietin, hospital-based facilities will be paid reasonable cost, which may not necessarily be equal

to acquisition cost. Rather, reasonable cost reflects the charges, including overhead, set by the hospital, reduced to costs using a cost-to-charge ratio. The resulting cost may thus reflect the hospital's charging and accounting practices.

The second issue concerns deriving payment rates in 2006 and beyond from the data on acquisition cost obtained from the OIG. The concerns surrounding this data source include:

- It may not accurately reflect providers' acquisition costs in 2006 and beyond if changes occur in the negotiating practices between manufacturers and providers.
- It does not provide information on all injectable drugs currently used by providers.
- It does not provide information on the prices paid by hospital-based facilities.
- It will only be updated once to include the prices of drugs that did not have a billing code before 2004.

Ideally, the data source that Medicare uses to obtain providers' acquisition cost should provide cost data on all drugs, be regularly updated to include the cost of new drugs, and accurately reflect providers' acquisition costs.

### **Improving the quality of dialysis care**

CMS has strived to improve dialysis quality through a variety of approaches, including monitoring and reporting on quality and sponsoring quality improvement activities.

Together, these efforts attempt to hold providers accountable for the care they give to beneficiaries. Last year, MedPAC recommended that the Congress implement a payment policy incorporating quality incentives for physicians and facilities providing outpatient dialysis services.

Since 1993, CMS has monitored and reported on key aspects of the dialysis process—including anemia and nutrition levels, dialysis adequacy, and, most recently, vascular access management—in its annual survey of dialysis patients. The agency should continue to update these measures over time. For example, CMS has not yet included bone disease as a clinical performance measure even though the National Kidney Foundation (NKF) recently released a clinical guideline on this topic.

The agency's quality improvement efforts encourage providers to assess their performances, make changes, reassess quality, and strive for continuous improvements. The 18 ESRD network organizations have assisted the agency in developing and implementing these activities. Most recently, CMS and the network organizations have collaborated to improve vascular care. This effort, "Fistula First," is a nationwide initiative to increase the use of arteriovenous fistulas, a type of vascular access that is associated with improved patient outcomes compared with other types of vascular access.

In addition to these quality improvement activities, CMS reports facility-specific information on its Dialysis Facility Compare website, thus promoting more active consumer participation in health decisions. For each Medicare-certified facility, the website reports the types of dialysis services available and measures of dialysis adequacy, anemia status, and mortality.

It will be critical for the Secretary to continue current efforts to monitor and improve the quality of dialysis care. The three payment methods used to pay for injectable drugs introduce a new set of incentives in 2005. To the extent that a given method results in over- or underpayment, providers may have an incentive to stint on care or to substitute one drug for another. Of concern is whether the substituted drug results in a lower therapeutic effect than originally attained. In addition, the changes in 2005 may introduce a new set of incentives for providers to refuse to care for patients who are sicker or more complex on average than other patients.

### **MedPAC's future workplan**

MedPAC's future workplan stresses monitoring access to care in 2005 and beyond and reassessing the overall design of the outpatient dialysis payment system.

Monitoring beneficiaries' access to care is critical to assessing the effect of the changes that CMS will implement in 2005. Facilities that are no longer profitable could close. Shifts in care could result if providers find that providing certain services is no longer profitable. Different approaches that the Commission may use to monitor beneficiaries' access to care include measuring changes in:

- The number of facilities and their capacity to provide care in rural and urban areas and by Zip code. Comparing closures of facilities to openings in a given area is one indicator of beneficiaries' access to care.

- The distance patients have to travel to obtain care. Travel time might increase for beneficiaries whose dialysis facilities close. Some researchers have linked longer travel time to poorer compliance with dialysis treatments.
- Rates of hospitalization. Patients who are underdialyzed and patients suffering from anemia are more likely to be hospitalized. Thus, an increase in hospitalization rates could suggest that patients may not be obtaining needed care.
- Use of services and sites of care. If providers find that certain services are no longer profitable, patients may have to seek care from other provider types. Thus, it will be important to monitor beneficiaries' use and site of care.

In addition to monitoring beneficiaries' access to care, the Commission plans to continue assessing different aspects of the outpatient dialysis payment system's design, including using a more current wage index, analyzing what services should be included in a broader bundle, and examining factors that affect providers' costs in providing a broader bundle.

- CMS chose not to update the wage index of the composite rate even though the MMA gave the agency the authority to do so.<sup>7</sup> MedPAC plans to analyze the effect of using more recent wage indexes.
- Candidates for an expanded bundle include widely used injectable drugs and laboratory services that are currently excluded from it. Including other services needed by most dialysis patients, like vascular access monitoring services and Medicare-covered preventive services, might control total spending and lower the high level of morbidity among this population.
- Adjusting for case mix and other factors affecting costs will be critical with an expanded bundle. Our June 2003 analysis showed that aggregate costs for composite rate services and injectable drugs vary widely, suggesting that some of the differences in facilities' costs may be explained by the health status of their patients.

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## Are Medicare payments adequate in 2005?

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The first question in applying MedPAC's approach for updating payments is whether the current level of Medicare's payments for outpatient dialysis services is adequate. The Commission answers this question by looking at aggregate costs for composite rate services and dialysis injectables. We include the payments and costs for injectable medications because their use has increased significantly throughout the 1990s and their effect on the financial performance of facilities is significant. Including payments and costs for dialysis injectables 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 facilities—continues to increase, the volume of services is increasing, quality is improving for some measures, and providers' access to capital is good. Still, we project the Medicare margin for composite rate services and injectable drugs will fall from 4.2 percent in 2003 to 0 (–0.03) percent in 2005. The projected decline between 2003 and 2005 results from the composite rate not being increased in 2004 and the impact of the new changes in law and regulation implemented in 2005.

### Beneficiaries' access to care

A review of the published literature shows no evidence of beneficiaries facing systematic problems in obtaining necessary dialysis care in 2003 and 2004. Reports of facility closings tend to be linked to local issues, such as rising real estate prices in certain areas, shortages of technicians and nurses, and states' certificate-of-need regulations.

Access to specific types of dialysis—in-center hemodialysis, peritoneal dialysis, and home hemodialysis—shows little change over time. Between 1998 and 2004, at least 96 percent of all facilities offered in-center hemodialysis and 45 percent offered some type of peritoneal dialysis.

Our analysis of the pattern of facility closure suggests that beneficiaries should not be having systematic problems obtaining care in rural areas, health professional shortage

areas, and lower-income areas. Facilities that closed in 2004 were as likely to be rural, health professional shortage, and lower-income areas as those that remained in business between 2003 and 2004.

But closures may be disproportionately occurring in areas where a higher proportion of the population is African American: 18 percent of the population were African American in areas served by facilities that remained open versus 24 percent in areas where facilities closed. The variables measuring income, race, and ethnicity are derived from area-level (ecologic) data. Area-level data cannot provide direct information about the causality of a relationship; rather, only information on potential associations can be identified. We will continue to monitor any changes in access and quality by beneficiaries' demographic and socioeconomic characteristics.

Finally, there is no data yet about how satisfied beneficiaries are with the care outpatient dialysis facilities provide. In March 2000, MedPAC recommended that CMS collect information on ESRD patients' satisfaction with the quality of, and their access to, care (MedPAC 2000). CMS and the Agency for Health Care Research and Quality started to develop a consumer assessment survey for care delivered in renal dialysis facilities in 2002. Once completed, this survey will be a part of the other Consumer Assessment of Health Plans surveys, some of which MedPAC uses to assess access to care in other sectors, including home health.

## Changes in the supply of providers

Providers' capacity to deliver care increased steadily between 1993 and 2003 (Table 2E-5). The number of facilities, in-center hemodialysis stations, and patients all increased at a similar rate:

- The number of dialysis facilities grew 7 percent annually.
- In-center hemodialysis stations grew 8 percent annually.
- In-center hemodialysis patients grew 6 percent annually.

CMS's Facility Compare database showed a net increase of 113 facilities between 2003 and 2004. Providers have kept up with the demand for dialysis by increasing the

**TABLE  
2E-5**

**Total number of dialysis facilities is growing; for profit and freestanding are a higher share over time**

	1993	1998	2003
Total number of dialysis facilities	2,343	3,394	4,421
Mean number of hemodialysis stations	15	16	17
	Percent of all facilities		
Urban	77%	75%	75%
Rural	23	25	25
For profit	61	75	77
Nonprofit	39	25	23
Freestanding	70	79	84
Hospital based	30	21	16
Four largest chains	N/A	N/A	58
Any chain	N/A	N/A	74
Nonchain	N/A	N/A	26

Note: MSA (metropolitan statistical area) as defined by the Office of Management and Budget, N/A (not applicable).

Source: Compiled by MedPAC from the CMS facility survey file.

number of facilities, rather than increasing capacity within facilities. We based this finding on our analysis of trends in the following:

- average hemodialysis stations per facility,
- average annual in-center hemodialysis treatments per facility,
- average in-center hemodialysis treatments per dialysis station, and
- number of in-center hemodialysis shifts per week.

The total number of in-center hemodialysis treatments provided by dialysis facilities increased by about 6 percent per year from 1998 through 2003, but the average number of hemodialysis stations per facility remained relatively constant at about 17 per facility. Average total dialysis treatments per facility per year also remained relatively

constant, ranging from 9,000 to 9,400 during this period. Finally, average annual hemodialysis treatments per station remained relatively constant during this period, ranging from 617 to 623. The number of in-center hemodialysis shifts per week increased slightly, from 8.6 per week in 1998 to 10.0 in 2003; but only one-fifth of all facilities offered treatments after 5 p.m.

Opening new facilities may improve access to care by reducing the time that beneficiaries must travel to obtain care three times per week. Researchers have noted that some patients shorten their dialysis treatments or skip treatments that require longer travel times (Rocco and Burkart 1993, Sehgal et al. 1998, USRDS 1997). The sustained growth in the number of dialysis facilities, however, raises questions about the optimal efficiencies of scale and the trade-off between opening new facilities versus increasing the capacity of existing ones.

Our finding—that a greater proportion of facilities are larger, for profit, and freestanding now than in 1993—is consistent with the changes in the characteristics of dialysis providers in the 1990s. As shown in Table 2E-5, the proportion of facilities that are freestanding and for profit increased, whereas the proportion that are hospital-based or nonprofit declined. In addition, dialysis chains continue to acquire independently operated facilities. About two-thirds of all freestanding facilities were operated by the four largest for-profit chains in 2003.<sup>8</sup> Our finding that freestanding and for-profit facilities have steadily increased as a share of the total throughout the 1990s suggests that dialysis facilities are sufficiently profitable to stand on their own and that providing dialysis services to ESRD patients is financially attractive to for-profit providers.

## Changes in the volume of services

The number of dialysis treatments and the use of dialysis injectables continue to increase, although at different rates. Between 1993 and 2003, the rise in the number of in-center hemodialysis treatments generally kept pace with the increase in dialysis patients. The number of dialysis treatments increased, on average, by 8 percent annually; by comparison, the number of dialysis patients increased, on average, by 6 percent annually during this time.

Payments for injectable drugs increased more rapidly than payments for dialysis treatments between 1996 and 2003 (15 percent versus 7 percent per year, respectively).<sup>9</sup> Consequently, revenue from injectable medications has

become increasingly important relative to revenue for composite rate services during the past eight years. In 2005 providers' incentives may change because the new drug payment policy lowers the profitability of most injectable drugs currently used. It remains to be seen whether this new policy will slow the growth in payments for injectable drugs.

The use of injectable medications has grown for several reasons. First, many of the agents—including erythropoietin and iron supplements—were only approved by the Food and Drug Administration in the late 1980s. Since their approval, the NKF has advocated their use in clinical guidelines. Many of these medications have enhanced the quality of care provided to dialysis beneficiaries. For example, the increased use of erythropoietin has reduced the proportion of dialysis patients suffering from anemia, which contributes to morbidity if not treated effectively. Medicare's coverage decisions also affect the use of these drugs. For example, CMS made a national coverage decision to cover injections of levocarnitine for patients with ESRD beginning January 1, 2003.<sup>10</sup>

Nevertheless, the profitability of certain types of injectable medications has given providers the incentive to use them. For example, prior to 2005, Medicare paid \$10 per 1,000 units for erythropoietin administered either intravenously or subcutaneously (under the skin). Paying on a per-unit basis promotes the use of the intravenous form of this medication, which requires higher average doses (more units) to achieve target hematocrit levels. Intravenous erythropoietin continues to be predominantly used despite the publication of the NKF's Dialysis Outcome Quality Initiative Clinical Practice Guideline for the treatment of anemia, which advocated subcutaneous administration.<sup>11</sup>

Data from the United States Renal Data System also raise questions about the efficiency of providers in furnishing injectable drugs. Using Medicare claims data, their research shows substantial variation in spending across providers. Specifically, per-patient per-month spending varied by nearly \$200 a month for dialysis injectables across different types of providers, ranging from \$613 to \$811 (USRDS 2004). As noted later in this section, some of this variation may be related to case mix, as providers' costs vary based on patients' characteristics. Further, a previous MedPAC analysis showed no association between quality of care and providers' costs for composite

rate services, and poor outcomes for providers with higher costs for composite rate services and injectable drugs (MedPAC 2003).

### Changes in quality of care

The quality of dialysis care has improved for some measures (Table 2E-6). Between 1999 and 2002, the proportion of both hemodialysis and peritoneal patients receiving inadequate dialysis and having low anemia levels declined. The average length of hemodialysis sessions (an indicator of dialysis adequacy) increased slightly from 212 minutes in 1998 to 217 minutes in 2002 (CMS 1999, 2003).

No clinically important changes or improvements were found in the percentage of hemodialysis and peritoneal dialysis patients with adequate or optimal serum albumin levels in 2002 compared with those of previous years. Mean serum albumin levels below certain norms have been shown to be a marker for diminished patient survival. Some providers and researchers contend that increasing the use of certain types of medical interventions, particularly parenteral nutrition, would improve the outcomes of certain patients; however, Medicare’s coverage policies limit the number of dialysis patients who qualify for these interventions.<sup>12</sup>

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 another clinical area in need of substantial improvement. Use of arteriovenous (AV) fistulas, considered the best type of vascular access, increased between 1999 and 2002, from 27 percent to 33 percent of hemodialysis patients. The NKF’s clinical guideline recommends that at least 40 percent of all hemodialysis patients have an AV fistula.

### Providers’ access to capital

Recent financial information and evidence about trends in the increase in dialysis facilities suggest that providers have sufficient access to capital. Providers need access to capital to improve their equipment and to open new facilities to accommodate the growing number of patients requiring dialysis. About 80 percent of all dialysis facilities are for profit, and the four largest for-profit chains account for 58 percent of all facilities and about two-thirds of freestanding facilities. These for-profit chains appear to have adequate access to capital, as demonstrated by an increase in the number of clinics, the number of patients they treat, and their earnings.

Data from industry sources suggest that both smaller and larger chains have adequate access to capital, as shown by their ability to acquire existing facilities and open new ones.<sup>13</sup> Available information from reports submitted by the largest chains to the Securities and Exchange Commission shows that these chains either acquired or opened 112 facilities in 2003. In 2004, two of the largest chains announced major acquisition activities. In February 2004, the fourth largest chain announced its purchase of a smaller chain that operates 87 dialysis facilities in 15 states. In December 2004, the third largest chain announced its intent to purchase the second largest chain and that the acquisition would be financed through bonds and bank debt (Berman 2004).

Data from industry sources show that between 1999 and 2003, these chains’ net revenues grew from 7 percent to 17 percent. Key operational ratios for the largest chains suggest average or above-average performance in 2003:

- Return on equity, a key measure of capital efficiency, ranged from 18 percent to 31 percent before tax and 11 percent to 19 percent after tax.
- Return on total capital, a measure of how effectively a company uses capital, ranged from 13 percent to 30 percent.

**TABLE 2E-6** Quality of dialysis care is improving for some measures

Outcome measure	1999	2000	2001	2002
Percent of in-center hemodialysis patients:				
Receiving inadequate dialysis	16%	14%	11%	11%
With low anemia levels	32	26	24	21
Who are malnourished	20	20	18	19
Dialyzed with an AV fistula	27	30	31	33
Percent of peritoneal dialysis patients:				
Receiving inadequate CAPD	32	31	32	29
Receiving inadequate CCPD	35	38	30	34
With low anemia levels	31	27	24	21
Who are malnourished	44	44	39	40

Note: AV (arteriovenous), CAPD (continuous ambulatory peritoneal dialysis), CCPD (continuous cycler-assisted peritoneal dialysis).

Source: Compiled by MedPAC from 1999–2003 Annual Reports for ESRD Clinical Performance Measures Project from CMS.

Investor analysts note that the sector benefits from recurring revenues from dialysis treatments. But they also have pointed out that dialysis providers 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 revenues from Medicare ranges from 50 percent to about 61 percent across the largest chains. Finally, the stocks of these for-profit chains have largely enjoyed positive ratings from financial analysts in 2004. Thus, these chains' stock prices have generally increased in 2004.

CMS's implementation of the MMA could affect providers' access to capital. We are continuing to monitor reports, but one investor group viewed the 2005 changes in the final rule (published in November 2004) more favorably than the proposed rule (published in August 2004); this group remains uncertain about the changes that will occur in 2006. Another recent policy that could affect providers' access to capital is CMS's proposal to revise its policy for monitoring claims for erythropoietin.<sup>14</sup> Some investor groups viewed the proposal as "neutral to positive" for the four largest chains.

Access to capital for the largest chains may be influenced by factors other than Medicare's payments, because each chain operates other lines of business. All four chains operate clinical laboratories, and, as noted later, the revenues derived from providing laboratory services to dialysis patients—about \$10 per treatment—are not yet included in MedPAC's analysis of payments and costs.<sup>15</sup> Two chains also manufacture dialysis equipment and supplies and provide dialysis services internationally.

Two recent events, unrelated to Medicare's payment policies, may affect access to capital for certain chains. 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. Although 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.

## Payments and costs for 2005

Our assessment of providers' costs and the relationship between Medicare's payments and providers' costs is predicated upon: 1) whether current costs approximate what efficient providers would be expected to spend on delivering high-quality care and 2) 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 in the cost per treatment for dialysis services,
- trends in the growth in the cost per treatment for dialysis injectables, and
- differences in cost per treatment for dialysis services between audited and nonaudited 2001 cost reports.

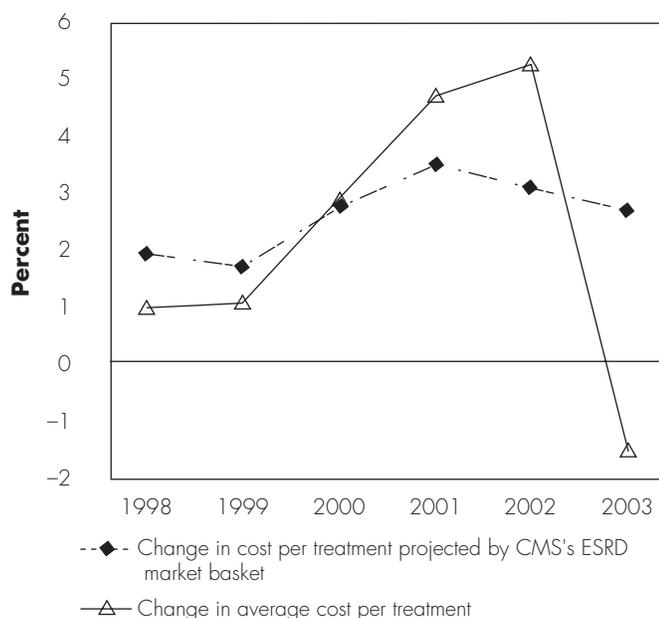
We then present our estimate of the 2003 Medicare margin for dialysis services and injectable drugs and our projection for calendar year 2005.

### Average dialysis cost per treatment peaked between 2000 and 2002 and declined in 2003

Because the composite rate is predetermined, providers have an incentive to keep their costs down for these services. At issue is whether aggregate costs for composite rate services provide a reasonable representation of the costs that efficient providers would incur in providing high-quality care.

Between 1997 and 2003, three distinct trends in cost growth were apparent (Figure 2E-2, p. 134). The average cost per treatment grew modestly during the late 1990s, increasing by no more than 2 percent per year. But between 2000 and 2002, the average cost per treatment increased substantially, at 5 percent per year. Most recently—between 2002 and 2003—the average cost per treatment declined by 1.5 percent. By contrast, the ESRD market basket estimated that dialysis facilities' costs would increase by 2.5 percent between 2002 and 2003.

The recent decline in cost per treatment results from a slowdown in the growth in all but general administrative cost per treatment. In addition, certain types of providers—rural and urban facilities, for-profit facilities,

**FIGURE  
2E-2****Cost growth per hemodialysis treatment for freestanding dialysis facilities, 1997–2003**

Note: ESRD (end-stage renal disease). Analysis of dialysis cost per treatment for freestanding dialysis facilities consistently reporting costs between 1997 and 2003.

Source: Compiled by MedPAC from the 1997–2003 cost reports from CMS.

and facilities affiliated with the four largest chains—were able to lower their cost per treatment more than others between 2002 and 2003.

Overall, the cost per in-center hemodialysis treatment for freestanding facilities increased by an average of 2.2 percent between 1997 and 2003, a rate slower than what the ESRD market basket predicted (2.6 percent). The variation in cost growth across freestanding dialysis facilities that consistently reported costs between 1997 and 2003 is worth noting. For example, per-treatment costs increased by 0.3 percent for facilities in the 25<sup>th</sup> percentile of cost growth (low cost growth), 2.0 percent for facilities in the 50<sup>th</sup> percentile, and 4.0 percent for facilities in the 75<sup>th</sup> percentile (high cost growth). A greater proportion of rural facilities had low cost growth than high cost growth (26 percent versus 18 percent, respectively), whereas a greater proportion of non-profit facilities had high cost growth than low cost growth (42 percent versus 17 percent, respectively).

**Average cost per treatment for injectable drugs increased faster than for composite rate services**

The cost per treatment for separately billable drugs increased by 6.2 percent between 2000 and 2003. The pre-MMA payment method for separately billable drugs gave providers no incentives to improve efficiency. It is uncertain how the change mandated by the MMA—paying acquisition cost for most drugs—will affect drug cost growth in 2005 and beyond.

The growth in erythropoietin cost per treatment was less than the growth in the cost per treatment for all other injectable drugs between 2000 and 2003 (2.5 percent versus 16.1 percent, respectively). This finding is primarily due to providers substituting new, more costly drugs for older, less expensive drugs. For example, the price of a vitamin D analogue (paricalcitol), newly approved in 1998, is twice that of the older drug it displaced (calcitriol).<sup>16</sup> Between 2000 and 2001, Medicare spending for paricalcitol increased from \$172 million to \$386 million; by contrast, spending for calcitriol decreased from \$127 million to \$67 million.

**Audited cost reports have lower average dialysis cost per treatment in 2001**

For dialysis providers, MedPAC has looked at the effect of using audited cost reports when examining the appropriateness of current costs. We do so because MedPAC's analysis of current costs uses only Medicare-allowable costs. For past years, MedPAC has compared 1996 audited and nonaudited cost reports and found that allowable costs as a percentage of reported costs was about 96 percent. More recently, the BBA required that each dialysis provider be audited once every three years.

We used the available portion of audited cost reports in 2001 to examine the potential effect of CMS's auditing efforts. We compared the cost per treatment calculated from audited 2001 cost reports with the cost per treatment calculated from unaudited 2001 cost reports.<sup>17</sup> Each cost report includes an indicator reporting its status: as submitted, settled without an audit, settled with an audit, reopened.

The cost per treatment for facilities with audited cost reports differed from that of facilities whose cost reports have not been audited yet. For facilities whose cost reports were settled by an audit, the aggregate (dialysis and

injectable drugs) cost per treatment decreased from \$210 to \$203 per treatment. For facilities whose cost reports were settled without an audit, the aggregate cost per treatment remained the same using this year's and last year's 2001 cost reports. Two other important findings are worth noting:

- The audit primarily affects the dialysis cost per treatment, not the drug cost per treatment. For facilities whose cost reports were settled by an audit, the cost per treatment for composite rate services decreased by \$6 (from \$142 to \$136). By contrast, their drug cost per treatment did not change. This finding is not unexpected because the audits primarily target those cost fields that can affect Medicare payments a facility receives. The costs reported for dialysis, not drug costs, are considered when determining if Medicare will reimburse providers for bad debt.
- Dialysis cost per treatment decreased the most for general and administrative costs (13 percent) and the least for labor costs (1 percent). Capital and other direct costs decreased by about 5 percent each.

Based on these results, 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—95.5 percent for the cost per dialysis treatment. We then applied this adjustment to the costs of composite rate services for facilities whose cost reports have not been settled yet.

### The Medicare margin for freestanding dialysis facilities

For dialysis services, the Commission assesses current payments and costs by comparing Medicare's payments for composite rate services and injectable drugs with providers' Medicare-allowable costs. The most current data available on providers' costs and Medicare's payments are from 2003.

For 2003, we estimate that the aggregate Medicare margin for composite rate services and injectable drugs was 4.2 percent when the effect of the audit is considered (Table 2E-7). 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 7 percent lower for facilities affiliated with the four largest

**TABLE  
2E-7**

### Aggregate margins vary by type of freestanding dialysis facility, 2003

Type of facility	Aggregate margin
All facilities	4.2%
Urban	4.6
Rural	3.1
For profit	4.4
Nonprofit	0.8
Four largest chains	5.4
Other chains	0.4
Nonchain	-0.7
Furnishes per year:	
≤10,000 treatments	-0.9
>10,000 treatments	6.2

Note: Margins include payments and costs for composite rate services and injectable drugs. Margins are adjusted to reflect MedPAC's analysis of audited cost reports, which found that the ratio of allowable to reported cost per treatment for composite rate services is 95.5 percent.

Source: Compiled by MedPAC from the 2001 and 2003 cost reports and the 2003 institutional outpatient file from CMS.

chains than for facilities not affiliated with these chains. In addition, this finding also reflects differences in the proportion of payments facilities receive from composite rate services, which are less profitable than dialysis injectables.

Aggregate margins for composite rate services and injectable drugs declined from 7.6 percent in 1999 to 4.2 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, which is discussed earlier in this section. Although providers' cost per treatment for dialysis injectables increased during this period, the difference between payments and costs remained about the same.

Between 1999 and 2003, the aggregate Medicare margin for composite rate services and injectable drugs remained positive for the majority of facilities. Among facilities that

reported cost and payment information in both 1999 and 2003, 67 percent had positive margins in both years. One-quarter of facilities had a positive margin in one year and a negative margin in the other year. Only 8 percent of facilities had negative margins in both years.

We project the Medicare margin will be 0 (–0.03) percent in 2005. This estimate reflects the net impact of the changes the MMA mandated for freestanding dialysis facilities in 2005. As mentioned earlier, although the MMA increases the composite rate payment in 2005 by 1.6 percent (which corresponds to a 1.0 percent increase in aggregate payments), CMS projects that aggregate payments will increase by 0.4 percent for freestanding dialysis facilities in 2005 after considering the other changes to outpatient dialysis payment policy. In addition, the composite rate was not increased in 2004.

Although the aggregate margin for composite rate services and injectable drugs is the most comprehensive measure we have to assess the financial performance of dialysis facilities, it does not account for the potential profitability of all services associated with outpatient dialysis. Certain dialysis-related laboratory tests are paid outside the composite rate bundle. In this case, Medicare pays the clinical laboratory, not the dialysis facility, for these laboratory services. Each of the four largest dialysis chains owns clinical laboratories, however, and those entities receive Medicare payments for dialysis-related laboratory tests. These chains reported that dialysis-related laboratory services increased their payment by about 4 percent per session.

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## How should Medicare payments change in 2006?

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As noted earlier, MedPAC accounts for expected cost changes in the coming year primarily through the forecast of input price inflation. In 2003, CMS released its market basket index for dialysis composite rate services, as mandated by the Medicare, Medicaid, and SCHIP Benefits Improvement & Protection Act of 2000. This index projects that providers' costs will increase by 2.9 percent between 2005 and 2006.

CMS's ESRD market basket is the best available source of the change in input prices for outpatient dialysis services in the coming year (Thompson 2003). Although we previously raised questions about the agency's market basket for ESRD services, we will rely on it instead of the index developed and used by the Commission for previous updates (MedPAC 2004).

MedPAC's 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 service quality. Prospective payment is designed to promote efficiency; thus productivity increases should be expected from providers. MedPAC's productivity expectation is the 10-year moving average of multifactor productivity in the economy as a whole, which is 0.8 percent.

## Updating payments for composite rate services in 2006

Based on our review of the adequacy of payments for outpatient dialysis services and expected cost changes in the coming year, the Commission recommends the following:

### RECOMMENDATION 2E

**The Congress should update the composite rate by the projected rate of increase in the end-stage renal disease market basket index less 0.4 percent for calendar year 2006.**

### RATIONALE 2E

Most of our indicators of payment adequacy are positive, including beneficiaries' access to care, volume of services, quality, and access to capital. Nevertheless, the Medicare margin for composite rate services and injectable drugs declined from 7.6 percent to 4.2 percent between 1999 and 2003, and we project it will be 0 (–0.03) percent in 2005. The Commission recommends that the Congress update the composite rate by the projected rate of increase in the end-stage renal disease market basket index less 0.4 percent for calendar year 2006, to balance expectations for continued productivity gains with concerns about the trend in the Medicare margin and the uncertainty in payments due to recent changes in law and regulation.

**Spending**

- Because there is no provision in current law to change the composite rate in 2006, this recommendation will increase federal program spending relative to current law by between \$50 million and \$200 million for calendar year 2006 and less than \$1 billion over five years.

**Beneficiary and provider**

- This recommendation increases beneficiary cost sharing. No negative effects on beneficiaries' access to quality care are anticipated. This recommendation is not expected to affect providers' willingness and ability to provide quality care to Medicare beneficiaries. ■

## Endnotes

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- 1 To qualify for the ESRD program, individuals must be insured under the Social Security or Railroad Retirement program, be entitled to monthly benefits under the Social Security or Railroad Retirement program, or be the spouse or dependent child of an eligible beneficiary.
- 2 Medicare spending includes program outlays and beneficiary cost sharing.
- 3 The composite rate was designed in 1983 to include all nursing services, supplies, equipment, and selected drugs associated with a single dialysis session.
- 4 Before payment is case-mix adjusted, CMS will apply a budget-neutrality factor of 0.9116 to the wage-adjusted composite rate and add-on adjustment. The MMA requires that the case-mix adjusted payment system result in the same aggregate amount of expenditures for such services as would have been made in 2005, 2006, and 2007 if payments were not case-mix adjusted.
- 5 The body measurement variables are not used to calculate case-mix adjusted payments for patients under age 18.
- 6 The OIG is mandated to conduct two studies on the pricing of dialysis drugs. The first study, published in May 2004, examined the pricing of drugs with a billing code before 2004. The second study, due to the Congress by April 2006, will examine the pricing of drugs that did not have a billing code in 2004.
- 7 In the final rule, CMS indicated its plans to analyze the implications of recommending revisions to the current wage index before updating it (CMS 2004b).
- 8 The four largest for-profit chains are Fresenius, Gambro, DaVita, and Renal Care Group.
- 9 Medicare pays for more than 20 injectable drugs provided by freestanding dialysis providers. Each injectable drug has its own unit of measurement. Because of the difficulty in aggregating different units of measurement, we express volume in terms of total Medicare payments.
- 10 Levocarnitine supplements the loss of carnitine, a naturally occurring substance in the body that helps transport long-chain fatty acids for energy production. 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 for Medicare to continue to pay for the treatment.
- 11 The primary sponsor of the NKF guideline for the treatment of anemia is Amgen, the manufacturer of erythropoietin. Some providers contend that erythropoietin is predominately given intravenously because patients experience less discomfort than when it is given subcutaneously.
- 12 Daily parenteral nutrition is limited to patients “with severe pathology of the alimentary tract which does not allow absorption of sufficient nutrients to maintain weight and strength commensurate with the patient’s general condition” (CMS 2004a).
- 13 For example, Dialysis Corporation of America (a regional chain) announced that it was establishing a new facility in Ohio, and National Renal Alliance (a regional chain) opened facilities in Louisiana, Alabama, and Tennessee.
- 14 CMS is proposing to implement a national policy that contractors will use when paying for erythropoietin. The proposed policy uses a combination of a patient’s hematocrit level and erythropoietin dosage amounts to trigger contractor review of the medical justification for the dosage. If the dosage is found not to be justified, payments are reduced to lower dosage levels.
- 15 We have not yet included laboratory payments in our analysis of current payments because of the difficulty in identifying dialysis-related tests from other tests ordered for comorbidities.
- 16 The National Kidney Foundation’s clinical guideline recommends use of vitamin D therapy to reduce the parathyroid hormone levels in hemodialysis and peritoneal dialysis patients meeting specific clinical criteria. The clinical guideline also recommends trials to compare the effectiveness of each of these agents among dialysis patients.
- 17 Audited 2001 cost reports refer to those obtained from CMS in September 2004; 11 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.

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CHAPTER

3

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**Issues in physician  
payment policy**

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

**3A** The Secretary should use Medicare claims data to measure fee-for-service physicians' resource use and share results with physicians confidentially to educate them about how they compare with aggregated peer performance. The Congress should direct the Secretary to perform this function.

COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1

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**3B** 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.

COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1

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**3C** The Congress should direct the Secretary to set standards for physicians who bill Medicare for interpreting diagnostic imaging studies. The Secretary should select private organizations to administer the standards.

COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1

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**3D** The Congress should direct the Secretary to set standards for all providers who bill Medicare for performing diagnostic imaging studies. The Secretary should select private organizations to administer the standards.

COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1

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**3E** The Secretary should include nuclear medicine and PET procedures as designated health services under the Ethics in Patient Referrals Act.

COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1

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**3F** The Secretary should expand the definition of physician ownership in the Ethics in Patient Referrals Act to include interests in an entity that derives a substantial proportion of its revenue from a provider of designated health services.

COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1

## Issues in physician payment policy

**I**n this chapter, we examine ways to reduce inappropriate use of physician services and improve the quality of services provided to beneficiaries. We recommend that Medicare measure physician resource use so that physicians can compare their practice patterns with those of their peers. We identify ways to improve Medicare's coding edits to better detect improper imaging claims and to pay less for multiple imaging studies. To ensure that Medicare beneficiaries receive high-quality imaging services, and to help control the rapid growth of imaging spending, we recommend that CMS set standards for providers who perform and interpret imaging tests. We recognize that setting such standards is a new direction for the Medicare program, but we believe it is warranted by the rapid growth of imaging services and their migration from the hospital setting to physician offices. In addition, CMS should strengthen the physician self-referral rules to minimize financial incentives that might affect clinical decisions to order imaging studies. We also discuss potential ideas for creating incentives for more efficient delivery of care.

### In this chapter

- Growth in the volume of physician services
- Measuring physician resource use
- Managing the use of imaging services
- Creating new incentives in the physician payment system
- Future work

The financial challenges to the program enumerated in Chapter 1 highlight the pressing need to ensure that Medicare's resources are used efficiently. The volume and intensity of services provided to Medicare beneficiaries have grown steadily, with program expenditures rising accordingly. Although some of this volume growth undoubtedly contributed to the health and well-being of beneficiaries, other increases probably did not. Research has shown that wide regional variation in service volume is not reflected in differences in health outcomes.

The way in which traditional Medicare pays for physician services does nothing to create incentives for coordinated evidence-based care. The program does not reward quality nor recognize when services provided are inappropriate or inefficient. In its landmark report, the Institute of Medicine (2001) concluded that health care should be safe, effective, patient-centered, timely, efficient, and equitable. Here, we examine ways in which changes in the Medicare physician payment system can help further these goals while reducing unnecessary expenditures.

In this chapter, we analyze tools that would encourage providers to furnish efficient, quality care to Medicare beneficiaries. The strategies include:

- measuring resource use by physicians in comparison with that of their peers,
- setting quality standards for imaging services, and
- creating new incentives for individual physicians to control unnecessary volume.

The proposals in this chapter, along with recommendations in Chapter 4 on pay for performance and adoption of information technology, can be viewed as a package. We recognize that these proposals will add to CMS's administrative responsibilities. For the programs to succeed, CMS must be given the necessary resources.

In future work, we also intend to examine how prices are set for individual services within the fee schedule. For example, the introduction of new treatments and procedures may have resulted in a misalignment between the fees paid for older and newer services. The goal is to ensure that services are paid accurately and that the pricing structure does not create incentives for inappropriate volume growth. We also plan to look at geographic adjusters and the design of the payment areas used in the fee schedule.

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## **Growth in the volume of physician services**

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The volume of physician services provided to Medicare beneficiaries has been growing steadily since the Congress established the physician fee schedule (Figure 3-1). The per beneficiary volume of physician services increased by more than 30 percent between 1993 and 1998. Most recently, per capita volume growth increased by nearly 22 percent from 1999 to 2003. Volume is measured as per capita use of physician services by beneficiaries in traditional Medicare.<sup>1</sup>

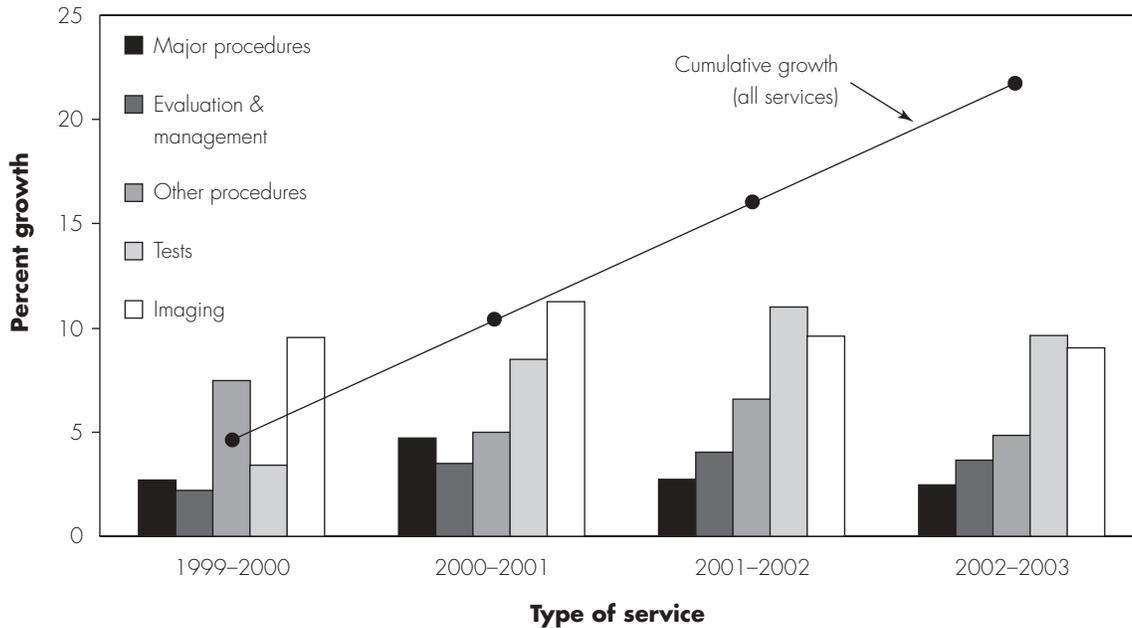
The causes and consequences of volume growth are controversial. Some analyses (Cutler and McClellan 2001, Newhouse 1993, Newhouse 1992) emphasize that growth in service use is largely driven by technological change. Technological change includes both treatment substitution (substituting newer technologies for older ones) and treatment expansion (treating more people for disease). In some cases, new treatments are provided in addition to older treatments. These changes may result in better health outcomes for patients.

However, other research (Wennberg et al. 2002, Fisher et al. 2003a, Fisher et al. 2003b) that emphasizes the level of variation in the volume of physician service in geographic areas suggests that much additional service use does not improve health. After controlling for input prices and health status, researchers found that the volume of physician services is driven partly by local practice patterns and partly by differences in physician supply and specialization. They did not find an association between greater volume and demonstrable improvement in outcomes.

Since the development of the physician fee schedule, the Congress has attempted to moderate expenditure growth by implementing volume targets. However, volume has continued to grow, and legislated targets have not succeeded in differentiating between beneficial volume growth and increases in inappropriate services. The current sustainable growth rate (SGR) formula has resulted in both budgetary and policy problems. By 2003, the cumulative impact of actual spending for physician services was about \$6 billion higher than the SGR target for that year. The policies discussed in this chapter cannot be expected to close the gap between this target and actual spending (see Section 2B).<sup>2</sup>

**FIGURE 3-1**

**Continued growth in the use of physician services per beneficiary, 1999–2003**



Source: MedPAC analysis of Medicare claims data for all beneficiaries, 1999–2003.

In the following section, we address the way in which unexplained variation in volume might be reduced by providing physicians with data on their resource use compared with the practice patterns of their peers.

### Measuring physician resource use

Medicare beneficiaries living in regions of the country where physicians and hospitals deliver many more health care services do not experience better quality of care or outcomes. Moreover, they do not report greater satisfaction with care than beneficiaries living in other regions (Fisher et al. 2003a, Fisher et al. 2003b). This finding is provocative. It 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—that is, if they provided fewer diagnostic services, used fewer subspecialists, used hospitals and intensive care units (ICUs) less frequently as a site of care, and did fewer minor procedures.

In assessing the potential savings in our health care system, consider also that even within low spending regions, providers acknowledge unharvested opportunities to eliminate services that are not likely to improve health (James 2002).

One strategy for Medicare to realize a portion of these potential savings is to measure physicians' resource use over time and feed back the results to physicians. Physicians would then be able to assess their practice styles, evaluate whether they tend to use more resources than either their peers or what evidence-based research (when available) recommends, and revise their practice style as appropriate.<sup>3</sup> This process is critical to precipitating change. Moreover, when physicians are able to use this information in tandem with information on their quality of care, it will provide a foundation for improving the value of care received by beneficiaries.

We consider here how Medicare could both engage in resource use measurement and encourage its use more widely. We discuss Medicare's use of quality measures in the following chapter. The use of both measures together is ideal.

### **What is the experience with and effectiveness of resource use measurement?**

Resource use measurement is increasingly used by private plans to contain costs. MedPAC identified this trend in a series of interviews staff conducted with health plans and consultants (MedPAC 2004b). Nearly all plans and purchasers mentioned resource use measurement as central to their cost-containment and quality improvement strategies. Some collected information and gave it back to patients or providers, others used it as a basis for bonus payments to providers, and still others used it to select providers to be in preferred tiers or limited network plans.

The Center for Studying Health System Change reported similar findings based on a survey of 12 communities. It found that since 2001, 15 health plans in 9 communities increased their use of retrospective review and provider resource measurement and that 9 plans in 6 communities developed tiered provider network products. In addition, four plans in three communities developed limited network plans (Mays et al. 2004).

Purchasers, eager to better understand which providers, delivery systems, and plans (including their disease management programs) are the best value, have pursued greater standardization in resource use measurement. The National Committee for Quality Assurance (NCQA) is first developing and testing national standards for plans to report their aggregate relative resource use to purchasers and hopes to integrate an efficiency measure into its public reporting on health plan performance by 2006. The next phase of NCQA's effort will develop criteria and guidelines for measuring individual physicians' and hospitals' resource use. The NCQA process is being partially informed by the work coordinated by Bridges to Excellence, an employer-sponsored program that recognizes and rewards high-quality physician care, and the Leapfrog Group on identifying best practices in resource use measurement (Bridges to Excellence and the Leapfrog Group 2004).

Evidence on how effective resource use measurement is in containing costs is mixed and varies depending upon how the results are used. Providing feedback on use patterns to physicians alone has been shown to have a statistically significant, but small, downward effect on resource use (Balas et al. 1996, Schoenbaum and Murray 1992). When paired with additional incentives such as public disclosure or payment incentives, the effect on physician behavior can be considerably larger (Eisenberg 2002). Some note that the effectiveness of feedback is diluted if physicians receive multiple "report cards" from different insurers that provide different results (Sandy 1999).

### **How could Medicare promote resource use measurement?**

Medicare could measure the resource use of its fee-for-service physicians. As the nation's largest single purchaser of health care services, Medicare has a wealth of data and the potential to have the greatest influence on physicians. This policy option is the focus of this section of the chapter.

Medicare could also encourage plans and providers to undertake and expand their independent use of resource use measurement. We make no recommendations on these options here, but note them for discussion. First, Medicare could share its claims data with private health plans and purchasers, enhancing their ability to measure physicians' resource use. Second, the Congress could potentially promote hospitals' and physicians' use of resource measurement if it allowed the Secretary to regulate gainsharing arrangements (as discussed in the Commission's report on specialty hospitals). Current restrictions prohibit physicians from receiving financial compensation for making changes in their practice patterns that reduce hospital inpatient costs. Allowing physicians to receive compensation with appropriate safeguards would give physicians and hospitals a greater impetus to measure resource use during a hospital admission for each physician and, in turn, reward those who appropriately constrained resource use.

### **Medicare could measure physicians' resource use to encourage change in practice**

Resource use measurement may be used in a number of ways to encourage physicians to change their practice patterns. Confidential feedback of the results to physicians may be sufficient to induce some change, particularly if provided by such a large purchaser as Medicare. Many

physicians are highly motivated individuals who have continually strived for high grades and peer approval (Tompkins et al. 1996). If identified as having an unusually resource-intensive practice style, some physicians may respond by reducing the intensity of their practice. Some private purchasers use additional incentives to encourage physicians to modify their practice styles. For example, the data on individual physician performance could be shared with physicians' peers or the public, or used as the basis for increased or decreased payment. MedPAC has concluded, however, that Medicare should, for an initial period, use resource use measurement only to confidentially educate physicians.

### RECOMMENDATION 3A

**The Secretary should use Medicare claims data to measure fee-for-service physicians' resource use and share results with physicians confidentially to educate them about how they compare with aggregated peer performance. The Congress should direct the Secretary to perform this function.**

### RATIONALE 3A

Improving longitudinal efficiency in health care delivery is a goal Medicare cannot afford to ignore. Resource use measurement has the potential to encourage physicians to reduce the number of services they provide without sacrificing quality of care, and thereby improve efficiency. In addition, it may encourage physicians to use less expensive, nonphysician resources to reduce spending and use of costly services. The private sector has used this approach for at least two decades, and it is sufficiently developed to be used in Medicare for confidential physician education.

### IMPLICATIONS 3A

#### Spending

- This recommendation should lead to a minimal reduction in program spending.

#### Beneficiary and provider

- No adverse impact on access or quality is expected. To the extent that physicians adopt more conservative practice patterns, beneficiaries would pay less coinsurance and premiums.
- Because this recommendation could reduce the number of services provided over time, it could reduce aggregate payments to some Medicare providers over time.

Using measurement results only for confidential education allows CMS to gain experience using the measurement tool and explore the need for refinements. Similarly, physicians can review the results, make changes to their practice as they see appropriate, and help shape the measurement tool. Once greater experience and confidence are gained, Medicare might use the results in payment, for example as a component of a pay-for-performance program (which rewards both attainment and improvement) or to enable beneficiaries to identify physicians with more conservative practice styles. As mentioned earlier, resource use and quality measures taken together are the best indicator of value for Medicare (see Chapter 4 for discussion of physician quality measures).

The measurement tool should provide sufficient detail on use of each type of service. For example, CMS or one of its contractors could send out a form to each physician that is computer-generated based on claims data that looks like Table 3-1 (p. 148). In this example, spending is shown for a given episode of care. Risk adjustment is, in part, achieved by assigning patient care to a given type of clinically homogenous episode. Each episode is defined by a variety of factors, including diagnoses codes, complicating conditions, age, and gender. Spending is adjusted for geographic differences in input prices. Spending on all types of care, rather than just physician services, is measured. This inclusive approach is warranted by the fact that as much as 80 percent of spending for medical care is prescribed by physicians (Eisenberg 2002). This example shows that Physician A uses more services—especially inpatient hospital services—in caring for patients with a given condition (e.g., pneumonia) than his peer group.

Because this recommendation is educational only, the Commission cannot estimate the magnitude of savings. While research suggests that, on balance, providers do respond to such educational reports, resulting in small savings, we recognize that assessing physicians' potential response to this recommendation is complicated. Some physicians who use fewer resources than average may increase their service intensity; without quality measures validating a low-intensity practice style, they may believe that better quality is associated with higher intensity. Other physicians might ignore resource use reports, particularly since there is no financial penalty for doing so.

**TABLE  
3-1**

**A sample physician report showing comparative resource use**

**Standardized spending for an episode of care**

	<b>Average spending per episode</b>	<b>Physician visits</b>	<b>Diagnostic tests</b>	<b>Hospital admissions</b>	<b>Medical/surgical procedures</b>	<b>Prescriptions</b>	<b>Other</b>	<b>Overall resource use score*</b>
Peer group	\$2,500	\$260	\$480	\$ 870	\$140	\$250	\$500	1.00
Physician A	3,000	265	460	1,400	140	230	505	1.20

Note: Examples of episodes of care include pneumonia, diabetes, and sinusitis.  
\*Score is calculated as a ratio of physician A’s spending to the peer group’s spending.

It is also possible that Medicare’s feedback of resource use performance could be more successful than previous private sector experience. As the single largest purchaser, Medicare’s reports may command greater attention. Because Medicare’s reports would be based on more patients than private plan reports, they might have greater validity and acceptance from physicians. In addition, measurement tools have evolved to capture longitudinal use across all services and, as such, may be more successful in promoting conservative practice styles. Third, to the extent physicians see this as a first step leading to financial incentives or likely to be emulated by private plans, they may be more inclined to respond.

The Commission recommends that the Congress direct the Secretary to undertake this task in order to clarify the Secretary’s existing authority in this area. Under current law, the Secretary may require carriers to monitor and profile physicians’ billing patterns and provide comparative data to physicians whose utilization patterns vary significantly from other physicians in the same area (Section 1842 [b][3][L] of the Social Security Act). Many carriers do not perform this activity, and those that do tend to focus on incorrect billing (e.g., upcoding) rather than variation in imaging services or hospitalizations, for example, during an episode of care.

To implement this recommendation, the Secretary would need to develop or select an existing resource use measurement tool, assess its accuracy and effectiveness, and address a number of design issues (discussed in the next section).

**How would Medicare measure resource use?**

Several approaches to measuring resource use are available. Private sector purchasers are increasingly measuring resources (expressed as standardized resource units [akin to relative value units, or RVUs] or spending) used across all settings in an episode of care (see text box, p. 150). The episode could be relatively short, such as a hospital stay; include all care in the course of a year for a given chronic condition; or fall somewhere in between, such as all services incident to hip replacement surgery or cardiac bypass surgery. Episode measures can apply to both primary and specialist physicians. A patient’s care may be ascribed to multiple providers (e.g., if two physicians provided 50 percent of a patient’s care during an episode, that patient’s care would be assigned to both physicians), and the duration of an episode may vary.

Episode measurement software tools tend to define the beginning of an episode when care (e.g., physician visit, hospitalization) is delivered to a patient for a given diagnosis. A grouper sorts care into specific health conditions or types of episode (the most common grouper has more than 800 types of episodes; other groupers have more). The episode ends with a period (e.g., 90 days) of no claims activity. The length of this “clean period” can vary by type of episode.

Multiple episodes can occur simultaneously. Chronic condition episodes could span six months or one year, for example. Feedback to providers on patterns of service use can be presented by condition (e.g., ischemic heart disease, hip fractures, diabetes) and by service category (e.g., hospitalizations, prescription drugs, outpatient

services, diagnostic testing). In addition, the report could include a variety of statistics on per episode care (e.g., emergency room use, use of specific prescription drugs).

Alternative approaches to measuring episodes of care include measuring the rate at which a certain intervention is performed across a physician's risk-adjusted patient population (e.g., number of hospitalizations or diagnostic tests performed per 1,000 patients) or measuring total costs associated with primary care physicians' patient populations over a year. Compared with these alternative approaches, episode measurement has multiple advantages:

- It is more *versatile*. It may be used to measure specialists' performance, who may be driving a lot of costs. Unlike approaches that examine aggregate care patterns, breaking patient care into episodes allows the needed precision to assign care to specialists.
- It is an *inclusive* measure. Because it measures the spectrum of care across multiple sites, it respects providers' discretion in selecting site of care and does not ask providers to perform to a narrow set of measures (e.g., length of stay) while ignoring other factors that increase resource use (e.g., readmissions, and imaging services).
- Its output is more *clinically relevant* and therefore "actionable"—that is, it can identify specific changes in practice that would align the provider with her peers or some other benchmark. For example, a report showing that a provider performs far more upper gastrointestinal endoscopies for her heartburn patients than her peers would point the provider to reevaluate her practice style with respect to this procedure. Armed only with information comparing her number of hospitalizations or costs of a year of patient care with a peer group, the provider may not know how to adjust her practice style to affect the rate.
- It appears to *better account for differences* in patient health status. Assigning care by episode can be more precise as well as selective. For example, the grouper may sort care into different types of diabetes episodes by severity, presence of comorbidities, or complications. Less common episodes may be omitted because they are likely to have greater random variation in resource use.

The main limitation of episode-based efficiency measurement is that it does not recognize physicians who expend more resources per episode but in so doing achieve a more cost-efficient 12- or 24-month result. Accordingly, Medicare may wish to initially apply both an episode and a one- to two-year window as developed by Wennberg and Fisher in order to capture both dimensions of resource use (Wennberg et al. 2004).

### **Validity and effectiveness: the criteria for good measurement**

Resource use measurement must be more than conceptually appealing. It is only useful if it is sufficiently able to distinguish between efficient and inefficient providers and if providers respond to the measures by changing their practice styles as appropriate.

### **How do we determine the validity of resource use measurement?**

Validity in resource use measurement hinges on the ability to reflect differences in a physician's practice style, not the relative health status of his patient panel, statistical error, or inaccurate data. Unfortunately, there is no definitive way to measure the validity of resource use measurement. One way is to see if the results from a given approach identify the same providers as efficient from one year to the next. A provider's practice style should not vary much from year to year (Schoenbaum and Murray 1992). Until more outcomes research allows us to know what comprises the least costly path to the best clinical outcome, this method may be acceptable. However, the measurement technique should not unduly sacrifice sensitivity in order to achieve stability in physician resource use scores.

Empirical evidence about the accuracy of episode measurement tools is scant. MedPAC plans to evaluate factors that improve accuracy of measurement in its future work, but for now has examined the techniques purchasers have developed to improve the face validity of their results. A consensus is emerging among purchasers that not all data available on each physician should be used to assess resource use. For example, one approach stresses the importance of measuring performance only on patients with common types of conditions or episodes. Many choose to disregard or truncate outlier cases and require that any physician measured have a threshold number of cases. These choices mean that less care is measured, though the measures are less volatile.

## Illustration of resource use measurement in Medicare

Episode-of-care software is useful for providing information on practice variation among physicians. We present here the results of an analysis done by Cave Consulting Group, using 2001 Medicare Part B claims data. It illustrates the degree of practice variation among physicians.

The measurement method selected here is just one of many possibilities. This method identifies the core types of episodes (of prevalent conditions) frequently treated by a given speciality and based on resource use across those core episodes, produces an aggregate

resource use score. By contrast, other methods report resource use by patient conditions, like diabetes or pneumonia.

This analysis finds that physicians within a given specialty vary in their service intensity. In one example, resource use scores range from .81 to 1.48 across all cardiologists in a given region (Table 3-2). This score is a ratio that compares the resources (defined as a function of unit price, volume, and intensity) of a physician treating a set of episodes with the resources used by a peer group of the same specialty.

*(continued next page)*

**TABLE  
3-2**

**Illustration of variation in resource use among cardiologists in single region**

	Average score	Physician visits	Diagnostic tests	Medical/surgical procedures	Inpatient facility	Outpatient facility	Inpatient admissions
Peer group	1.00	2.75	3.32	1.22	3.18	0.13	0.20
Decile 2 physicians	0.81	2.69	2.21	0.49	2.79	0.13	0.17
Decile 6 physicians	1.00	2.75	3.93	1.35	2.73	0.13	0.18
Decile 10 physicians	1.48	2.64	4.01	2.29	4.00	0.16	0.22
Ratio of highest to lowest	—	1.09	1.99	4.67	1.43	1.60	1.29

Note: Regions reflect a single geographic practice cost index payment area.

Source: Cave Consulting Group using 2001 Medicare carrier file data from CMS.

Researchers agree that the results may not need to be perfectly accurate to be useful, particularly for confidential feedback (Garnick et al. 1994, Thomas et al. 2004). Nevertheless, users of these measures should understand any bias inherent in the results and carefully consider how the results will be used.

### How can resource use measurement encourage practice pattern change?

Because the goal of resource use measurement is to improve the efficiency of health care delivery, providers should be able to use the results to change their practice style. Thus, measures should be clinically meaningful. In addition, the method should be transparent and a detailed analysis of use patterns should be available to the provider.

### What are the implementation issues?

Medicare will need to address several design issues in measuring the resource use of its fee-for-service physicians. They include how to assign patients to providers, what care to measure, and what benchmark to use. In addition, other issues concerning data collection and interpretation, such as risk adjustment and outlier trimming, are technical, but may enhance accuracy of measurement and improve perceptions of fairness and equity in profiling. In future work, the Commission plans to examine some of these design issues using Medicare claims data.

## Illustration of resource use measurement in Medicare (continued)

What services account for the variation? High-intensity physicians (those in decile 10) perform nearly 5 times as many medical/surgical procedures and 2 times the number of diagnostic tests than physicians in decile 2. They also have more admissions. Interestingly, the number of physician visits does not vary widely.

Analysis by the Cave Consulting Group also finds that variation differs considerably across specialties. Medicare may want to target high-variation specialties. Ophthalmologists and dermatologists generally have the largest practice pattern variation across four regions of the country. In an upper Midwest region, ophthalmologists in the decile with the highest resource

use furnish three times more services than their peers in the decile with the lowest resource use (Table 3-3).

The practice pattern variation is also consistently large for general internists, cardiologists, and allergists. Because the average episode cost for cardiologists is about \$3,000, a relatively high amount for an episode, this variation may be of particular concern. Because the number of general internists and the volume of services they provide is high, variation in this specialty is also of concern. In contrast, general surgeons, whose services tend to be less discretionary, appear to have the lowest variation in practice patterns. ■

**TABLE  
3-3**

**Illustration of variation in resource use among specialties in two regions**

Selected specialty type	Number of physicians	Decile 1	Decile 6	Decile 10	Ratio of highest to lowest decile
<b>Upper Midwest region 1</b>					
Allergist	48	0.68	0.94	1.41	2.07
Cardiologist	325	0.68	0.99	1.51	2.22
Dermatologist	172	0.58	0.94	1.52	2.62
Endocrinologist	38	0.75	0.98	1.30	1.73
Gastroenterologist	137	0.81	1.00	1.32	1.63
General internist	1362	0.69	0.97	1.64	2.38
General surgeon	241	0.90	1.01	1.08	1.20
Ophthalmologist	270	0.54	0.94	1.70	3.15
Orthopedist	239	0.78	1.00	1.33	1.71
<b>Southeast region 1</b>					
Allergist	18	0.69	1.01	1.36	1.97
Cardiologist	76	0.71	1.00	1.48	2.08
Dermatologist	41	0.57	.86	1.46	2.56
Endocrinologist	11	0.83	.94	1.14	1.37
Gastroenterologist	22	0.79	.97	1.32	1.67
General internist	216	0.73	1.00	1.53	2.10
General surgeon	58	0.90	1.00	1.16	1.29
Ophthalmologist	59	0.51	0.97	1.76	3.45
Orthopedist	75	0.77	0.99	1.35	1.75

Note: Regions reflect a single geographic practice cost index payment area.

Source: Cave Consulting Group using 2001 Medicare carrier file data from CMS.

## Assigning patients to providers

Measuring a physician's practice pattern requires that patient care be attributed to a given physician. Assigning patients to providers can be complicated when multiple physicians are involved in a patient's care. How much and what type of care for a patient meets the threshold for that patient's care to be attributed to a physician?

On the one hand, the measurement should encourage physicians—particularly primary care providers (PCPs)—to actively coordinate care among other efficient providers and be invested in judicious use of resources. Care coordination should be just as incumbent upon physicians, including subspecialists, as using sterile surgical equipment. On the other hand, once patients are under the care of a specialist, PCPs may argue that they do not have any control over a specialist's treatment choices. A cardiac specialist may also object to being held accountable for patient costs associated with a hip fracture, for example, which is outside treatment for the heart condition. This same tension may also exist between primary care doctors who cover for one another. Should a physician be held responsible for a partner's decisions?

Because many private plans do not assign enrollees to PCPs, their experience is relevant to Medicare. Some private plans use a percentage of dollar spending to identify the physicians guiding care. Plans could assign patients to providers based on a threshold of expenses. A physician responsible for a certain percentage of a patient's care over a given period of time (episode, year), for example, would be assigned that patient's cost of care. Other physicians could also be assigned that patient's cost if they also provided more than a threshold percentage of care.

The threshold approach may create an undesirable incentive for the physician to quickly refer a patient to another physician if concerned that the patient will not be compliant with the physician's orders or will otherwise reflect poorly on the physician's resource use score. This incentive could be mitigated by technical adjustments like risk adjustment, trimming outliers, and using a minimum threshold of observations (discussed below). Moreover, this dynamic is far less likely to occur when measurement results are used only for confidential feedback to physicians.

## What type of care is measured?

It may be appropriate for Medicare to initially begin resource use measurement for select types of physicians or certain types of care. This decision could be based on research on which types of physicians or episodes of care have the widest variation or which make up a substantial portion of costs (see text box, p. 150–151). Research findings that show resource use measurement to be most accurate for certain specialties or types of medical conditions could also help determine the priorities of measurement.

Attention could also be targeted to the types of care for which we also have quality measures available, since using resource use and quality data together is the ideal way to measure efficiency. Focusing resource use measurement in this way might lead Medicare toward measuring care for chronic conditions and patients with certain cardiac and renal conditions, for which quality measures are relatively well tested.

## What is the appropriate benchmark for comparison?

While evidence-based guidelines are the best benchmark of appropriate care, peer performance often is the more practical and available benchmark. Currently, no real consensus exists on the appropriate timing or frequency of many diagnostic and therapeutic services, particularly among patients who have had a condition for some time. In addition, developing and updating evidence-based guidelines requires a large investment in time and money.

Accordingly, a central question is how to define the peer group. The peer group could be defined along the following dimensions:

- those physicians practicing in the same region or all physicians;
- all physicians in the area or everyone except a portion of those with the extreme (most and least) resource-intensive practice patterns; or
- only the same specialists or subspecialists or all other types of physicians treating similar patients.

Once the peer group is defined, physician performance could be compared with the average of the peer group or a higher standard (e.g., the 70<sup>th</sup> percentile).

## **Risk adjustment and other data measurement issues**

The way in which measurements are calculated and adjusted will affect the accuracy of resource measurement. For example, resource use measurement should take into account the health status of a physician's patients and the number of cases measured.

Because resource use measurement should attribute cost variation to practice style differences, not health status differences, risk adjustment is needed. It should be sufficiently sensitive so that physicians who care for more complicated, severely ill patients are not penalized or encouraged to avoid these types of patients.

In episode measurement, the ability to risk-adjust accurately is enhanced to the extent the grouper is able to account for different levels of severity. These differences may be based on diagnosis codes, age, and gender, among other factors. Additional adjustments may be needed to account for complicating conditions external to a particular episode of care.

In addition, having a higher number of cases enhances the validity of profiling results. The appropriate minimum number of cases may depend on other parameters of the measurement approach, and it appears to vary significantly across private plans. The tension among private plans in establishing the threshold of observations is that ideally they want to measure as many physicians as possible. Yet, the measurement may be inaccurate if the evaluation includes physicians with a small number of patients or complicated, rare cases.

## **Medicare could encourage stakeholders to measure resource use**

Policymakers may also consider policies that encourage health plans and providers to engage in resource use measurement. Current policy dampens the incentive for, or ability of, the private sector to undertake effective resource use measurement in at least two ways. This section will discuss current policy and possible alternatives.

## **Medicare could share its claims data with individual physician identifiers with private purchasers**

Currently, CMS believes that it is restricted from sharing its data with private purchasers by laws that protect physicians' privacy. If purchasers had access to Medicare claims data with physician identifiers, they would have

enough data to measure more precisely the resource use of physicians. Individual purchasers do not have enough data on many physicians to adequately measure their resource use.

If private purchasers were more effective in measuring resource use and encouraging providers to modify their practice style, Medicare could benefit from a spillover effect—that is, physicians who reduce the intensity of their practice style would also care for Medicare beneficiaries in a less resource intensive way. A number of issues would need to be addressed if this approach were pursued, however. For example, how would physician privacy concerns be addressed? Would Medicare have any control over how its data are used? Control may be important to prevent data from being used in a way that unfairly harms physicians' livelihoods or impedes access to care. However, giving the private sector wide latitude may increase the spillover effect. The private sector use of the information should be designed to maximize the effectiveness of Medicare's own efforts to measure resource use and feedback results.

## **The Secretary could be given authority to regulate gainsharing arrangements**

Although care delivered in the hospital reflects only a portion of existing variation in practice patterns among physicians, it is a costly portion. Resource use measurement can inform stakeholders about such things as how often a physician uses the most costly implantable devices compared with his peers and the average length of stay in the hospital or ICU for a particular type of episode of care.

Currently the civil monetary penalty provision of the Social Security Act prohibits gainsharing, a practice that allows physicians to share in the savings they generate for hospitals under Medicare prospective payment. Although this provision is intended to protect beneficiaries from the possibility of physicians stinting on care to benefit financially, it can undermine the incentive for hospitals and physicians to cooperate in efforts to reengineer clinical care and change physician practice patterns in the hospital. If gainsharing were permitted with appropriate safeguards, hospitals and physicians could be expected to use resource use measurement to address variation in physician care patterns for hospitalized patients. Gainsharing arrangements could also encompass care immediately before and after a hospitalization. For example, arrangements could discourage avoidable readmissions within a specified time after discharge.

This gainsharing issue is discussed further in MedPAC's report on specialty hospitals. It includes a discussion of the history of the provision and of a policy option that would give the Secretary authority to regulate gainsharing arrangements.

The Commission believes that measuring physician resource use will provide valuable information to physicians about how their practice patterns compare with their peers'. However, it is also possible to develop strategies that target a specific type of physician service. As described in the next section, MedPAC recommends policies to address the rapid growth of diagnostic imaging services and concerns about the quality of those services.

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## Managing the use of imaging services

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The last several years have seen rapid growth in the volume and intensity of diagnostic imaging services paid under Medicare's physician fee schedule. This increase has been driven by technological innovation that has improved physicians' ability to diagnose disease and made it more feasible to provide imaging procedures in physician offices. Other factors include:

- possible misalignment of fee schedule payment rates and costs,<sup>4</sup>
- physicians' interest in supplementing their professional fees with revenues from ancillary services, and
- patients' desire to receive diagnostic tests in more convenient settings.

These factors have contributed to an ongoing migration of imaging services from hospitals, where institutional standards govern the performance and interpretation of studies, to physician offices, where there is less quality oversight. This diminished oversight, coupled with rapid volume growth, create an urgent need for Medicare to develop quality standards for all providers that receive payment for performing and interpreting imaging studies. These standards should improve the accuracy of diagnostic tests and reduce the need to repeat studies, thus enhancing quality of care and helping to control spending.

As many physicians integrate imaging services into their office practices, Medicare has an interest in ensuring that these studies are done by skilled technical staff using

appropriate equipment and interpreted by qualified physicians. Requiring physicians to meet quality standards as a condition of payment for imaging services represents a major change in Medicare's payment policy.

Traditionally, Medicare has paid for all medically necessary services provided by physicians operating within the scope of practice for the state in which they are licensed. We believe that this policy change is warranted by the growth of imaging studies provided in physician offices and the lack of comprehensive standards for this setting.

In addition to setting quality standards for facilities and physicians, CMS should also:

- measure physicians' use of imaging services so that physicians can compare their practice patterns with those of their peers,
- expand Medicare's coding edits for imaging studies, and
- strengthen the rules that restrict physician investment in imaging centers to which they refer patients.

## Imaging services have been growing rapidly

Imaging services have been growing much more rapidly than other services paid under the physician fee schedule. We examined per-beneficiary growth in the volume and intensity, or complexity, of fee schedule services. Between 1999 and 2002, the per-beneficiary average annual growth rate in the use of fee schedule imaging services was twice as high as the growth rate for all fee schedule services (10.1 percent vs. 5.2 percent) (Table 2B-4, p. 80).<sup>5</sup> Use of the following types of imaging services increased by 15 percent to 20 percent per year: magnetic resonance imaging (MRI) of parts of the body other than the brain, nuclear medicine, computed tomography (CT) of parts of the body other than the head, and MRI of the brain. Between 2002 and 2003, the per beneficiary growth rate for imaging services moderated to 8.6 percent but was still much higher than the growth rate of all fee schedule services (4.9 percent). Although imaging services paid under the fee schedule have been shifting from facilities, such as hospitals, to physician offices, about 80 percent of the increase in the volume and intensity of these services between 1999 and 2002 was unrelated to this shift in setting (MedPAC 2004a).<sup>6</sup>

## Are all imaging services appropriate?

The rapid growth in Medicare spending for imaging services raises questions about whether these services are always used appropriately. Clearly, imaging technology can improve patient outcomes by allowing greater precision in diagnosing and treating patients. For example, image-guided biopsies for bone cancer are associated with fewer complications and faster wound healing than open surgical biopsies (Jelinek et al. 2002). Similarly, coronary angioplasty—a minimally invasive cardiac procedure guided by imaging—leads to better outcomes than drug therapy for certain patients (Andersen et al. 2003). Despite such successes, however, evidence exists of overuse, underuse, and misuse of imaging services.

Perhaps the most significant reason to be concerned about potential overuse of imaging services is the threefold variation in the number of imaging services provided across the country. This difference is twice that seen in the use of major procedures (MedPAC 2003). Are regions that provide more imaging services improving patient outcomes? Seminal work by Dartmouth researchers found that more health services, in general, do not result in better outcomes (Fisher et al. 2003a, Fisher et al. 2003b). Similarly, in an unpublished analysis based on the same data and the same methodology, these researchers found that regions providing more imaging services do not have better survival rates among Medicare beneficiaries. This analysis ranked all U.S. regions by the intensity of imaging use in the last six months of life for all Medicare beneficiaries.<sup>7</sup> Because the average use of imaging during the last six months of life is unaffected by differences in health status, differences in imaging are likely due to geographic variations in practice patterns rather than patients' health status. The study then examined whether long-term survival in three cohorts—patients with heart attacks, colon cancer, and hip fractures—varied in regions with higher and lower imaging use. Increased use of imaging services was not associated with improved survival in any of the three study populations (Gottlieb 2004).

In some cases, the use of imaging to detect disease can improve patient outcomes. For example, there is evidence that regular mammography screening for women aged 50 to 69 significantly reduces mortality from breast cancer (U.S. Preventive Services Task Force 2002). However, using imaging to detect disease may present risks, particularly when patients have minor or no symptoms (Fisher and Welch 1999). Imaging technology can identify trace amounts of disease (e.g., cancer) or abnormalities

(e.g., of the back and knee) that frequently never affect the health of the patient. Detection often causes patient anxiety and leads to follow-up testing and treatment, and may have only a limited chance of improving patient outcomes. In these circumstances, the costs of imaging services may outweigh the potential benefits.

On the other hand, one study has found that several imaging services are underused, compromising the quality of care. For example, carotid imaging is not done as frequently as recommended for patients with symptomatic cardiovascular disease or transient ischemic attack (McGlynn et al. 2003).

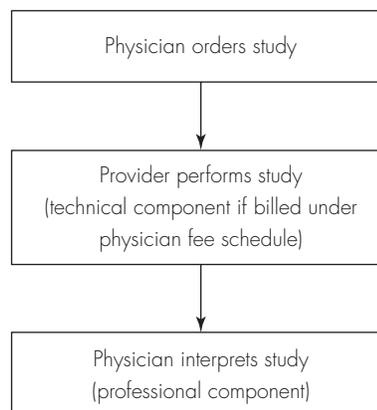
Equally disturbing is evidence of misuse of imaging services. For example, some providers have been found to produce relatively high numbers of inaccurate carotid ultrasound tests, which could lead to inappropriate surgical interventions (Brown et al. 2004). As discussed below, the experience of imaging benefit managers and health plans also suggests that faulty equipment or poor imaging techniques harm the quality of images and may result in repeat studies. Not only do repeat tests increase spending, they could potentially expose patients to unnecessary radiation and inconvenience.

## Imaging services involve three steps

Our recommendations address different parts of the process of obtaining a diagnostic imaging study. Imaging studies involve three steps (Figure 3-2). First, a physician decides to order a study for a patient. Next, a provider—such as a hospital, freestanding imaging center, or

**FIGURE  
3-2**

**Three steps of an imaging study**



physician office—performs the study. If the service is provided by a freestanding center or physician office, a technical component claim is submitted under the physician fee schedule. If a facility such as a hospital outpatient department performs the service, it receives a facility payment. The technical component or facility payment covers the cost of the equipment, supplies, and nonphysician staff. Finally, a physician interprets the images and writes a report, which is sent to the ordering physician. The interpreting physician bills for the professional component under the physician fee schedule.

A physician who both performs and interprets the study submits a global bill, which includes the technical and professional components. The same physician who orders the study may in some cases also bill for performing and interpreting it. For example, an orthopedist may order an X-ray of a patient with a broken arm, perform the X-ray in his or her own office, and interpret the results.

Each stage of this process—ordering, performing, and interpreting—could have problems with appropriateness or quality. Physician specialty groups and private plans have developed clinical guidelines for many conditions that help physicians order appropriate studies based on a patient’s specific situation. Some physicians who order tests—whether they refer patients to other providers for the study or perform it themselves—do not request a study recommended by clinical guidelines. An imaging benefit manager, CareCore National, administers a preauthorization program that compares physician requests for imaging services with clinical criteria based on medical necessity. These criteria were developed by board-certified physicians and undergo regular review and revision based on improvements in technology and clinical research. CareCore found that 16 percent of physician requests for MRI, and 9 percent of requests for CT scans, were not consistent with the criteria (CareCore National 2004). These requests represent potential overuse or misuse of imaging services.

Problems might also arise when the imaging study is performed and interpreted, as discussed below. The provider performing the test may lack the proper equipment or trained technicians. The physician interpreting the test may not produce an accurate interpretation or complete report. As we describe our recommendations, we will highlight which stage of the imaging process each one addresses.

## Private plan strategies that Medicare should pursue

Fee-for-service Medicare should adopt several strategies used by private plans to help manage the volume growth and quality of imaging services. In our June 2004 *Report to the Congress*, we discussed several approaches that, according to a panel of experts, private plans use to control growth in the delivery of imaging services while ensuring access to appropriate care. To learn more about these strategies, we subsequently interviewed physicians and executives at eight health plans and three imaging benefit managers (which contract with plans to manage the delivery of imaging services), studied organizations that accredit imaging providers, and reviewed published articles on the quality of imaging providers and programs that manage imaging services. Two of the plans we spoke with have products in multiple geographic regions; the other plans are located in specific regions. We also contracted with the National Opinion Research Center (NORC) to assess the challenges fee-for-service Medicare would face in implementing private plan approaches. NORC interviewed staff at Medicare carriers, CMS officials, and outside experts (NORC 2004).

All of the plans we contacted were concerned about increases in the use of imaging services, particularly expensive procedures such as CT and MRI. Most plans were developing policies to improve how they managed these services. Many of the plans told us that they were specifically concerned with:

- the lack of familiarity with clinical guidelines for imaging services among many physicians, particularly among those who both order studies and perform them with equipment in their offices;
- direct-to-consumer marketing of imaging services that increases consumer demand;
- defensive medicine in response to physician concerns about professional liability; and
- the low quality of some imaging providers, which may lead to repeat studies.

We focused on four private sector strategies that should improve Medicare’s ability to manage the use of diagnostic imaging services:

- measuring physicians’ use of imaging services and comparing it with peer benchmarks;

- coding edits, including adjusting payment for multiple imaging procedures on the same claim;
- developing standards for physicians who bill Medicare for interpreting imaging services; and
- setting quality standards for providers who bill Medicare for performing imaging services.

One of these approaches (measuring physicians' use of imaging services) addresses the ordering of imaging studies by physicians, while the others address the

performance and interpretation of studies. We considered other private sector strategies but do not recommend them for Medicare at this time (see text box).

In considering which policy options to recommend, the Commission weighed administrative costs against expected benefits. For this reason, we did not recommend requiring prior authorization for imaging procedures. We expect our recommendations to be cost effective for the Medicare program.

## Other private plan strategies to manage the use of imaging services

In addition to the approaches we recommend for Medicare, private plans and imaging benefit managers employ several other strategies to control the use of imaging services.

### Beneficiary education

Several private plans try to educate their members about the risks, benefits, and appropriate use of imaging procedures. One plan encourages its physicians to inform patients about the risks of excessive radiation. These efforts are meant to help patients make better medical decisions and to counter demand stimulated by the marketing of imaging services directly to consumers. The effectiveness of this strategy has not yet been examined.

### Preauthorization

Some of the private insurers we interviewed employ preauthorization programs. In these programs, physicians who wish to order certain diagnostic tests in nonemergency circumstances must first obtain approval from the health plan by submitting a request that contains clinical information. Some plans only require preauthorization for positron emission tomography (PET), while others also require it for magnetic resonance imaging (MRI) and computed tomography (CT) studies. The goals of preauthorization are to reduce the use of inappropriate services and to educate physicians about clinical guidelines. Although some plans reported success in meeting these goals, several plans claimed that this strategy is ineffective and has high administrative costs.

We also learned of strategies that are variants of preauthorization, such as prior notification and review of requests by radiologists. One plan requires that physicians notify it before they order a MRI, CT, or PET. The plan's staff reviews the order for consistency with clinical guidelines. If the order does not meet the guidelines, they suggest an alternative approach to the physician but do not deny payment. Some insurers require that practicing radiologists, rather than plan employees, review requests by physicians for high-cost imaging tests. These plans prefer to use radiologists because they are familiar with clinical guidelines and often have collegial relationships with the physicians who order tests.

### Creating tiered networks of imaging providers

Some insurers have created two-tiered networks of providers for some or all imaging services: a preferred tier and a nonpreferred tier. Providers included in the preferred network are willing to accept lower plan fees in exchange for higher patient volume. One plan requires facilities in its preferred network to meet certain quality standards, which are verified by site inspections. Currently, however, this plan does not provide a financial incentive for enrollees to use preferred providers; enrollees pay no copayments for imaging services regardless of which facility they use. Another plan charges lower copayments when enrollees use preferred imaging facilities and markets these facilities to its members. Insurers did not have data on cost savings related to tiered networks. ■

## Measuring physicians' use of imaging services

One policy that has the potential to improve the appropriate use of imaging services is to measure individual physicians' use of imaging and educate them about how their use compares with that of their peers or clinical guidelines. Measuring use of imaging services should be done as part of a broader initiative in which the use of a variety of types of services for episodes of care is measured, as we describe in recommendation 3A (see p. 147).

Educating physicians about their resource use should encourage those who order significantly more studies than their peers to reconsider their practice patterns. As discussed earlier in the chapter, several important design issues emerge. For example, deciding how to assign patients to physicians is a significant question. This initiative should focus on the physicians who order imaging studies, because Medicare, with few exceptions, will not pay radiologists for performing studies without an order by the treating physician.<sup>8</sup> Thus, for a given ordering physician, CMS would develop measures of imaging volume per beneficiary for patients seen by that physician. Because radiologists may at times suggest modifications to the original order, their resource use could also be measured.

Several health plans have developed profiling programs that compare individual physicians' ordering of imaging services with either clinical guidelines or peer benchmarks. These programs identify physicians who account for a high amount of imaging spending. Plans seek to educate these physicians about the appropriate use of imaging. One plan excludes from its network high-use physicians who do not change their practice patterns (Ruane 2004). This plan found that the threat of network exclusion motivated most high-use physicians to change their behavior. The insurers we interviewed did not use information on imaging volume to adjust physician payments, although one plan was considering this idea.

## Expanding coding edits

A second policy option is to expand Medicare's current coding edits for imaging services. This action would improve Medicare's ability to detect improper claims and help the program pay more accurately for multiple imaging services performed during the same encounter. Currently, Medicare uses the Correct Coding Initiative (CCI) edits to determine whether a claim meets the

program's coverage rules. These edits apply to claims for performing and interpreting imaging studies (the technical and professional components). They have been effective in reducing payment for many unbundled services and inappropriate combinations of services (MedPAC 2004b).

Some private insurers have developed their own set of coding edits that go beyond Medicare's current edits. First, some plans have implemented more rigorous coverage policies to address unbundling of services—that is, separately billing for procedures inclusive of one another that should have been combined and billed for a single payment—and billing for mutually exclusive procedures. Mutually exclusive procedures are those that are impossible to perform together or should not be performed at the same time because each service provides similar diagnostic information. To illustrate this point, one imaging benefit manager does not pay for both a CT of the head and CT of the maxillofacial region because the head includes the maxillofacial area. Private sector coding edits also may examine services provided on separate claims (for example, an MRI test that is repeated a week later).

Second, a number of plans use coding edits to adjust payments when providers bill for multiple imaging services performed on contiguous body parts. Private insurers usually pay the full amount for the first service but a reduced amount (usually half) for the technical component of an additional study that is of the same modality (e.g., MRI or CT).<sup>9</sup> This policy is based on the premise that savings in clerical time, preparation, and supplies occur when multiple studies of the same modality are performed on contiguous body parts during one patient encounter. For example, a CT of the pelvis, performed immediately after a CT of the abdomen, takes much less time than if performed separately because the patient and equipment have already been prepared for the procedure. The percentage reductions in payment for the second and third procedures may vary by modality because different modalities produce different efficiencies when done contiguously. For example, multiple CT scans may produce greater savings than multiple MRI scans.

Although Medicare does not discount payments for multiple imaging services provided during the same encounter, it has such a policy for surgical services. Under

the physician fee schedule, Medicare pays the full fee schedule rate for the most expensive surgical service, but a discounted rate for the other services.

Medicare calculates physician fee schedule payment rates for imaging services using the assumption that each service is done independently. The rates do not account for efficiencies that may be gained when studies are done in tandem. Thus, it would be appropriate for CMS to apply a separate adjustment to payments for multiple services performed during the same visit when there are efficiencies.

When expanding coding edits for imaging services, CMS should consult with private plans and imaging benefit managers that have developed such edits. CMS should encourage physicians to review and comment on the edits before they are finalized, as the agency does with its CCI edits.<sup>10</sup> CMS should also make the edits public and communicate them in advance to physicians so they can bill correctly.

Two imaging benefit companies estimate that coding edits for imaging services, in particular reducing payments for multiple procedures, decrease actual spending by private plans by 5 percent to 6 percent (CareCore National 2004, Farnsworth 2004a). Based on their experience, expanding imaging coding edits for Medicare should reduce physician fee schedule spending. However, we have not estimated the magnitude of these savings. The size of Medicare's savings would partly depend on how often claims include multiple imaging services. Our analysis of Medicare claims data for CT services indicates the potential for savings: About 40 percent of claims with any CT services include two or more CT services. Among these, CT of the abdomen and CT of the pelvis are the services that are billed together most frequently. CMS's administrative costs for improving coding edits should be relatively low because it already uses coding edits.

To the extent it reduces Medicare spending, the following recommendation would reduce beneficiaries' Part B premiums and cost sharing (beneficiaries are responsible for a \$110 deductible and 20 percent coinsurance on Part B services). Because implementation of the CCI edits did not appear to reduce beneficiary access to and quality of care, we expect that expanding coding edits for imaging services will not adversely affect access or quality. Providers that frequently bill for unbundled, mutually

exclusive, or multiple imaging procedures under the physician fee schedule would experience a decrease in Medicare payments. However, we do not expect the recommendation to affect providers' willingness and ability to provide quality care to Medicare beneficiaries.

### RECOMMENDATION 3B

**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.**

### RATIONALE 3B

Expanding coding edits for imaging services will help control the rapid growth in imaging spending by allowing Medicare to better detect improper billing by providers and to reduce payments for imaging procedures that use fewer resources when performed together.

### IMPLICATIONS 3B

#### Spending

- This recommendation would decrease federal program spending.

#### Beneficiary and provider

- The recommendation would decrease beneficiary premiums and cost sharing. No adverse impacts on beneficiary access and quality of care are anticipated. This recommendation is not expected to affect providers' willingness and ability to provide quality care to Medicare beneficiaries.

#### Standards for physicians who interpret imaging studies

CMS should develop standards for physicians who bill for interpreting imaging studies (the professional component) to ensure that they are qualified to do so. Although this requirement would represent a major change in Medicare's payment policy for physician services, it is justified by the rapid growth in the use of imaging studies, the migration of imaging from the hospital setting to physician offices and freestanding centers, and evidence of variations in the quality of physician interpretations. This policy would improve diagnostic accuracy and prevent unqualified physicians from billing Medicare, which should enhance quality of care and help control spending on imaging services.

**Some private plans set standards for physicians** Some of the plans we interviewed have implemented standards that determine which physicians are paid for performing and interpreting imaging procedures. Under these privileging programs, a plan restricts payment for certain imaging procedures to physicians in specific specialties whom the plan determines are qualified to provide those services. According to the plans that use such programs, when images are read by physicians who lack the proper training and experience, the interpretations may be inaccurate and the reports may be incomplete. For example, one study found that the interpretations of CT scans by emergency physicians were frequently inaccurate (Alfaro et al. 1995). In at least some cases, poor-quality interpretations led to repeat tests (Farnsworth 2004b). Inaccurate interpretations can also lead to inappropriate interventions.

According to the American Medical Association, a written report is an “integral part of a radiologic procedure or interpretation” (American Medical Association 2003). CareCore National examined about 200 reports on X-ray studies produced by radiologists and nonradiologists. Many of the reports produced by nonradiologists lacked important demographic and clinical information, such as the indication for the study (missing in 47 percent of the reports), description of findings (39 percent), views taken (58 percent), and impression or conclusion (53 percent) (Weiner 2004a). Although radiologists’ reports were generally more complete, about half lacked the indication for the study and one-quarter lacked information on the views taken (Weiner 2004b).

In determining which physician specialties are qualified to receive payment for providing a specific imaging service, plans often consider several criteria, including whether physicians are members of a specialty that receives training in diagnostic imaging in residency programs (Farnsworth 2004b). Other criteria may include whether the physicians are certified as competent by a specialty society or credentialed to perform specific procedures at a hospital (Verrilli et al. 1998).

In a typical privileging program, radiologists are not restricted because they are trained to provide most imaging procedures. Consistent with their training, cardiologists can bill for nuclear cardiology and cardiac ultrasound services. Restrictions on other specialties vary by plan. For example, more restrictive programs allow orthopedic surgeons to provide plain films of the skeleton

but not MRI or CT studies. Other plans focus mainly on restricting services provided by primary care physicians and podiatrists but impose few restrictions on specialists. Some insurers waive privileging requirements in some rural areas to ensure access to care.

Privileging programs may at first encounter significant opposition from physicians who do not get paid for providing imaging services. In the case of one plan, physicians claimed that privileging policies would harm their ability to care for patients and, consequently, their patients’ health. However, this plan found that quality of care did not decline, as measured by the number of hospital inpatient days, emergency department visits, or complaints by enrollees (Moskowitz et al. 2000). One benefit manager reported that most physicians become comfortable with privileging programs over time.

Plans told us that privileging programs can reduce spending on imaging, depending on how they are structured, and are less expensive to administer than other policies, such as preauthorization. HealthHelp, an imaging benefit manager, has developed a privileging program that restricts payment for both performing and interpreting studies to specific specialties. When a private plan implements this program, HealthHelp estimates that about 40 percent of studies that would have been done by nonprivileged physicians are done instead by privileged physicians (Farnsworth 2004b). The remaining studies are not performed, which leads to a 4 percent reduction in overall imaging spending. CareCore National estimates that its privileging program reduces imaging spending by 6 percent to 9 percent (Ryan 2005). A BlueCross BlueShield plan that implemented a privileging program for the professional component (interpretation of a study) estimated imaging savings of 2 percent (Verrilli et al. 1998).

Another health plan primarily restricted payment for test interpretations to radiologists but allowed all physicians to receive payment for the performance of a study, or the technical component (Hillman et al. 1995). The plan did not set standards for providers billing the technical component. Many nonradiologists who were not allowed to provide interpretations performed more studies in their offices and submitted additional technical component claims, which contributed to an overall increase in plan spending for imaging services.

**Private accreditation and government standards for physicians** Several private accreditation programs and one government agency have developed standards for physicians who interpret certain types of imaging studies and prepare the reports. Accreditation organizations generally set minimum standards for the professional training, experience, and education of physicians who interpret studies at accredited providers. For example, the American College of Radiology's (ACR) accreditation program for ultrasound requires interpreting physicians to either:

- have received formal training (in a residency, fellowship, or postgraduate program) and interpreted a certain number of examinations, or
- in the absence of formal training, have attained a certain level of experience.

The American Institute of Ultrasound in Medicine (AIUM), which also accredits ultrasound providers, requires physicians to have received formal or informal training and continuing medical education and to interpret a minimum number of studies per year.<sup>11</sup> Physicians who interpret echocardiography studies at providers accredited by the Intersocietal Commission for the Accreditation of Echocardiography Laboratories must complete a six-month training program or have three years of interpretation experience. Some accreditation programs also review a sample of reports produced by interpreting physicians for completeness and accuracy.

Under the Mammography Quality Standards Act (MQSA), the Food and Drug Administration (FDA) sets standards for physicians who interpret mammograms. The rules require that these physicians:

- either be certified by an appropriate specialty body *or* have received a certain amount of formal training in mammography,
- have received a minimum number of hours of education in mammography,
- have interpreted a certain number of mammography examinations, and
- obtain continuing education and experience.

The rules also require that mammography facilities receive accreditation by the ACR and pass annual inspections by state agencies.

**Medicare should set standards for physicians** It would be a major policy change for Medicare to require that physicians meet standards to receive payment for interpreting imaging services. CMS generally covers medically necessary services provided by physicians operating within the scope of practice for the state in which they are licensed, without regard to their specialty or specific qualifications.

There are two limited exceptions related to imaging, however. First, the Medicare carrier for New York (Empire) sets standards for physicians who wish to bill for interpreting an echocardiography study (CMS 2004a). The physician must be board certified in cardiovascular diseases, have received training in echocardiography, provided the interpretation in conjunction with a study performed at an accredited facility, or have staff privileges at a hospital to interpret echocardiograms. Another exception is contained in CMS's recent decision to cover PET scans for the diagnosis of patients with mild cognitive impairment and early dementia. The coverage decision specifies that the tests can only be interpreted by physicians in certain specialties, such as nuclear medicine and radiology, who have expertise in reading these scans (CMS 2004c). Other coverage decisions related to PET, however, do not include this requirement.

Several factors justify setting standards for physicians who bill Medicare for the professional component of imaging studies:

- advances in imaging technology that have made it possible to provide services in nonhospital settings;
- the migration of imaging from hospitals, which establish criteria for who may interpret studies, to nonfacility settings, where there are often no such rules;
- rapid growth in physician fee schedule spending for imaging services; and
- variations in the quality of physician interpretations and reports, which can affect treatment decisions.

This policy should improve diagnostic accuracy and treatment. It should also help control the growth of imaging spending by restricting payment for interpretation to only qualified physicians. Because this policy would represent a new direction for Medicare, CMS probably

requires statutory authority to implement it. Such a grant of statutory authority to a federal agency has a precedent: In 1992, the Congress gave the FDA authority to set standards for physicians who read mammograms.

**Implementation issues** CMS would need to address at least two key questions in developing standards for physicians who bill Medicare for interpreting imaging studies: What criteria should the agency use to evaluate whether individual physicians are qualified to interpret studies? How should CMS verify that physicians meet the standards, without imposing undue burdens on the agency and providers?

Although private plans sometimes base permission to bill for imaging procedures on the physician's specialty, Medicare should not limit payment to specific specialties. The practice of medicine is evolving quickly and specialty training may change over time. Thus, CMS should develop criteria that are flexible enough to allow physicians of different specialties to receive payment for interpreting imaging studies. Similar to the requirements set by private accreditation organizations for interpreting physicians, Medicare's standards should be based on some combination of physician training, experience, and continuing education. There will likely need to be different standards for each imaging modality (e.g., ultrasound, radiography, nuclear medicine, MRI). Thus, a physician who is considered qualified to receive payment for vascular ultrasound interpretations may not be qualified for MRI. Because of the complexity involved in setting standards, the Congress should grant the Secretary a great deal of flexibility in deciding how to carry out this task.

Because physician specialty organizations often have different criteria for determining when a physician is qualified to provide a service, CMS should consult with physician specialty groups and private accreditation organizations when developing standards for Medicare payment. The Intersocietal Accreditation Commission (IAC) has demonstrated that it is possible for different specialties to agree on common standards. The IAC uses a process in which representatives of several specialty groups jointly develop facility and physician standards for three types of imaging services: echocardiography, nuclear medicine, and vascular ultrasound. In addition, the ACR and the American College of Surgeons have jointly developed an accreditation program for stereotactic breast biopsy.

We recognize that CMS has limited administrative resources. Thus, CMS should develop the standards but select private accreditation organizations that would verify physicians' compliance with them. CMS should have the authority to select the organizations and to replace them if necessary. Many private organizations currently receive authority from CMS to ensure that various types of providers—such as hospitals and dialysis centers—meet Medicare's quality standards. In the unlikely event that private organizations would be unwilling to administer Medicare's standards for physicians who interpret imaging studies, CMS would have to contract with states or carriers to enforce the standards, thus increasing the agency's costs.

In addition to selecting accreditation organizations, CMS would need to develop a process for verifying that physicians billing Medicare for the professional component meet Medicare's standards.<sup>12</sup> These standards should apply whether physicians interpret images at the same site where the study is performed or at a separate location (see text box).

This recommendation would decrease physician fee schedule spending because it would prevent unqualified physicians from submitting claims for interpretation of imaging studies. Based on the experience of HealthHelp, some of these studies would likely be sent to qualified physicians for interpretation, but others would not, thus reducing the number of professional claims. These standards, when combined with rules for providers billing Medicare for the technical component (recommendation 3D), would discourage unqualified providers from performing and interpreting tests. Because CMS would authorize private organizations to verify compliance with Medicare's standards, the agency's administrative burden should be relatively low. CMS's burden would increase, however, if private organizations are unwilling to participate and CMS has to contract with states or carriers to administer the standards.

The recommendation should increase the quality of studies received by beneficiaries, which should improve diagnostic accuracy and treatment. To the extent that it reduces the overall number of professional claims, it would reduce beneficiaries' Part B premiums and cost sharing (beneficiaries are responsible for a \$110 deductible and 20 percent coinsurance on Part B services). Some beneficiaries may be inconvenienced if their physicians are no longer able to bill for interpretations. Some physicians may incur costs to meet Medicare's

## Teleradiology

Some hospitals and other health care facilities transmit images electronically to physicians in a different location for interpretation. This practice is known as teleradiology. For example, hospital emergency rooms or small hospitals may use this process to ensure that images are interpreted when there is no radiologist on site (during the night, for example). This practice reduces the amount of time that hospital radiologists have to be on call. Some hospitals contract with physicians who are located outside the U.S. to interpret their images, which makes it easier to obtain interpretations at night.

In most cases, the off-site physician provides a “wet read,” or initial interpretation, that is used to guide immediate treatment decisions. No bill is submitted to Medicare. When the hospital’s in-house radiologist returns, he or she reviews the images, writes a report, and submits a bill to Medicare. Sometimes, the off-site physician does the formal interpretation, writes the report, and bills Medicare. The program will pay for imaging interpretations performed by Medicare providers via teleradiology within the U.S. However, Medicare does not cover services provided outside the country, such as interpretations provided by overseas physicians. ■

standards. For example, they might need to increase their level of training, education, or experience. Some physicians might be unable to comply with Medicare’s standards and would stop billing for the interpretation of studies. If so, physicians who meet the standards might be able to increase their volume of interpretations.

### RECOMMENDATION 3C

**The Congress should direct the Secretary to set standards for physicians who bill Medicare for interpreting diagnostic imaging studies. The Secretary should select private organizations to administer the standards.**

### RATIONALE 3C

It would be a major policy shift for Medicare to determine whether physicians are qualified to bill for a professional service. We believe this policy is warranted, however, because of the rapid growth in physician fee schedule spending for imaging services; the migration of imaging from hospitals to physician offices and freestanding centers; and variations in the quality of physician interpretations, which can affect diagnostic and treatment decisions. This recommendation should improve diagnostic accuracy and prevent unqualified physicians

from receiving payment for interpreting imaging studies, thereby enhancing quality of care and helping to control Medicare spending.

### IMPLICATIONS 3C

#### Spending

- This recommendation would decrease federal program spending.

#### Beneficiary and provider

- This recommendation would decrease beneficiary premiums and cost sharing and is expected to improve beneficiary quality of care. No adverse impacts on beneficiary access to care are anticipated. This recommendation is not expected to affect providers’ willingness and ability to provide quality care to Medicare beneficiaries.

#### Standards for providers that perform imaging studies

In addition to setting standards for physicians who bill Medicare for interpreting diagnostic imaging studies, CMS should establish standards for providers that perform the studies and bill for the technical component.

### **Several private plans implement quality standards**

Several of the private insurers we interviewed require that outpatient imaging providers (hospital outpatient departments, freestanding facilities, and physician offices) meet basic standards. These standards relate to the quality of imaging equipment, the qualifications of radiology technicians, the quality of the images, and the procedures for ensuring patient safety (such as minimizing radiation exposure). Plans and their vendors may develop their own criteria or require that providers become accredited by a private organization that sets standards for the equipment, technicians, image quality, radiation exposure, supervising physician, and interpreting physicians. Several organizations, such as the ACR, AIUM, and IAC, have developed such accreditation programs.

According to published studies, as well as health plans and experts we consulted, providers vary in their ability to perform quality imaging procedures. BlueCross BlueShield (BCBS) of Massachusetts inspected 1,000 imaging providers to evaluate the quality of their equipment, technical staff, and other features (Verrilli et al. 1998). Nearly one-third of the providers had at least one serious deficiency, such as film processing problems, failure to monitor radiation exposure, poor image quality, or lack of an equipment calibration report. Eleven percent of the providers had severe problems that could not be easily remedied, while 20 percent had deficiencies that could be remedied. Chiropractic and podiatric offices were the most likely to have deficiencies; cardiology, radiology, and surgical specialty offices were the least likely. Another health plan that inspected almost 100 nonradiologist offices that provided radiography services identified serious problems in 78 percent of the offices (Moskowitz et al. 2000). These problems ranged from lack of a formal radiology report to use of equipment that had not been inspected during the previous year.

Health plans and imaging benefit managers informed us that some providers fail to meet standards because their imaging equipment is old or not working properly (Farnsworth 2004b). Physician offices sometimes acquire used equipment from a hospital and continue to use that equipment beyond its useful life (Ruane 2004).

Problems with imaging providers may lead to inaccurate studies, misdiagnoses, and inappropriate treatment. For example, a recent study found that vascular ultrasound providers that were not accredited by the IAC produced a relatively high number of inaccurate carotid ultrasound

examinations (Brown et al. 2004). Vascular surgeons use these services to decide when to surgically treat carotid artery disease. In the study, carotid ultrasound tests performed by nonaccredited labs were repeated by an accredited lab, which follows standards for diagnostic criteria, testing protocols, and technician training. For 61 percent of the patients, findings by the accredited provider contradicted findings by the nonaccredited providers in a clinically significant way. The inaccurate studies could have led to unnecessary surgery for many patients.

Requiring compliance with quality standards may lead to reduced use of imaging services as facilities that fail to meet standards are dropped from a plan's network. At least some of the reduction is offset, however, if patients of those facilities receive services elsewhere. Implementing standards should also reduce the number of tests that must be redone because of poor-quality facilities. One plan that required facility accreditation said that it did not experience cost savings. On the other hand, HealthHelp found that its quality program reduced a private plan's spending on plain film, fluoroscopy, and ultrasound by 5 percent (Farnsworth 2004b). A private insurer found that combining facility inspections with physician standards for test interpretation led to a 6 percent aggregate reduction in the volume of radiographic studies (Moskowitz et al. 2000).

**Current government efforts to set standards** CMS and other federal agencies set standards for some types of diagnostic imaging services, such as mammography, and some settings in which imaging is provided. In addition, state radiation control boards license facilities that use radiation-producing equipment. However, some imaging modalities, such as MRI, are not covered by any government standards. Where standards exist, they may not be comprehensive or well enforced.

Medicare beneficiaries may receive imaging services in three primary settings: hospitals (inpatient and outpatient departments), independent diagnostic testing facilities (IDTFs), and physician offices. CMS has developed national standards for the first two settings. For example, hospitals that treat Medicare beneficiaries must comply with Medicare's conditions of participation, which set standards for nurse staffing, laboratory services, radiology services, and other aspects of health care delivery. However, aside from a physician supervision requirement,

no national Medicare standards apply to physician offices (some Medicare carriers have established standards for some studies).

Although CMS has established specific requirements for IDTFs, they are incomplete and not well enforced. IDTFs are entities—independent of a hospital or physician office—that furnish diagnostic procedures. CMS sets minimum standards for staff qualifications, equipment, and the supervising physicians, but not for image quality or patient safety. Carriers must verify that IDTFs meet these standards when they enroll in Medicare but are not required to vigorously enforce them.<sup>13</sup> Physician offices are not governed by IDTF standards.

Medicare requires that all diagnostic tests paid under the physician fee schedule be provided under at least general physician supervision. At this level of supervision, a physician is responsible for the training of the technical staff performing the test and the maintenance of the necessary equipment and supplies. However, CMS does not set standards for the technical staff and equipment nor does the agency systematically monitor compliance. Certain studies, such as those involving the use of contrast material, require closer physician supervision (direct supervision, in which the physician must be in the office and available to provide assistance during the procedure, or personal supervision, in which the physician must be in the room during the procedure).

Several Medicare carriers have established coverage standards for some types of ultrasound studies. Carriers often set criteria for determining which services are eligible for Medicare coverage, based on what is considered “reasonable and necessary” care. As part of this role, several carriers in the South have set minimum standards for the technical quality of noninvasive vascular ultrasound studies, which are used to examine blood vessels outside the heart. These carriers require that all such studies be performed by properly credentialed technicians or in accredited laboratories, whether they are located in a hospital or physician office.<sup>14</sup> Four carriers have set similar standards for echocardiography studies (CMS 2004a). These two services have received special attention from carriers because the quality of the study is highly dependent on the technician’s skill.

Other federal agencies, such as the FDA and the Nuclear Regulatory Commission (NRC), also regulate certain imaging modalities. Under the MQSA, the FDA implements quality assurance standards for mammography

equipment and technical staff (as well as the physicians who interpret mammograms). The FDA program has increased mammography facilities’ compliance with quality standards and led to improvements in image quality (GAO 1997). The NRC requires that nuclear medicine facilities obtain a license to use radioactive materials.<sup>15</sup> These facilities must have proper equipment, trained technicians, and a safety education program.

All states have radiation control boards that monitor the use of radiation by imaging facilities (Conference of Radiation Control Program Directors 2004). These boards do not regulate equipment that does not produce radiation, such as MRI or ultrasound machines. Their primary mission is to ensure patient safety rather than the quality of images.<sup>16</sup> For example, the boards set safety standards for X-ray machines. However, the comprehensiveness of the rules and the stringency with which they are enforced vary by state. State agencies often lack the resources to inspect facilities to verify compliance. Indeed, compliance may be a problem; BCBS of Massachusetts, for example, found that 5 percent of the imaging providers they inspected were operating without a state radiation control license (Verrilli et al. 1998).

**Medicare should establish standards for all imaging providers** Although CMS and several of its carriers have set quality benchmarks for some types of diagnostic imaging services and some settings where they are provided, no national standards exist for most imaging modalities provided in physician offices. The Government Accountability Office (GAO) has credited the FDA standards for mammography facilities with improving the quality of mammograms. Similarly, directing CMS to establish requirements for all imaging modalities would help improve the quality of imaging services for Medicare beneficiaries. This improvement would increase diagnostic accuracy and reduce the need to repeat poor-quality tests. These standards should apply to both facility and nonfacility providers who wish to bill Medicare for performing an imaging study.

As with the previous recommendation, the Congress should grant the Secretary a great deal of flexibility in developing the standards. Based on the criteria used by private plans and accreditation organizations, CMS should strongly consider setting standards for at least the following areas: the imaging equipment, qualifications of technicians, qualifications and responsibilities of the

supervising physician, technical quality of the images produced, and procedures for ensuring patient safety (for example, monitoring radiation exposure). We believe that it is important for providers to designate a supervising physician who is responsible for overseeing the imaging process. Several private accreditation programs require that the provider have a supervising physician who is qualified to interpret imaging studies.

The specifics of each standard would vary based on the imaging modality. Each setting should have the same minimal standards. As with the previous recommendation, CMS should consult with imaging accreditation organizations and physician specialty groups when developing these requirements.

As with standards for physicians who interpret imaging studies, CMS should authorize private accreditation organizations to verify that providers meet Medicare's quality standards for the technical component.<sup>17</sup> Private insurers often rely on accreditation programs to certify that their imaging providers meet quality standards. CMS should also have the authority to replace the organizations that verify compliance. Delegating the authority to administer the standards to private organizations should reduce CMS's administrative burden. In the unlikely event that private organizations are unwilling to administer the standards, CMS would have to contract with states or carriers to enforce them, thus increasing the agency's costs.

Because there are many types of imaging services and many providers that perform them, and because CMS has limited administrative resources, the agency might want to first focus on modalities that receive higher payment rates and are growing fastest. MRI, CT, and nuclear medicine (including PET) fall within this high-priority category. Ultrasound and standard radiography (such as chest X-rays) could be lower priorities. As mentioned earlier, federal standards already exist for mammography.

To ensure that CMS is able to implement national standards in all settings, the Congress should provide the Secretary with specific statutory authority to do so. Although CMS has set quality standards for various types of facilities (such as hospitals and skilled nursing facilities), there are very few examples of federal standards for physician offices (the primary exceptions are mammography and clinical laboratory services).<sup>18</sup>

Physicians can receive Medicare payment for providing medically necessary services within the scope of medical practice for the state in which they are licensed.<sup>19</sup> Although CMS has fairly broad authority for defining what constitutes "reasonable and necessary" services, it has not used this authority to set national standards for imaging studies performed in physician offices.

The following recommendation would decrease physician fee schedule spending because it would reduce the need to repeat poor-quality tests. In addition, some providers would probably be unable to meet Medicare's standards. Although some tests that would have been performed by unqualified providers would probably be done instead by qualified providers, others would not be performed at all, thus reducing the overall number of studies. Because CMS would authorize private organizations to verify compliance with Medicare's standards, the agency's administrative costs should be relatively low. CMS's burden would increase, however, if private organizations are unwilling to participate and CMS has to contract with states or carriers to certify providers.

To the extent that it decreases Medicare spending, this policy also would reduce beneficiaries' Part B premiums and cost sharing (beneficiaries are responsible for a \$110 deductible and 20 percent coinsurance on Part B services). Reducing repeat tests would save beneficiaries time and alleviate their anxiety. This policy would also increase the quality of imaging studies provided to beneficiaries, which would improve diagnostic accuracy and treatment. In estimating the impact of Medicare standards on beneficiaries' access to care, we considered whether the FDA standards for mammography facilities reduced access to mammograms. GAO found that the overall capacity to provide mammography services is generally adequate to meet growing demand (GAO 2002).<sup>20</sup> Thus, we expect that Medicare standards for imaging providers should not adversely affect beneficiaries' access to care.

Although many imaging providers are currently accredited by private organizations, some providers may incur costs to meet Medicare's standards. For example, they might need to invest in newer equipment or hire credentialed technicians. Some providers might choose not to meet Medicare's standards and would stop billing for the performance of imaging services. These decisions could inconvenience beneficiaries. However, we do not expect the recommendation to affect providers' willingness and ability to provide quality care to Medicare beneficiaries.

## RECOMMENDATION 3D

**The Congress should direct the Secretary to set standards for all providers who bill Medicare for performing diagnostic imaging studies. The Secretary should select private organizations to administer the standards.**

## RATIONALE 3D

Providers vary in their abilities to perform quality imaging procedures. Poor-quality studies can lead to repeat tests, misdiagnoses, and improper treatment. Establishing national standards for imaging services would increase diagnostic accuracy and reduce the need for repeat tests, thereby improving quality of care and helping to control Medicare spending.

## IMPLICATIONS 3D

### Spending

- This recommendation would decrease federal program spending.

### Beneficiary and provider

- This recommendation would decrease beneficiary premiums and cost sharing and is expected to improve beneficiary quality of care. No adverse impacts on beneficiary access to care are anticipated. This recommendation is not expected to affect providers' willingness and ability to provide quality care to Medicare beneficiaries.

### Strengthening the rules that restrict physician investment in imaging centers

CMS should strengthen the rules restricting physician investment in imaging centers to which they refer Medicare or Medicaid patients. It should prohibit physician investment in:

- freestanding nuclear medicine facilities to which physician investors refer patients, and
- entities that provide services and equipment to imaging centers and other providers to which physician investors refer patients.

These changes should reduce physicians' financial incentives to refer patients for additional imaging services, which should help control Medicare spending on these services.<sup>21</sup>

### Physician ownership of facilities to which they refer patients

Supporters of physician investment in health care facilities contend that physicians are a valuable source of capital and that their investments lead to improved quality, efficiency, and access to care. Opponents offer two main criticisms:

- Physician ownership creates a financial incentive to order additional services.
- Rather than considering quality and convenience, physician investors might refer patients to the facility they own, which undercuts fair competition among facilities.

A GAO study found that physicians who were investors in diagnostic imaging centers referred their patients more frequently for tests such as MRI, CT, nuclear medicine, and ultrasound, than nonowners (GAO 1994). The study also concluded that physicians with imaging equipment in their office or group practice ordered tests more frequently than physicians who referred patients to facilities outside their practices. The report did not control for the health status of patients treated by each physician or address whether the additional services were appropriate or not. However, another study adjusted to some extent for differences in patient mix by examining the use of imaging for patients with 10 common clinical episodes (e.g., chest pain, congestive heart failure, knee pain). These researchers found that physicians who performed studies in their offices were more likely to use imaging services for patients with each of these conditions than physicians who referred their patients to a radiologist (Hillman et al. 1992).

### Ethics in Patient Referrals Act (Stark law)

The Ethics in Patient Referrals Act (also known as the Stark law) was enacted in 1989 (Stark I) and expanded in 1993 (Stark II). The statute prohibits physicians from referring Medicare or Medicaid patients for certain services to providers with which the physician has a financial relationship unless the relationship falls within a protected category. It also prohibits those entities from submitting claims for services provided to patients referred by the physician investor. The law applies to a set of "designated health services" (DHS), which include radiology and certain other imaging services (MRI, CT, and ultrasound).

**Exceptions to the Stark law** The Stark law and its regulations contain several exceptions that are relevant to imaging services. The Stark II final rule excluded nuclear medicine from the list of services covered by the law and allowed physicians to own entities that furnish services and equipment to DHS providers. These two provisions are problematic, and the Commission recommends changes to the rule to address them. Most important, the Stark law allows physicians to provide most designated health services, including imaging, in their own offices (this provision is called the in-office ancillary exception). Proponents of the exception argue that allowing physicians to offer ancillary services in their own offices can improve quality of care and enhance patient convenience. When the law was enacted, this exception was expected to apply mostly to in-office laboratory tests or X-rays, recognizing that a need often exists for a quick turnaround time on crucial tests (Congressional Record 1989). However, the exception protects almost all designated health services, as long as they are provided in the offices of the physician or medical group, and creates financial incentives for physicians to order and provide additional services for their patients.<sup>22</sup>

### **Adding nuclear medicine to the Stark law's list of designated health services**

In the 1998 Stark II proposed rule, CMS stated that nuclear medicine, including PET, falls within the category of “radiology services” covered by the Stark law. In the final rule, however, the agency excluded nuclear medicine services because “they are not commonly considered to be radiology” (HCFA 2001).<sup>23</sup> The American College of Radiology, on the other hand, considers nuclear medicine to be a radiology service. For example, the examination process used by the American Board of Radiology to certify diagnostic radiologists includes nuclear medicine (Thorwarth 2004). CMS has indicated that it plans to issue a rule that would add diagnostic and therapeutic nuclear medicine services to the Stark law's list of designated health services (CMS 2004b).

We urge CMS to add nuclear medicine to the list of designated health services because of the rapid growth of these services and the recent coverage expansions for PET procedures. The per-beneficiary use of nuclear medicine procedures increased by 18 percent per year, on average,

between 1999 and 2002, and grew by 13 percent between 2002 and 2003 (Table 2B-4, p. 80). CMS has been expanding the conditions for which it will cover PET procedures, which creates opportunities for increased use of these expensive services (CMS 2003). Under current rules, physicians may invest in freestanding centers that provide PET and other nuclear medicine procedures and refer Medicare or Medicaid patients to these facilities. Such investments create financial incentives to refer patients for services, which could lead to overuse.

The following recommendation would decrease potential future physician fee schedule spending because it would reduce the financial incentive for physicians to order additional nuclear medicine studies. Because physicians could still receive payments for nuclear medicine services performed in their own offices (under the in-office ancillary exception), these savings would likely be small.

To the extent that fewer studies are ordered, beneficiary Part B premiums and cost sharing should decline. Reducing financial incentives that encourage physicians to order additional tests also might improve beneficiaries' quality of care. Physicians who invest in nuclear medicine facilities outside their office would no longer be able to refer Medicare or Medicaid patients to these facilities. However, they would still be able to provide these services in their own offices. Of course, physicians who wish to offer nuclear medicine in their offices would need to have sufficient patient volume to cover the fixed costs of the equipment and staff and also would need to comply with recommendation 3D (standards for imaging providers), if adopted by the Congress.

### **RECOMMENDATION 3E**

**The Secretary should include nuclear medicine and PET procedures as designated health services under the Ethics in Patient Referrals Act.**

### **RATIONALE 3E**

Evidence suggests that physician investment in facilities that provide nuclear medicine services is associated with higher use. Prohibiting physicians from referring Medicare or Medicaid patients to nuclear medicine facilities they own should reduce their financial incentives to refer patients for these services. Thus, this recommendation should help limit referrals that are based on financial,

rather than clinical, considerations. It would also lead to fairer competition among facilities that provide imaging services.

### IMPLICATIONS 3 E

#### Spending

- This recommendation would decrease federal program spending.

#### Beneficiary and provider

- This recommendation would decrease beneficiary premiums and cost sharing. No adverse impacts on beneficiary quality or access to care are anticipated. This recommendation is not expected to affect providers' willingness and ability to provide quality care to Medicare beneficiaries.

#### Prohibiting physicians from owning entities that furnish services to certain providers

The Stark II final rule permits physicians to own entities that provide services and equipment to imaging centers and other DHS providers to which they refer Medicare or Medicaid patients, as long as the physicians do not own the actual entity submitting claims to Medicare or Medicaid. These arrangements are permitted because the rule defines “ownership” of an entity under the Stark law as an interest in the entity that bills Medicare or Medicaid. For example, physicians can buy an MRI machine from a manufacturer and then lease it to an imaging center for an amount that is fair market value. This arrangement creates a financial incentive for the physicians who lease the MRI to the center to refer patients there. Because the Stark law was intended to minimize such incentives, permitting these kinds of arrangements undermines the law's intent.

Moreover, a second regulatory interpretation increases the incentive to refer patients to certain providers. This ruling permits physicians to lease equipment to the imaging center (or another provider) on a per-service basis. In other words, physicians can lease an MRI to a center for a fixed amount per use. Every time the physicians refer a patient to the center for an MRI, they receive a fee. This allows physicians to increase the return on their investment by referring additional patients.

The financial incentives for physicians to refer patients to imaging centers could lead to overuse or inappropriate use of imaging services. Thus, the Secretary should revise the Stark rules to prohibit these arrangements. The Stark law states that physician ownership or investment “may be through equity, debt, or other means,” which gives CMS the authority to define “other means” to include interests in an entity that derives a substantial proportion of its revenue from DHS providers. This change, which could be accomplished by revising the Stark II rules, would prevent the creation of physician-owned companies whose primary purpose is to provide services to DHS entities (such as imaging centers).

The concern remains that if CMS prohibits these kinds of financial arrangements, new ones will emerge that create similar incentives. We believe that the best way to address this behavior in the long term is to examine whether the pricing of imaging services by Medicare is accurate. For example, physician fee schedule payment rates for the performance of imaging services (the technical component) are based, to a large extent, on historical charges. By contrast, rates for most other services are based on relative resource use. If payment rates for imaging studies are too high relative to the resources used, physicians may seek opportunities to share in the profits from these services. Because this analysis will take time, CMS should in the meantime limit the ways in which physicians may profit from referring patients to imaging providers.

This recommendation would decrease potential future physician fee schedule spending because it would prohibit arrangements that create financial incentives for physicians to order additional services. Because physicians could still receive payments for imaging services performed in their own offices, these savings would be small.

To the extent that fewer studies are ordered, beneficiaries' Part B premiums and cost sharing should decline. Reducing financial incentives that encourage physicians to order additional tests also might improve beneficiaries' quality of care. Physicians who own entities that derive a substantial share of their revenues from a DHS provider would no longer be able to refer Medicare or Medicaid patients to the provider.

## RECOMMENDATION 3F

**The Secretary should expand the definition of physician ownership in the Ethics in Patient Referrals Act to include interests in an entity that derives a substantial proportion of its revenue from a provider of designated health services.**

## RATIONALE 3F

The Stark II final rule creates a narrow exception that is inconsistent with the underlying intent of the Stark law. Physician ownership of entities that provide services and equipment to imaging centers and other providers creates financial incentives for physicians to refer patients to these providers, which could lead to higher use of services. Prohibiting these arrangements should help ensure that referrals are based on clinical, rather than financial, considerations. It would also help ensure that competition among health care facilities is based on quality and cost, rather than financial arrangements with entities owned by physicians who refer patients to the facility.

## IMPLICATIONS 3F

### Spending

- This recommendation would decrease federal program spending.

### Beneficiary and provider

- This recommendation would decrease beneficiary premiums and cost sharing. No adverse impacts on beneficiary quality or access to care are anticipated. This recommendation is not expected to affect providers' willingness and ability to provide quality care to Medicare beneficiaries.

In this section, we recommended strategies to directly address the quality and volume of imaging studies. Although we continue to prefer direct strategies to deal with volume increases, we recognize that the Congress may need to continue overall physician spending targets in the current budget environment. In the next section, we present some ideas about ways to modify the current payment system to tie spending targets more closely to physician accountability. They are intended to reward performance while maintaining beneficiary choice of providers. These ideas cannot solve the budget problems created by the sustainable growth rate (SGR) formula, which would require negative payment updates for physicians for at least five years.

## Creating new incentives in the physician payment system

Since the adoption of the physician fee schedule, the Congress has sought ways to constrain excessive expenditure growth for Medicare Part B services. The sustainable growth rate ties updates for physician fee schedule services to the rate of growth in the volume of services. Under current law, implementing the SGR would result in negative updates from 2006–2011 (CMS 2005). MedPAC has consistently raised concerns about the suitability of the SGR as a volume control mechanism and recommended its elimination. We believe that the other changes recommended in this report, including our pay-for-performance and information technology proposals discussed in Chapter 4, can help Medicare beneficiaries receive high-quality appropriate services. Although the Commission's preference is to address issues of inappropriate volume increases directly as discussed in the previous section on imaging, we recognize that the Congress may wish to retain some form of limit on aggregate volume.

Any alternative volume target would raise many design and policy issues. In this section, we describe the SGR and reiterate some of the Commission's criticisms. Next we sketch some ideas for modifying the system. These ideas do not represent Commission proposals but are preliminary thoughts about how alternative volume targets might be constructed. Finally, we discuss some of the issues that these targets would raise. Any implementation of a new target would require considerably more analysis, including development of a pilot program to test its feasibility.

## What are the problems with the SGR?

Because of rapid growth in the volume of physician services in the 1980s, the Congress established an expenditure target for the fee schedule in 1989. Known as the volume performance standard (VPS), it was based on growth in the volume of services. The VPS linked annual updates of the fee schedule's conversion factor to growth in the number and type of services physicians provide. If volume growth in a year exceeded that allowed by the VPS, the update was adjusted downward two years later.

Experience with the VPS formula showed that it had several methodological flaws that prevented it from operating as intended. As the result of a slowdown in the growth of the volume of services during the 1990s, the VPS became unrealistically stringent.

These problems prompted the Congress to replace the initial standard as part of the Balanced Budget Act of 1997. That law instituted the sustainable growth rate as the new target for Part B services. The SGR is based on the number of beneficiaries in fee-for-service Medicare, input prices, the effects of law and regulation, and an allowance for volume growth based on the gross domestic product (GDP). The GDP—the measure of goods and services produced in the United States—is used as the benchmark of how much growth in volume society can afford. The basic SGR mechanism is to compare actual spending to target spending and adjust the update accordingly.

Since 2000, spending has remained above the target. MedPAC (2004a) studied the factors contributing to above-target spending in this period. Our analysis concluded that most recently the main reason has been the high growth in the volume of services relative to the growth allowed by the SGR. From 1999 to 2003, growth in volume per beneficiary averaged about 5 percent per year. By contrast, the allowance in the target for volume growth—the trend in growth of real gross domestic product per capita—was only about 2 percent.

So far, only one negative update has occurred—in 2002—to realign actual spending with the target. To prevent further negative updates, the Congress intervened through the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 and legislated positive updates through 2005. This action has only delayed the negative updates, however, because the target was not changed. CMS now projects negative updates through 2011 (CMS 2005).

Criticisms of the SGR are widespread. MedPAC first recommended repeal of the SGR in 2001, and we have consistently raised concerns about the formula, both when it has set updates above and below changes in input prices. The formula is flawed as a volume control mechanism. Because it is a national target, it creates no incentives for individual physicians to control volume. In the short term, physicians may have an incentive to increase services. It is inequitable because it treats all physicians and regions of

the country alike, regardless of any behavior that influences volume. Further, it does not create incentives for physicians to develop structures of care that coordinate beneficiary care across multiple physicians and sites of care.

Although the Commission's preference is to address issues of inappropriate volume increases directly, as discussed in the previous section on imaging, we also are considering ways to modify the SGR so that individual incentives could be more directly linked to a volume target. The following section presents some preliminary ideas directed toward this goal. Any modified SGR system would be designed to incorporate pay-for-performance and physician resource measurement programs, as discussed in Chapter 4.

## Multiple spending targets

Potentially, the SGR could be modified by creating smaller groups subject to a spending target. Research shows that reducing the size of groups subject to collective incentives may increase the likelihood that the actions of individuals within the group will be influenced by the incentives (see for example, Kralewski et al. 2000, Town et al. 2004).<sup>24</sup>

This section presents four ways in which Medicare could move from one national spending target to multiple spending targets:

- create an alternate pool based on membership by organized groups of physicians,
- divide the United States into regions and adjust the annual conversion factor based on changes in the volume of services provided in each region,
- set targets based on the performance of hospital medical staffs, or
- develop volume targets for specific services or types of services.

All of these ideas raise many questions about design, implementation, and policy.

## Group target pool

The Congress could create an alternate voluntary spending pool with its own expenditure target. Organized groups of physicians would apply for inclusion, and services

provided by group members would be aggregated in this separate pool. In order to participate in the pool, groups would have to meet certain criteria that demonstrate that they have a means of organization, accountability, and commitment to the use of evidence-based medicine. Specific standards might vary, but possibilities include group use of clinical information technology, establishment of systematic techniques for quality improvement, and development of processes of coordinated care for patients with multiple chronic conditions. Continued membership would be subject to performance standards. One version of this approach was proposed by Tompkins et al. (1996). A similar idea is reflected in the group practice demonstration currently under development at CMS. This project would assign beneficiaries to physician group practices based on where they receive their evaluation and management services. Reimbursement would combine fee-for-service payments with performance payments based on improved management of care.

Policymakers would have to decide what types of groups could participate in the pool. Multispecialty group practices would be the model for the kind of group that would join. Currently, more than 600 multispecialty groups with over 50 physicians practice in the United States. Groups such as the Permanente Medical Group, the Mayo Clinic, Marshfield Clinic, Intermountain Health, and the Geisinger Clinic have adopted techniques to bring up-to-date medical science systematically to the practice of medicine. They monitor the impact of these techniques on patients outcomes. Many have electronic medical records and other information technology.

Ideally, the pool would not be limited to those groups. The goal would be to set the criteria for participation in the alternate pool high enough so that it provides incentives for physicians to develop organized processes of care, but not so high that certain kinds of providers, like rural physicians, are automatically precluded from joining. Other possible organizations include independent practice associations (IPAs) and other smaller groups of physicians who have developed alliances among practices to contract with health plans, medical staff of hospitals, and single specialty group practices. These organizations would have to develop organizational structures to meet the accountability and communication standards necessary for inclusion in the pool.

CMS would have to develop measures to determine and then monitor whether applicants meet the standards for inclusion in the alternate pool. CMS could deem independent accrediting entities to ensure that groups qualify for inclusion and continue to meet the standards.

CMS also would have to devise a way of attributing the services received by individual beneficiaries to groups without locking beneficiaries into receiving care from any specific group. Some health plans have developed algorithms that attribute patient care to particular groups on the basis of the percentage of care they receive from any one group. Medicare might adopt such a methodology for its own uses, but the process would likely be complex and raise many questions. For example, would all of the physician services received by a beneficiary count within a pool, even if only 30 percent of the patient's care was provided by group members?

The group target approach would require a means of risk adjustment. The system must ensure that groups do not have an incentive to discourage patients with high-volume medical needs or discourage group membership by physicians who provide high-quality care to patients with particularly costly medical conditions.

### **Regional targets**

An alternative mechanism for controlling expenditures would address regional variation in practice patterns. An SGR-type formula could be used to determine how much spending growth society could afford, but the overall target would be adjusted regionally. Each year, the regional targets would be based on how the rate of increase for Medicare physician services in one area compared with the national average. The target could be based on the rate of increase in volume and intensity, the level of per capita spending, or some combination of the two. Because reducing volume growth would be more difficult to achieve in areas where the volume of services provided was already low, the formula would have to take into account the initial volume level. CMS would have to ensure that this system did not result in stinting on medical services. Regional per capita spending would be adjusted for risk and changes in input prices.

Updates would be higher in areas that controlled volume growth and lower in areas where volume grew at rates above the national average. Although these targets would still affect all physicians in an area without regard to their individual practices, physicians would have a stronger

incentive and greater ability to organize themselves to increase the efficiency of medical practice within their regions if the area were small enough.

Choosing the appropriate types of regions would be critical for this policy. Policymakers could define pools by census regions, states, markets, or hospital referral regions. In making a decision, they would have to balance the administrative efficiencies that could be achieved with larger regions with the ability of physicians in smaller regions to create mechanisms for accountability and attribution of services to specific pools.

### **Spending targets based on hospital medical staffs**

Recent research (Fisher et al. 2004) has demonstrated the extent to which hospital medical centers function as de facto systems of care. It might be possible to develop spending targets based on services provided by hospital medical staffs. This concept would combine elements of the first two ideas. Medical staff would be defined as all the physicians practicing in a given hospital. Since virtually all physicians have admitting privileges in at least one hospital, all would be affected by the potential gains and losses of this alternative. Per capita spending would be case-mix adjusted and adjusted for changes in input prices. Regional variation would also have to be taken into account. As in the previous alternative, updates would be higher for medical staffs that controlled spending growth and lower for staffs for whom spending grew at rates above the national average. Hospital medical staffs have organizational structures that might facilitate collaboration among physicians, and might be more capable than other groups of responding to incentives created by the target.

This proposal could be implemented in stages, with initial targets based on physician services provided within hospitals (Welch and Miller 1994). Services could be measured by episodes of care provided within the hospital. Because these episodes of care could also be linked to efficiencies on the hospital side, it might be possible to link medical staff efficiencies to hospital savings with opportunities for gainsharing among physicians, hospitals, and the Medicare program (see MedPAC report to the Congress on specialty hospitals).

This proposal could create some disruptions in the health care system as physicians redirect their referrals to hospitals that better control spending growth. If there was

widespread shifting, the viability of some hospitals could be threatened. In addition, shifting admissions could lead to particular administrative problems as CMS determines the identity of specific physicians to include in each medical staff pool.

### **Service-specific spending targets**

A system of expenditure targets could have separate adjustments to fees based on targets for various types of services, rather than having a single adjustment for all physician services (PPRC 1988). For example, fees for imaging services could depend upon actual expenditures for imaging services compared with an expenditure target specifically for those services. Such a target would apply to all imaging services, regardless of the specialty of the physician providing them. Practitioners who concentrate on providing a given type of service might be better able to organize and collaborate. They would have strong incentives to develop and disseminate practice guidelines indicating the appropriate use of their services.

The service-specific target presents a number of difficulties. One problem is that the volume of specific kinds of services depends only in part on the physicians who provide them. For example, the volume of imaging services depends in large part on the referral patterns of physicians seeking diagnostic services for their patients, as well as the physicians who provide them.

An additional concern emerged when service-specific targets were included as part of the VPS system. The VPS included separate standards for surgical services, primary care services, and other nonsurgical services. Different performance standards and updates for each of the three categories of services distorted relative payments, so that an RVU in one category was no longer paid the same as an RVU in another category. For example, in 1997, the conversion factor for surgical services was \$40.96, compared with \$35.77 for primary care services (PPRC 1997). In effect, payments for primary care services were reduced relative to surgical services despite equivalent levels of time, skill, and effort. As a result, service-specific targets were eliminated when the Congress established the SGR. Although this could be a problem, as Medicare moves toward a system based on paying for performance, payment differentials among providers will be inevitable.

## Cross-cutting issues

Although each of these ideas raises unique issues, some questions are common to them all:

- How would the expenditure target be set?
- How many pools should be established?
- How can differences in health status among target pools be captured?
- How would individual services be attributed to the target pool?
- Will the system be considered fair?
- How can separate target pools be combined with other measures like pay for performance?

Further analysis is needed to answer each of these questions.

### How would the expenditure target be set?

The expenditure target might be based on changes in GDP, similar to the current SGR system. Alternatively, targets could be based on the historical experience of the groups in question. Policymakers will have to take into account differences between volume growth and differences in the level of volume between groups or regions. If regional practice patterns are taken into account, targets could be different in areas where volume is already high. If pools are based on organized groups, it might be possible to take into account cases in which more efficient and effective physician care reduces hospital spending. If the target is based on the national average growth in the volume of services, decisions will have to be made on how far above and below the target volume growth must be to generate a higher or lower conversion factor.

### How many pools should be established?

One of the most critical challenges concerns the number of pools to be established. Whether targets are based on groups, regions, or services, decisions will have to be made about how many target pools are most appropriate. Since one of the key goals of multiple target pools is to link individual incentives with payment to control unnecessary volume, it would make sense to have smaller

pools in which physicians had more ability to influence the behavior of their peers. On the other hand, larger pools would be easier to administer and would likely result in more stable estimates of volume growth.

### How would services be attributed to the pool?

Of all the alternatives described, it would be easiest to attribute beneficiary services to regional pools and hospitals. Services delivered within a region would count toward expenditures in that target pool. As noted earlier, attribution of services to groups in a target system based on organized groups would require a system that could allocate beneficiary services to a particular group based on the percentage of care the beneficiary received from that group. Pools based on specific services would have to take into account the extent to which service use depends on the actions of referring physicians.

### Will the system be considered fair?

None of the aggregate target systems will be able to fully account for efficient providers in high-volume pools or inefficient providers in low-volume pools. But any attempt to create multiple target pools will require a good system of risk adjustment to ensure that targets do not lead to selection against patients with high-volume medical needs or physicians who provide high-quality care to patients with particularly costly medical conditions.

### How can separate target pools be combined with other measures like pay for performance?

Our proposals on pay for performance and information technology, as well as our recommendations on measuring physician resource use and setting standards for imaging services, are intended to apply to all physicians. All physicians should have incentives to provide high-quality medicine that is evidence based and, thus, we prefer these more direct measures. The interaction of these measures with multiple target pools may increase the administrative complexity of the program but will be necessary for implementation. As a next step, we will examine private sector efforts like the Buyers Health Care Action Group to introduce complementary measures of physician accountability within a competitive marketplace.

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## Future work

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The recommendations in this chapter represent the beginning of our work on reforming the physician payment system. In upcoming months, we intend to extend our empirical analysis on measuring physician resource use. We will use Medicare claims data to construct episodes of care and examine variation in the use of physician services within these episodes. As we consider policy options, we will analyze historical changes

in volume within different sets of parameters, considering variation by type of practice, region, and service. We also intend to examine how prices are set for individual services within the fee schedule. Finally, we will look at geographic adjusters and the design of payment areas used in the fee schedule. ■

## Endnotes

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- 1 Using claims data from 1999 through 2003, we calculated per capita growth in the units of service beneficiaries used. We then weighted the units of services used by each service's relative value units (RVUs) 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 these services. We thus distinguish growth in volume from growth in units of service. Volume growth includes an adjustment for changes in intensity; units-of-service growth does not.
- 2 For additional analysis of this issue see GAO (2004).
- 3 Potential changes in practice style could include not only modifying the number and types of services provided and the sites of those services, but also using more nonphysician, less-expensive resources to reduce spending and use of costly services.
- 4 Medicare fee schedule payment rates for the performance of imaging services (the technical component) are based, to a large extent, on historical charges. By contrast, rates for most other services are based on relative resource use.
- 5 The measure of service use combines the number of services used, their level of intensity, and the conversion factor (units of service multiplied by each service's relative weight from the 2003 physician fee schedule multiplied by the 2003 conversion factor).
- 6 Almost all imaging services have two distinct parts: the performance of a diagnostic test and the interpretation of the results by a physician. If the study is performed in a physician office, the physician submits a technical component claim to cover the costs of performing the test; the interpreting physician submits a professional component claim. Both claims are paid under the physician fee schedule. Studies performed in a hospital do not generate technical component claims. Thus, if more imaging services are performed in physician offices, technical component claims will increase as a share of all fee schedule imaging claims. Such an increase occurred between 1999 and 2002, which indicates that imaging procedures shifted to physician offices. Because the technical component is generally assigned a higher payment rate than the professional component, growth of technical component claims as a share of all imaging claims leads to additional payments. These additional payments accounted for about 20 percent of the growth in the volume and intensity of imaging services between 1999 and 2002 (MedPAC 2004a).
- 7 Similarly, in their published research, the Dartmouth researchers ranked U.S. regions according to the use of hospital and physician services by Medicare beneficiaries during their last six months of life (Fisher et al. 2003a).
- 8 One of the exceptions allows a radiologist to bill for the use of contrast material in a study, even if it was not ordered by the treating physician.
- 9 Some plans assert that the professional fee for interpreting the study should also be reduced because the physician spends less time interpreting additional studies for the same patient.
- 10 The CCI edits are shared with the medical community and the American Medical Association's Correct Coding Policy Committee for review and comment before their implementation (MedPAC 2000).
- 11 The American Institute of Ultrasound in Medicine develops its standards in collaboration with the American College of Radiology, American College of Obstetricians and Gynecologists, and American Society of Breast Surgeons.
- 12 For example, CMS or its contractors would need to develop a program that lists the imaging codes for which each physician is permitted to bill Medicare.
- 13 For example, after an initial site visit and document review for new IDTFs, carriers are not required to continue monitoring them.
- 14 These carriers cover Arkansas, Louisiana, Oklahoma, New Mexico, and Eastern Missouri.
- 15 However, the NRC does not have authority over positron emission tomography.
- 16 One notable exception is New Jersey, which requires that facilities using X-ray equipment establish quality-control programs.
- 17 CMS has similar "deeming" arrangements with private accreditation groups for several types of providers, such as hospitals and ambulatory surgical centers.
- 18 Under authority of the Clinical Laboratory Improvement Amendments, passed in 1988, CMS establishes quality standards for clinical laboratories. These laboratories are located in physician offices as well as in hospitals, skilled nursing facilities, and other locations.
- 19 This same principle applies to other medical professionals, including dentists, optometrists, podiatrists, and chiropractors.

- 20 The GAO found that access problems exist in some locations. However, the inability of some providers to meet FDA's quality requirements was one of several factors contributing to problems in these areas. Other factors included high demand for services at some facilities, a shortage of technologists, financial difficulties, and temporary problems caused by the closure of large facilities (GAO 2002).
- 21 This section is based, in part, on an analysis of the Stark law conducted by a MedPAC contractor, Kevin McAnaney.
- 22 The in-office ancillary exception does not apply to most durable medical equipment and parenteral and enteral nutrition services because there was no clear justification for permitting these services to be provided by the referring physician.
- 23 Although certain nonradiology services are covered under the law (e.g., MRI and CT), these procedures, unlike nuclear medicine, were explicitly included in the statute.
- 24 This research is mostly based on the experiences of multispecialty group practices. Analysts agree that more research is necessary to determine any causal relationships between group size and the effectiveness of incentives.

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C H A P T E R

# 4

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**Strategies to improve care:  
Pay for performance and  
information technology**

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

**4A** The Congress should establish a quality incentive payment policy for hospitals in Medicare.

COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1

.....  
**4B** CMS should require hospitals to identify which secondary diagnoses were present on admission on their claims forms.

COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1

.....  
**4C** The Congress should establish a quality incentive payment policy for home health agencies in Medicare.

COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 1 • ABSENT 1

.....  
**4D** The Secretary should develop a valid set of measures of home health adverse events, including adequate risk adjustment.

COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1

.....  
**4E** The Congress should establish a quality incentive payment policy for physicians in Medicare.

COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 1 • ABSENT 1

.....  
**4F** CMS should require those who perform laboratory tests to submit laboratory values, using common vocabulary standards.

COMMISSIONER VOTES: YES 14 • NO 2 • NOT VOTING 0 • ABSENT 1

.....  
**4G** CMS should ensure that the prescription claims data from the Part D program are available for assessing the quality of pharmaceutical and physician care.

COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1

.....  
**4H** The Congress should direct CMS to include measures of functions supported by the use of information technology in Medicare initiatives to financially reward providers on the basis of quality.

COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1

## Strategies to improve care: Pay for performance and information technology

**M**edicare payment systems are neutral and sometimes negative toward quality. The Congress should adopt pay-for-performance programs for hospitals, home health agencies, and physicians.

We earlier recommended pay-for-performance programs for Medicare Advantage plans and dialysis providers. The amount of payment should be small at first, but increase over time. Quality measurement can begin for hospitals—with process, structural, and outcomes measures; for home health agencies—with outcomes measures; and for physicians—with structural and, after a transition, process measures. We recommend several approaches to broaden measure sets for these programs, including reporting lab values. The measure sets should evolve over time. To accelerate adoption of information technology (IT), pay-for-performance programs should include measures of quality-enhancing activities supported by IT. A standard vocabulary to report lab values would increase electronic sharing of clinical data.

### In this chapter

- Pay for performance in Medicare
- Hospitals
- Home health agencies
- Physicians
- Implementation issues
- Accelerate adoption of health information technology
- Provide financial incentives
- Help providers navigate the IT market and implement systems
- Promote sharing of information across providers and patients

Although the United States health care system is often said to be among the best in the world, many researchers have documented serious shortcomings (IOM 2000, McGlynn et al. 2003, AHRQ 2003b, Jencks 2003, MedPAC 2004a). The Institute of Medicine (IOM) report *Crossing the Quality Chasm* outlined a framework for improving the nation's health care quality and called on all payers to align payment policies to encourage and support quality improvement (IOM 2001). It also found that information technology (IT) can be critical to improving care. The report identified six goals for a quality health care system. Care should be effective, safe, patient centered, timely, efficient, and equitable. Like others, many Medicare beneficiaries receive care that is less than optimal, and in some cases unsafe.

As Medicare beneficiaries are key stakeholders in the nation's health care system, the Commission has examined strategies to improve care and concluded that Medicare must lead efforts to improve quality through financial incentives (MedPAC 2003). The Commission also found that provider use of information technology has the potential to improve patient care, in part by making it easier for providers to assess and report on their performance. Subsequent discussion of IT has also recognized its potential to improve efficiency and, by connecting clinicians, facilitate coordination of care.

Medicare already uses a variety of strategies to improve quality for beneficiaries—conditions of participation, the quality improvement organization (QIO) program, public reporting initiatives, and a variety of demonstration projects aimed at tying payment to quality and encouraging physicians to adopt IT. MedPAC supports these efforts and believes that CMS, along with its accreditor and provider partners, has acted as an important catalyst in creating the ability to measure and improve quality nationally. CMS's prior quality investments provide a foundation for initiatives tying payment to quality and encouraging the diffusion of information technology.

Most of these efforts, however, are grafted onto a payment system with few incentives for delivering high-quality care. Medicare, the largest single payer in the system, pays all of its health care providers without differentiation based on quality. Providers who improve quality are not rewarded for their efforts. In fact, Medicare often pays more when a serious illness or injury occurs or recurs

while patients are under the system's care. The incentives of this system are neutral or negative toward improving the quality of care.

We recommend that Medicare change the incentives of the system by basing a portion of provider payment on performance. Linking a portion of payment to quality will be an incentive for providers to improve the care they deliver. Last year, we found that Medicare Advantage plans and the facilities and physicians that care for kidney dialysis patients were settings where pay-for-performance strategies could be implemented. This year, we add hospitals, home health agencies, and physicians to that list. (See recommendations on pages 188, 193, and 196, respectively.)

We come to this year's recommendations by determining that quality measures can be used to distinguish among hospitals, home health agencies, and physicians. In each of these settings, there is some consensus on a core set of measures. Where necessary, adequate risk adjustment is available. Data needed to take these measurements can be collected without undue burden on providers or the program. Generally, there is room for improvement on the dimensions of quality we can measure. Expanded use of IT would also increase the ability to measure and reward good performance. In sum, adequate measurement tools are available to begin paying for performance in these three settings.

To implement these recommendations, the Congress must first give the Medicare program the ability to pay providers differentially based on performance. The goal of the program should be to improve care for as many beneficiaries as possible. The Congress should instruct the Secretary to design a pay-for-performance program that rewards both improvement and attaining or exceeding certain benchmarks. This approach will encourage all providers to respond. To minimize major disruptions, the program should be funded initially by setting aside a small portion of budgeted payments—1 percent or 2 percent. The program should be budget neutral. Our intention is for all monies set aside to be redistributed. The purpose is not to create a tool to take funds from payments. Further, we would expect the Secretary to define the specific parameters of this program, such as the weights assigned to different measures and the mechanism for distributing the funds among providers. Finally, the Secretary should establish a formal process composed of private and public sector participants to streamline, update, and improve

measures sets. This process should help decrease the burden of quality reporting by coordinating Medicare's efforts with other payers seeking similar information.

The Secretary may wish to consider using the following measures to begin the pay-for-performance program:

- For hospitals, the 10 process measures linked to receiving a full update in 2004, along with 12 additional measures developed as part of the Hospital Quality Alliance (HQA) voluntary initiative, are a reasonable starting point. Measures of hospital safe practices endorsed by the National Quality Forum (NQF) and used by the Leapfrog Group should also be considered for the set. Two common measures of mortality could be useful initially. Finally, measures of patient experience will be available later this year and should be considered. (See discussion beginning on page 188.)
- For home health agencies, outcomes measures from CMS's Outcome-Based Quality Improvement (OBQI) set are the most promising. Measures of how well home health agencies stabilize certain patients could also be included. (See discussion beginning on page 192.)
- For physicians, the lack of standardized data collection and the wide variety of services and types of specialists require that the initial set of measures focus both on measuring quality and building the infrastructure to obtain broader quality information on all types of physicians. Therefore, the starter set should measure functions and outcomes of IT use that improve patient care. Measures of these types of activities can be used to assess quality for nearly all physicians. In contrast, although claims-based process measures are available for a wide variety of conditions of importance to Medicare, they are not currently available on *every* type of patient or physician. Therefore, the program should start by evaluating physician performance on claims-based process measures and giving the information to physicians. To encourage specialty groups and others to develop more measures, the Congress should set a date certain in the near future, perhaps two to three years, when these process measures would be included in the set for payment for performance. Other potential measures include those in the Agency for Healthcare

Research and Quality's (AHRQ) soon-to-be-released ambulatory care patient survey and measures that link physician performance with that of hospitals or other settings of care. (See discussion beginning on page 196.)

MedPAC recommends that the Congress and the Secretary also take steps to improve the program's ability to measure the quality of care. In hospitals, additional data on patients' conditions upon arrival would improve both mortality and patient safety information (page 191). In home health, better safety measures should be developed (page 195). For physicians, data on patient laboratory values—such as cholesterol levels and glucose levels—and prescriptions are needed to enhance claims-based measurement (page 201 and 202, respectively).

In all settings, more widespread use of IT would decrease the burden of reporting quality information and facilitate improvement efforts. However, few providers use IT for clinical (as opposed to administrative) functions. Financial incentives might be necessary to promote IT adoption. We recommend including measures that reflect uses of IT systems that are linked to quality improvement in pay-for-performance programs in all settings, beginning in physicians' offices. (See recommendation on page 211.)

Improving electronic communication among providers would also facilitate quality improvement. Without common vocabulary and messaging standards, even those providers who use IT and coordinate patients' care face difficulties sharing clinical data electronically. As a start toward encouraging further clinical data exchange, we recommend the standardization of laboratory values. (See discussion on page 217.) Our recommendations for promoting IT adoption and for improving electronic data exchange will complement activities already under way in the public and private sectors to accelerate the adoption of IT.

Taking these initial pay-for-performance steps, along with measuring resource use (as we discuss in Chapter 3), will lay the foundation for focusing the system's incentives on how efficiently providers use resources to deliver high-quality care. The definition of efficiency could be extended to include how the actions of providers, such as physicians and hospitals, may in one episode of care affect beneficiaries' health and use of services over time and across settings. We will build on this work to identify further strategies to bring value to Medicare purchasing.

Some providers may resist a pay-for-performance program. We believe that the costs of *not* proceeding—costs measured by potentially avoidable illness and injury as well as spending on care that does not improve patients’ health—outweigh the potential for unintended negative consequences.

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## Pay for performance in Medicare

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One of the most important strategies to change the system’s incentives is to base a portion of providers’ payments on the quality of their care: to pay for performance. To determine whether it is feasible for Medicare to pay for performance we consulted with quality experts, providers, researchers, purchasers, CMS, the NQF, and accreditors. It is their hard work and enormous progress in improving quality measurement that provide the foundation for these recommendations. In June 2003, the Commission established criteria for measures to compare providers to determine whether pay for performance is feasible in every setting where Medicare beneficiaries receive care. The Commission also outlined principles for the design of such a program.

### Is it feasible to tie a small portion of hospital, home health agency, or physician payment to quality?

We find that the current measures for hospitals, home health agencies, and physicians meet our criteria for sound measures (discussed in detail later) and that it is feasible to tie a small portion of payment to quality. Sufficient numbers and types of measures and measurement activities now exist for each setting of care, with more on the horizon. In addition to using current measures, MedPAC recommends several ways to improve the information available for quality measurement.

To determine the feasibility of pay for performance, we evaluated four types of measures for hospitals, home health agencies, and physicians—process, outcomes, structural, and patient experience:

- Process measures are used to determine whether care known to be effective is provided.
- Outcomes measures provide information on how the care affects patients, such as whether they experienced complications from their care.

- Structural measures are designed to ensure that the provider is capable of delivering good care.
- Patient experience measures provide information on whether patients’ needs are met.

Each type of measure has attributes that affect its validity, how providers use it to improve care, and the difficulty of collecting data. These measures provide information on four of the IOM goals for quality care—clinical effectiveness, safety, patient-centeredness, and timeliness.

### Criteria for measures

The Commission’s criteria for measures were developed from our original discussions of incentives for quality improvement and the experience of private sector payers and purchasers when they implemented pay-for-performance programs (MedPAC 2003). These criteria are:

- **Evidence-based, accepted measures must be available.** The measures should be accepted by independent quality experts and organizations, private and public sector purchasers, providers, and consumer organizations. The process for developing, testing, and determining which measures to use should also be broad-based. To be credible, process measures should be derived from standards of practice that have been shown to lead to better outcomes for patients in clinical trials or similarly rigorous tests. The measurements should be valid (corresponding to the phenomena they purport to measure) and reliable (different assessors would come to the same conclusion about performance on the measure). Although few individual measures are perfectly valid or reliable, taken together, the available measures should be adequate for differentiating among providers on quality.
- **Collecting and analyzing data should not be unduly burdensome for either the provider or CMS.** To minimize the burden of collection and analysis, CMS should base quality measures on data currently collected, wherever possible. However, when quality information is not routinely collected through existing streams, some increase in provider burden may be needed to develop other measures that give valid comparisons. Providers’ use of electronic health records could greatly reduce the burden of reporting and greatly improve the breadth and depth of

available quality information. Adding new information to claims and other administrative data may be burdensome in the short term, but in the longer run this approach will be easier than other methods, such as manually extracting data from medical records. As providers get used to collecting and reporting information to CMS, and CMS establishes a system for receiving and analyzing the data, the data burden should lessen and the reliability of the data should improve. The need for additional information collection should be balanced against the value of the additional information to the provider being measured, patients, and the Medicare program.

- **If risk adjustment is needed, it must be accepted as sufficient to deter providers from avoiding patients who might lower their quality scores.** Risk adjustment is primarily an issue for outcomes measures. No standards currently define “adequate” adjustment, so the question is whether current risk-adjustment methods are sufficient for the purposes for which the measures would be used. However, the more detailed the clinical information collected, the greater the ability to adjust measures to reflect expected outcomes. Addressing this concern is often a matter of balancing the burden of data collection with the accuracy of the risk adjustment. Including measures that do not need risk adjustment, such as process measures, will allow quality measurement to go forward until better data are available to risk-adjust outcomes.
- **Finally, most providers should be able to improve on the available measures.** This criterion has several dimensions.

First, the measures must apply to a broad range of care and providers. The greater the proportion of providers whose care is measured in the incentive program, the broader the impact will be on beneficiaries. For this reason, some have suggested that in addition to measures that capture the quality of care for specific conditions such as heart care or hip replacements, Medicare should use cross-cutting measures that apply to all patients in a setting. Hospitals, for example, might measure the use of appropriate safe practices, and physicians, the use of information technology to manage patient care. For home health agencies the primary measures—functional improvement and stabilization—already cut across conditions.

Second, the measures should capture aspects of care that are under the control of the providers being measured. For example, the data collected should enable us to measure whether a physician counsels a patient to stop smoking (counseling is under the physician’s control), rather than whether a patient actually stops smoking.

Third, the areas of care measured should be those needing improvement. It may be appropriate to include measures for which achievement is already high. The program, however, should seek new measures to replace ones on which performance improvement potential is low.

## Design principles

The Commission also developed design principles to provide guidance on how the program should be administered and funded. A pay-for-performance program should:

- **Reward providers based on both improving care and exceeding certain benchmarks.** The goal of this initiative is to improve care for as many beneficiaries as possible. Thus, it is important both to reward providers who attain certain thresholds of quality, and to ensure that all are encouraged to improve care and have an opportunity for rewards.
- **Be funded by setting aside, initially, a small proportion of payments.** How to fund the program and how large the incentive are two key variables in its effectiveness. To ensure minimal disruption for beneficiaries and providers, the Commission recommends that, at least initially, the percentage of dollars should be small (perhaps 1 percent to 2 percent of payments). As our ability to measure quality improves, this amount should increase significantly.

Is this amount enough to encourage providers to improve quality? It is not clear how large the rewards must be to evoke the desired response. Although some in the private sector have said that a greater percentage of payment should be at risk, other factors suggest that this amount will provide an incentive for change.<sup>1</sup> As pay for performance develops, we should increase the amount of the rewards. Medicare, however, is a large purchaser of care, and 1 to 2 percent on such a large share of the payment base is significant. The Medicare Prescription Drug, Improvement, and Modernization

Act of 2003 (MMA) requirement that hospitals report on quality measures or forgo 0.4 percent of their update encouraged almost universal reporting on certain process measures. Therefore, fear of losing revenue may also encourage action. In addition, the redistributive nature of this incentive would result in some providers receiving much more than the amount withheld. Finally, initiatives using nonfinancial incentives have succeeded in encouraging improvements (Chassin 2002, Cutler et al. 2004, AHRQ 2004). Some types of providers may require higher amounts tied to quality than others depending on their Medicare share and the net effect on payments.

- **Distribute all payments that are set aside to providers achieving the quality criteria.** Although savings could accrue from improved quality, the goal of our recommendations is improved quality, not saving dollars. Therefore, the Commission intends for all of the withheld dollars to be distributed.
- **Establish a process for continual evolution of measures.** Quality measurement is a dynamic process. The evolution in measures and the ever-expanding initiatives using these measures must be encouraged and supported. Although CMS would administer the pay-for-performance programs, an open, formal, routine process must be in place to develop, validate, and continue to evolve measures. The process should be managed by a public/private body including representatives of the major stakeholders and armed with the requisite clinical and analytical expertise. Not only would such a process enhance the credibility of the effort, it would vastly improve its efficiency and effectiveness. Duplicative, even contradictory, efforts could be eliminated—and providers would get much clearer and stronger signals. To the extent an organization exists with these characteristics, the process should build on these efforts. (We discuss this in more detail under implementation issues.)

Building on the deliberations of this body, the Medicare program should be authorized to determine which clinical and other performance areas are important for research and to determine when to add, delete, or revise measures. Congress, in the MMA, did not authorize CMS to do so for purposes of the annual update reporting; consequently, because they were set in law, CMS cannot revise the measures.<sup>2</sup>

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## Hospitals

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Beneficiaries entering a hospital are at one of the most vulnerable points in their lives. Studies have found that many patients are at risk for complications and infections in hospitals (IOM 2000, MedPAC 2004a). In addition, data show that a significant proportion of Medicare beneficiaries in hospitals do not receive care known to be effective for their condition (Jencks et al. 2003).

To consider whether it is feasible to base a portion of hospital payment on quality, the Commission evaluated the available measures and measurement activities for hospitals and found a wide spectrum of useful measures that capture information on the IOM quality goals. The Commission concludes that it is feasible to base a portion of hospital payment on quality. Initially, the hospital pool should be closer to 1 percent than 2 percent.

### RECOMMENDATION 4A

**The Congress should establish a quality incentive payment policy for hospitals in Medicare.**

### RATIONALE 4A

Well-accepted measures are available, and CMS is already collecting and publicly reporting data on most hospitals for some of these measures. Measures of mortality can be derived from claims with no burden on the hospital. Cross-cutting measures that apply regardless of the size of the hospital or type of patients also exist and are, or soon will be, reported by a significant number of hospitals. Together, these sources of information provide every hospital with the opportunity for rewards on quality.

### IMPLICATIONS 4A

#### Spending:

- Because this recommendation redistributes resources already in the system, it would not affect federal program spending relative to current law.

#### Beneficiary and providers:

- This recommendation should improve the quality of care for beneficiaries.
- This recommendation will result in higher or lower payments for individual providers depending on the quality of their care.

## Which hospital measures could be used?

We found process, outcomes, structural, and patient experience measures that could be used for hospital measurement. Other measures could be added to the set as the program evolves. Better information on claims could greatly improve the ability to collect valid information on rates of complications.

### Process measures

The most promising types of measures for pay for performance for hospitals are measures of processes known to improve the outcomes of care. The quality experts we consulted said that clinicians support process measures because they are based on evidence showing that the process increases the chances of positive patient outcomes and at the same time provide guidance on how to improve. A number of process measures are in active use (Table 4-1, p. 190). One set of 10 measures (referred to as the annual payment update measures) is already being reported to CMS by almost all inpatient acute care hospitals using the prospective payment system (approximately 3,800) and 200 critical access hospitals. CMS posted the scores for individual hospitals on its website in November 2004. Hospitals participating in the Hospital Quality Alliance—a voluntary reporting initiative whose members include hospital organizations, CMS, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), and AARP—are now reporting information on an additional 12 measures, including several focused on preventing surgical infections.

Risk adjustment is not needed for these measures, and the infrastructure to collect them already exists. These data collection efforts should be coordinated among multiple external organizations so that, to the extent possible, hospitals only need to collect information once.<sup>3</sup> Table 4-1 illustrates the considerable overlap in measure sets from different organizations.

Most hospitals provide care for at least one or more of the conditions being measured, and measures that cut across different types of patients—such as surgical infection prevention—are a part of the set. Small hospitals or those that see only certain types of patients, such as rural hospitals, are reporting on many of these measures and, particularly if multiple quarters or years of data are used, could report on even more. For rural hospitals, efforts are

under way to develop additional measures, such as timely stabilization and transfer; these measures could be included in the future (Moscovice 2004).

Hospitals report that physician involvement in improving care on these measures is a key driver of success. With more research on how to attribute hospital performance to physicians whose activity at a hospital is sufficient to affect that hospital's performance score, CMS may want to link physician performance to hospital scores on these measures. In a separate report on specialty hospitals, MedPAC recommends that the Congress allow gainsharing, the opportunity for hospitals and physicians to work together on a variety of fronts, including cost-saving strategies.

### Outcomes measures

Our experts also noted that hospital mortality and adverse event measures derived from claims are widely used to measure outcomes. However, the adequacy of risk adjustment, the extent to which complications are avoidable, and small sample sizes in some hospitals are issues (Dimick et al. 2004, AHRQ 2004). To some extent using sources of information other than claims can address these issues, but others arise. For example, specialty society databases that require medical record abstraction could be used; however, the cost and the proprietary nature of the measure definitions may be at issue.<sup>4</sup> Improving information available on hospital claims, as we recommend, could also greatly enhance mortality and adverse event measures.

A recent AHRQ report concluded that, with appropriate caution (such as using multiple years of data), outcomes measures could reliably serve as performance indicators for quality-based purchasing (AHRQ 2004). Previous work by CMS, AHRQ, and the NQF varies in its conclusions on which of these types of measures are adequately risk-adjusted for individual hospitals. At a minimum, two mortality measures endorsed by all of these entities—acute myocardial infarction (AMI) and coronary artery bypass graft (CABG) mortality—could be used in an initial set.

A further issue in measuring complications is determining the source of the complication. Is it actually the result of the care delivered, or was the patient predisposed to a

**TABLE  
4-1**

**Many hospital process measures are endorsed or collected for multiple purposes**

Hospital quality measures	APU	HQA	JCAHO	Premier Demonstration	NQF	QIO
<b>Acute myocardial infarction (AMI)</b>						
Aspirin at arrival	✓	✓	✓	✓	✓	✓
Aspirin prescribed at discharge	✓	✓	✓	✓	✓	✓
ACE inhibitor for LVSD	✓	✓	✓	✓	✓	✓
Adult smoking cessation advice/counsel		✓	✓	✓	✓	✓
Beta blocker at arrival	✓	✓	✓	✓	✓	✓
Beta blocker at discharge	✓	✓	✓	✓	✓	✓
Mean time to thrombolysis			✓			✓
PCI received within 120 minutes of arrival		✓	✓			✓
Thrombolytic agent received within 30 minutes of arrival		✓	✓	✓	✓	✓
Inpatient mortality			✓	✓	✓	
CABG mortality				✓	✓	
<b>AMI test measures only</b>						
LDL cholesterol assessment						✓
LDL cholesterol testing within 24 hours after arrival						✓
Lipid-lowering therapy at discharge						✓
<b>Heart failure</b>						
Discharge instructions		✓	✓	✓	✓	✓
Left ventricular function assessment	✓	✓	✓	✓	✓	✓
ACE inhibitor for LVSD	✓	✓	✓	✓	✓	✓
Adult smoking cessation advice/counseling		✓	✓	✓	✓	✓
<b>Pneumonia</b>						
Oxygenation assessment	✓	✓	✓	✓	✓	✓
Pneumococcal vaccination	✓	✓	✓	✓	✓	✓
Blood cultures performed within 24 hours before or after arrival						✓
Blood cultures performed before first antibiotic		✓	✓	✓	✓	✓
Adult smoking cessation advice/counseling		✓	✓	✓	✓	✓
Antibiotic timing (mean)			✓			
Initial antibiotic received within 4 hours of arrival	✓	✓	✓	✓	✓	✓
Initial antibiotic selection for community-acquired pneumonia		✓	✓	✓		✓
Influenza vaccination		✓	✓	✓	✓	✓
<b>Surgical infection prevention</b>						
Prophylactic antibiotic received within 1 hour prior to surgery		✓	✓		✓	✓
Prophylactic antibiotic selection for surgical patients		✓	✓		✓	✓
Prophylactic antibiotics discontinued within 24 hours after surgery end time		✓	✓		✓	✓

Note: APU (annual payment update), HQA (Hospital Quality Alliance), JCAHO (Joint Commission on Accreditation of Healthcare Organizations), NQF (National Quality Forum), QIO (Quality Improvement Organization), LVSD (left ventricular systolic dysfunction), PCI (percutaneous coronary intervention), CABG (coronary artery bypass graft), LDL (low-density lipoprotein), ACE (angiotensin-converting enzyme). QIO measures are from the 7th scope of work.

Source: MedPAC analysis, based on material prepared by the Iowa Foundation for Medical Care.

comorbidity or complication? Several of the complications that can be derived from claims data are considered quality measures because they are often the result of poor-quality care; pressure sores are one example. However, because we do not know the full condition of patients on

admission, it is unclear whether pressure sores reported on discharge summaries are the fault of the provider. A minor change to claims could help with attributing the source of complications.

## RECOMMENDATION 4 B

**CMS should require hospitals to identify which secondary diagnoses were present on admission on their claims forms.**

### RATIONALE 4 B

Currently, a diagnosis recorded on the discharge summary that may have been present on admission cannot be distinguished from one that developed during the hospital stay. This additional information would significantly enhance the ability to identify which complications are avoidable. It would improve risk-adjustment of mortality and complications measures. Several quality organizations have supported this concept, and it should not significantly increase hospital burden.

### IMPLICATIONS 4 B

#### Spending

- This recommendation would not affect federal program spending relative to current law.

#### Beneficiary and provider

- This recommendation is expected to improve the quality of care for beneficiaries.
- This recommendation is expected to result in some increase in training for hospital coders.

When hospital coders are using the original history and physical documentation to determine what diagnoses to record on the claim (a task they must do anyway), they also need to flag whether the diagnoses were present at admission. California and New York already require hospitals to report this information, and researchers have found it very helpful for identifying patient characteristics that may affect the likelihood they would die or experience an adverse event.

The quality subcommittee of the National Committee on Vital and Health Statistics, the Agency for Healthcare Research and Quality, and the Consumer/Purchaser Disclosure project have all supported including this type of information in claims to better measure quality. In addition, the National Uniform Billing Committee has included a field for this information in the UB04 hospital billing form.

Some have suggested that in addition to including these types of complications as measures in a pay-for-performance initiative, Medicare could also identify a

subset of events that should never happen (for example, wrong site of surgery) and either deny payment or pay less for care associated with the event. One health plan in Minnesota has implemented this policy using data from a state sentinel events reporting system. This recommendation would also help Medicare identify those events. MedPAC will continue to explore the feasibility of identifying “never events” for purposes of revisions to payment policy.

#### Structural measures

Measures of structures that ensure a provider is capable of delivering high-quality care can apply to all types of hospitals and patients. Assuring safety is one goal of these types of measures. A survey designed to assess hospital progress on implementing 27 of the NQF-endorsed safe practices is used by large purchasers (Leapfrog Group 2004).<sup>5</sup> Proponents of the survey and hospitals themselves say that the survey creates opportunities for hospital leaders and staff to discuss strategies and priorities for decreasing medical errors and poor quality in their hospitals. The Leapfrog Group worked with the Texas Medical Institute of Technology (TMIT) to develop the survey, and in its first year of use, more than a thousand hospitals have assessed their internal systems. Hospitals fill out the survey on a Web-based tool designed to score the hospitals electronically. The TMIT has audited surveys that appear as outliers, in which hospital scores are very high, low, or are out of the normal range. It plans to institute a more formal random audit process in the next round of surveys, later in 2005.

The survey provides information on a variety of aspects of hospitals’ operations, including simple ones like hand-washing practices, and more complex ones, such as whether pharmacists are active in setting medication use policies. The scores on the responses about the practices are weighted to signal the relative importance and comprehensive nature of each. For example, out of a possible 1,000 points, ensuring that patient care information and orders flow to all necessary providers is worth 84 points, and hand-washing practices is worth 33 points. Other examples include (with associated points):

- verbal order readback (36)
- pharmacists active in medication use (32)
- pressure ulcer prevention (28)

- documentation of resuscitation or end-of-life directives (12)
- central venous line sepsis prevention (33)

The survey asks hospitals to determine their level of implementation on each individual safe practice by requiring information to be reported on:

- awareness of the need for the safer practice. For example, whether the hospital held educational sessions on appropriate drug labeling to avoid medication errors.
- accountability for the practice. For example, the extent to which pharmacists' involvement in medication decisions are a part of senior executive staff evaluation for compensation purposes.
- ability to implement. For example, whether nurses were trained in techniques to prevent pressure sores.
- actions taken. For example, whether the share of patients for whom resuscitation or end-of-life directives are used is increasing.

The NQF endorsed these safe practices based on the evidence and their face validity, as assessed by safety experts. The survey to capture information on these practices was also developed with input from quality experts and providers. However, while much has been learned through its broad application by the Leapfrog Group—the questions are continually evolving, as is the audit process—the survey has not yet been peer-reviewed or rigorously tested. Therefore, in the initial years CMS should continue to assess the survey's ability to accurately capture differences among hospitals and make needed revisions. The entity administering and scoring the survey needs to give clear guidance on how a hospital should characterize its implementation of the safe practices. In addition, to ensure accuracy of hospital responses, a larger percentage of hospitals may need to be audited in the initial years. Over time, with ongoing feedback and auditing, the questions and scoring should become more precise.

### **Patient experience**

Self-reported patient experience is another important aspect of quality. A standardized survey designed for hospital patients, expected to be released later this year,

could be used in the initial set of measures for pay for performance. AHRQ developed and tested a version of its Consumer Assessment of Health Plans Survey (CAHPS) to capture the patient experience in hospitals. AHRQ originally developed this survey to assess health plans, but has also developed and continues to work on patient experience surveys on other providers, including hospitals. A tool for risk-adjusting the responses is also available. Like the safe practices, these measures are also cross-cutting—they apply to all types of patients and hospitals. CMS has asked NQF to endorse the survey and it is expected to do so in 2005. Through the HQA voluntary initiative, CMS intends to collect patient experience information from some hospitals in 2005, with plans for a full rollout in early 2006. The hospital version of CAHPS should also be added to the set of measures used for pay for performance.

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### **Home health agencies**

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Home health payments do not distinguish between high- and low-quality providers. Including a financial incentive for home health agencies to improve care will reward those agencies that are committed to improvement. Moreover, moving toward paying for outcomes will begin to give Medicare some confidence about what it is purchasing under this benefit. The benefit is less well defined than others in the Medicare program. It is not clear which beneficiaries are eligible for the benefit nor what services they should receive. Linking payment to quality means that Medicare will be buying improvement in patients' ability to walk or to dress themselves, alleviation of the pain of open wounds on their skin, better management of their medication, or avoiding hospitalizations by monitoring their diabetes or making their homes safer.

Agencies miss opportunities each year to make improvements in the lives of home health patients. We compared the scores on assessments conducted by nurses and therapists of home health care patients on their admission with the scores on discharge. We found, for example, that among patients who were admitted with some limitation in their ability to manage their oral medications, and thus had an opportunity to improve their ability, 65 percent were discharged with the same or greater limitation than they had upon admission (Table 4-2).

**TABLE  
4-2**

**Missed opportunities for home health care to improve patients' health**

<b>Activity of daily living</b>	<b>Percent of patients who could improve but did not</b>
Upper body dressing	38%
Ambulation	66
Management of oral medication	65
Patient management of medical equipment in home	75

Source: The effect of the prospective payment system on home health quality of care, report submitted to MedPAC by Outcome Concept Systems, 2003.

After evaluating the available measures for home health by the criteria described above, the Commission concludes that it is feasible to base a portion of home health agency payment on quality. Useful outcomes measures meet our criteria. Additional work is needed to develop other types of measures.

**RECOMMENDATION 4C**

**The Congress should establish a quality incentive payment policy for home health agencies in Medicare.**

**RATIONALE 4C**

We can link payment to outcomes because the current home health system already provides the data to make meaningful comparisons of agencies. Currently available indicators from the Outcome-Based Quality Improvement set are well-accepted, risk-adjusted, and pose no additional data collection burden. Every agency records the outcomes of care for every Medicare patient and provides that information to CMS along with the claims for payment. To ensure that we can make valid comparisons of agencies with very different patient populations, the system includes the most comprehensive data set of important patient characteristics of any service setting in Medicare: doctors' and nurses' prognosis, functional status at the start and completion of care, multiple diagnoses, caregiver status, obesity, smoking, and even behavioral and cognitive status.

**IMPLICATIONS 4C**

**Spending**

- Because this recommendation redistributes resources already in the system, it would not affect federal program spending relative to current law.

**Beneficiary and provider**

- This recommendation is expected to improve the quality of beneficiary care.
- This recommendation will result in higher or lower payments for individual providers depending on the quality of their care.

**Which home health care measures could be used?**

All Medicare home health patients are assessed by a nurse or a therapist when they begin home health and again when they are discharged. The tool used in this assessment is the Outcome and Assessment Information Set (OASIS), which includes dozens of measurements of patients' health status. CMS compares the OASIS scores at the beginning and end of patient care and creates two sets of measures: the OBQI and the Outcome-Based Quality Monitoring (OBQM). Together, the OBQI and OBQM sets comprise about 50 measures of the outcomes of care and the incidence of adverse events. These measures are reported back to the agencies on a regular basis. CMS also reports 11 of the OBQIs on its public website.

CMS and the home health provider community have invested time and effort to make the OBQI set useful to providers and consumers; providers can use the information internally for quality improvement and consumers can make valid comparisons of agencies. As such, measures from the OBQI set are the most promising for a pay-for-performance system. The OBQMs are also useful for internal quality improvement, but some additional development is needed to use them to make fair comparisons among agencies. Additional measures of the process and structure of care would complement the available measures, but these are not currently available. Also, patient self-reports of their experience of care would add an important dimension to measuring the quality of home health care.

**Outcomes measures**

Outcomes measures can capture whether providers' processes and structures produce better health and functioning for patients. Available outcomes measures

cover a wide range of the goals of all home health agencies: clinical and functional improvement and stabilization of patients with a full range of diagnoses (Table 4-3).

Linking payment to OBQI measures would pose no additional documentation or data submission burden on providers or CMS. Home health providers have performed patient assessments, transmitted the information, and received scores on patient outcomes as part of participation in the Medicare program since 1999. CMS has developed the infrastructure to receive the data and calculate scores.

Tests of reliability were conducted to confirm that the patient assessments used to create the outcome scores are sufficiently objective—they are based on well-defined standards which would lead different clinicians to come to the same conclusion about patients’ health status or level of ability.

Researchers conclude that the OASIS items used to determine OBQI scores reliably measure the clinical and functional condition of patients (Madigan and Fortinski 2004, Shaughnessy et al. 2002). Different nurses’ assessments of the same patients’ characteristics demonstrate an acceptable degree of reliability. That is, two nurses’ independent assessments of the same patient are usually the same or only slightly different.<sup>6</sup>

In addition to being reliable, evidence suggests that OBQIs can also be fair. The calculation of the OBQIs adequately accounts for the relative difficulties that agencies face in achieving positive outcomes given their different patient populations. For example, the score for improvement in bathing is a comparison of the percentage of patients who improve with the percentage of patients *expected* to improve given their weight, skin condition, and ability to move themselves. The current risk adjustment for a subset of 10 of the OBQIs have received support from both AHRQ and the NQF.<sup>7</sup> And, on a subset of the OBQI measures, the risk model generates c-statistic scores between .70 and .80 (Hittle et al. 2003); this range of scores is good (Hosmer and Lemeshow 1989).<sup>8</sup> The calculation takes into consideration up to 50 different patient characteristics when determining the expected outcome for a given patient population. Risk adjusters include age, sex, and diagnosis, as well as patient prognosis, functional limitations, presence of a caregiver, and some cognitive and behavioral information.

Agencies can act upon the reports of their patients’ outcomes, improve their care processes, and make improvements that lead to better health and function for their patients. Shaughnessy and colleagues (2002) found that agencies that collected and analyzed the OBQI indicators for two years and used them to target quality improvement efforts experienced a much greater decrease in the rate of hospitalization than a control group of agencies. The OBQI group also improved on targeted measures by an average of 5 to 7 percent per year, while outcomes they did not target only improved an average of 1 percent. Since 2002, the QIOs have helped most of the home health agencies to use OBQIs to improve quality. The draft 8<sup>th</sup> statement of work will require them to expand these efforts by working with agencies to achieve better levels of performance on the measures included in “Home Care Compare,” with a focus on reducing re-hospitalization (CMS 2004b).

The best accepted OBQIs are those that focus on improving patients’ health and functioning. However, stabilization, rather than improvement, is the goal of care for many patients. An initial set of measures should therefore include some measures of stabilization to more fully capture the range of goals of home health patients. CMS currently includes “stabilization in bathing” in its publicly reported set of quality measures.<sup>9</sup> Other measures of stabilization that are available and endorsed by the NQF include “stabilization in management of oral medications” and “stabilization in cognitive function.”

**TABLE 4-3**

**Currently available home health indicators are reliable, valid, risk-adjusted, and pose no additional data collection burden**

**Indicators endorsed by AHRQ, NQF (preliminary), and collected by CMS**

**Improvements in:**

- |                             |                                  |
|-----------------------------|----------------------------------|
| 1 Ambulation and locomotion | 6 Management of oral medications |
| 2 Bathing                   | 7 Toileting                      |
| 3 Dyspnea                   | 8 Transferring                   |
| 4 Frequency of confusion    | 9 Upper body dressing            |
| 5 Frequency of pain         | 10 Urinary incontinence          |

Note: AHRQ (Agency for Healthcare Research and Quality), NQF (National Quality Forum). Indicators are from the Outcome-Based Quality Indicators set.

Source: NQF working paper on initial measure assessment, AHRQ report of the Technical Advisory Panel, and CMS’s Home Health Compare website.

In contrast to the positive outcomes measured by OBQIs, the OBQMs provide measures of negative outcomes (or “adverse events”)—such as falls that lead to emergency room use—that occur during patients’ care. OBQMs are used by agencies and surveyors to identify potential patient safety issues. However, they do not differentiate between hospitalizations that were consistent with good care and those that were due to a deficiency in the quality of the agency’s care; home health patients often have good reasons to seek acute hospital care. Also, because these events are far more rare than the positive events in the OBQI set, the risk adjustment is not as well developed. Adequate risk adjustment for OBQMs may be available in the future; but at present, they may not be adequately risk adjusted for a pay-for-performance system.

#### RECOMMENDATION 4D

**The Secretary should develop a valid set of measures of home health adverse events, including adequate risk adjustment.**

#### RATIONALE 4D

Patient safety is an important aspect of quality in home health agencies. One of the primary goals of home health care is to ensure that the patient is able to stay at home safely. CMS should improve the current measures so that they can be applied in a pay-for-performance program.

#### IMPLICATIONS 4D

##### Spending

- This recommendation should not affect federal program spending relative to current law.

##### Beneficiary and provider

- This recommendation should improve the quality of beneficiary care.
- This recommendation is not expected to affect providers. In the long run, home health agencies will be able to obtain better information on the prevalence of adverse events in their patient population.

##### Other measures

In addition to outcomes measures, it is important to develop and enhance other types of measures, including, as was discussed earlier with hospitals, process, structure, and self-reported measures of patient experience.

Process measures for home health care were developed by RAND in its Assessing Care of Vulnerable Elders (ACOVE) measure set. The ACOVE measures were used in an important study of care for the elderly in two large managed-care organizations (Wenger et al. 2001). However, home health providers are not familiar with the ACOVE measures and do not have a standardized tool to collect the information for these measures.

Continuing to develop process measures is important. As noted in the discussions of hospital and physician measures, process measures help clinicians identify the steps they need to take to improve care. Tied with outcomes measures, home health agencies can begin to identify the processes that are most likely to lead to good outcomes.

Developing structural measures, such as use of information technology, medication management, patient tracking, and the level of education and training of staff are also important. Because of the need to manage care across locations, the use of information technology to track patient symptoms, functional status, and medication usage could hasten the delivery and use of important data on patients and help agencies develop and alter care plans more quickly and thoroughly. Having a standardized tool such as OASIS greatly enhances the ability to collect and use this type of information electronically. Although no measures of IT functions or outcomes have been developed for home health, to the extent that IT use helps agencies to improve scores on the OBQIs, they will benefit under our proposed performance initiative.

Measuring self-reports of patient experience for home health agencies is important because communicating with and educating patients and their families is a central goal of home health care. Although many home health agencies use surveys to assess patient *satisfaction*, few of these surveys address these specific goals of care. Currently, no single standardized survey of patient experience exists. Therefore, a standardized survey should be developed for patient experience and included in a pay-for-performance set of measures. CMS is considering adding home health to the family of CAHPS surveys currently used or under development for Medicare Advantage plans, hospitals, and clinician offices.

## Where is quality measurement for home health heading?

The Robert Wood Johnson Foundation and AHRQ are both funding work to guide efforts to enhance quality measurement and improvement in home health (Rosati 2004). The potential to move forward on quality measurement depends upon the development of clinically tested, evidence-based best practices. MedPAC has recommended such research in previous reports and reiterates its importance elsewhere in this report. Work has begun on gathering protocols and exploring their applications in home health (Peterson 2004). One potentially useful step would be to adopt a common vocabulary to describe the processes of home health care. Combined with the already widespread use of a common patient assessment tool (OASIS), a common vocabulary could help to focus providers' efforts to improve and stimulate the necessary research.

Home health provides an opportunity that policymakers may wish to consider to take a step toward bridging the setting-by-setting orientation of the current quality measures. Policymakers could consider creating an incentive for the physicians who are responsible for reviewing, approving, and amending the plan of care for home health care patients. This incentive would be similar to the incentives for physicians who are responsible for dialysis patients that MedPAC recommended in its proposal to pay for performance in the end-stage renal disease benefit (MedPAC 2004a). Physicians only use three codes to bill Medicare (two for certification and recertification of the plan of care and one for care oversight); from these, a small pool could be formed and redistributed to physicians whose patients achieve better outcomes.

Home health as a setting is perhaps uniquely positioned to take a larger step toward the quality of transitions or "hand-offs" as patients move through the medical system. Home health agencies are the front line for patients who are making the difficult transition from the highly structured environment of inpatient settings, such as a hospital or rehabilitation facility, to their own home or perhaps an assisted living facility. The quality of the transition can improve a patient's ability to recover from an acute illness or injury or to prevent another exacerbation of the condition (Forster et al. 2003). Measures that transcend single settings would encourage better management of patients as they move among different sites of care.

## Physicians

Physicians are central to the delivery of health care. They evaluate and manage patients in their offices; decide when hospitalization is necessary; perform surgery in hospitals and ambulatory settings; prescribe drugs; and direct nurses and others in nursing homes, home health agencies, and dialysis facilities. The quality of the care they provide has a tremendous effect on Medicare beneficiaries. Improving Medicare quality will require their active participation.

Physicians are highly trained and knowledgeable professionals who are expected to apply their training, experience, and the most current research to decisions regarding uniquely different individuals with serious health problems. Without electronic means to store, retrieve, and assist the physician in managing the information regarding patients, this task is very difficult (Crane and Raymond 2003, Bates and Gawande 2003). MedPAC has stated that information technology is one of the key organizational changes necessary to improve quality (MedPAC 2003). However, the Medicare program includes no incentive for physicians to adopt clinical IT.

To consider whether it is feasible to base a portion of physician payment on quality, the Commission evaluated the available measures and measurement activities for physicians by our criteria and found useful structural, process, and patient experience indicators. Outcomes measures could be used with additional data and research. The Commission concludes that it is feasible to base a portion of physician payment on quality.

### RECOMMENDATION 4E

**The Congress should establish a quality incentive payment policy for physicians in Medicare.**

### RATIONALE 4E

Physician participation is essential to improving quality. Well-accepted measures of quality do exist, and the data for many can be collected with minimal additional burden. By focusing on measures of quality-enhancing functions and outcomes associated with IT use, the quality incentives in a pay-for-performance program could spur physicians to adopt information technology that improves care and helps build the infrastructure for further assessment efforts. Condition-specific process measures

are also available, and those based on physician claims would add no burden to physicians and apply to many different conditions of importance to Medicare beneficiaries.

## IMPLICATIONS 4E

### Spending

- Because this recommendation redistributes resources already in the system, it would not affect federal program spending relative to current law.

### Beneficiary and provider

- This recommendation should improve the quality of care for beneficiaries.
- This recommendation will result in higher or lower payments for individual providers depending on the quality of their care.

### Which physician measures could be used?

The experts whom we consulted said that a wide variety of measures exist for many types of physician specialties. However, they also said that measuring physician quality is more complex than measuring quality in other settings because of the lack of sufficient data infrastructure, the wide variety of often specialized services, and the sheer number of physicians. Further, although Medicare requires other providers to submit information on how they ensure or improve quality, the primary data Medicare receives from physicians are claims.

This lack of an infrastructure for measuring the quality of physicians does not argue against a pay-for-performance program. However, this program may require a transition strategy because of these challenges.

Although some have argued that pay for performance should be applied to only those types of physicians for whom many measures are available, exempting some physicians from the program would undermine the ability to improve care for as many beneficiaries as possible. Including all physicians will build the incentive for different physician specialties to develop and improve measures.

The Commission finds that two types of measures are ready to be collected. The starter set of measures for physicians reflects the need to balance two priorities:

building capacity and minimizing burden. First, we recommend measuring quality-enhancing functions and outcomes associated with information technology use, such as whether a physician office tracks whether its patients receive appropriate follow-up visits. These types of measures apply to all types of physicians and address important components of physician care—appropriate monitoring, follow-up, and coordination of patient care. Further, as physicians adopt IT in response, the capacity to move toward more sophisticated and complete measure sets will grow.

We also find that claims-based process measures provide important information and are the least burdensome approach to collecting condition-specific information. Current research is finding that these measures are available for a broad set of conditions of importance to Medicare beneficiaries and some of them correlate well with measures drawn from medical records. However, the depth of information they provide on each individual clinician is still the subject of research, as is the ability to expand the set to measure an even greater number of physicians. These measures will be greatly enhanced by information on prescriptions and laboratory values, which can be added over the next few years. Finally, we note that patient experience measures will be available soon for physicians and should be considered for this program.

Because these claims-based process measures do not currently apply to every physician and we wish to ensure that all physicians who see Medicare patients have the incentive to improve, a transition strategy is necessary. From the beginning of the program, CMS should collect information on both structural measures—functions and outcomes associated with IT use—and the claims-based, condition-specific measures that are available, but it should only base rewards on the IT structural measures. The information on each physician's performance on the condition-specific measures could be given to the physician for quality improvement purposes. To encourage specialty societies to work with others to continue to develop measures, CMS or the Congress should establish a date certain, perhaps two to three years, when the claims-based process measures would be included in the pay-for-performance program.

## Structural measures

To provide optimal care, physician offices need systems to track numerous patient interactions over multiple settings of care, pharmaceutical use, test results, and continually evolving clinical guidelines. While tracking patients could be achieved without information technology, it would be far easier with IT. The ultimate goal is use of electronic health records to improve quality. The Commission, however, has concluded that it is important to reward physician offices that have put systematic processes in place to improve care management even with more limited IT functions. This strategy would base payment on the physician's ability to produce information clearly related to quality, rather than on the physician's purchase of an IT system. (We discuss the relationship in more detail in the section of this chapter on IT.)

Measures of quality-enhancing activities associated with IT use assess central functions of patient care: appropriate monitoring, follow-up, and coordination. This is important both for primary care physicians, who must manage patients with chronic conditions, and for surgeons and other specialists, who must follow patients after acute events and coordinate care across settings. In addition to the potential for improving care, encouraging physician adoption of IT increases physicians' ability to report on quality and allows the pay-for-performance program to apply to nearly all types of physicians.

This strategy will not require physicians to purchase fully operational electronic health records. Various forms of information technology enable these types of functions to be performed much more easily (Table 4-4). For example, NCQA finds that in its Physician Practice Connections recognition program, some physician offices use their patient management systems to satisfy the function of a patient registry, while others receive credit through use of an electronic health record. This flexibility makes it more likely that all types of physician practices, large groups and small offices, will participate in the program.

Data collection to report achievement on these types of measures would add some burden to physician offices. However, some physicians are already participating in a recognition program that uses similar ones and CMS is also planning to use them to measure physician quality.

The National Committee for Quality Assurance (NCQA) has a recognition program that uses these types of measures to encourage the adoption of IT and improve

**TABLE  
4-4**

**Examples of information technology functions and outcomes**

<b>Functions of IT</b>	<b>Outcomes of IT use</b>
Registry for patients with chronic conditions	Patients with chronic conditions tracked and sent reminders
Registry for all patients	prompting office visits or other necessary follow-up.
System for tracking patients after an acute event to determine follow-up	Patients in practice screened for risk factors.
System for tracking test results and prompt follow-up of abnormal results	Patients who are identified as at-risk are contacted.
Medication safety checks (allergies, dose, age, drug-to-drug interactions)	Patients with potential drug-to-drug interactions are contacted.
System for decision support within the patient encounter	Patients are contacted to communicate lab results.
System for tracking lab results, including status of patient notification	Quality measured internally and care management improved.
System for aggregating, measuring, and monitoring patients by category, such as disease, medications, or age.	

Note: IT (information technology).

Source: MedPAC analysis, using some examples from the National Committee for Quality Assurance Physician Practice Connections recognition program.

patient care and has recognized 450 physicians in 38 practices. The Integrated Healthcare Association, a California-based group of health plans, health systems, and physician groups, and several other large purchasers use these measures in its pay-for-performance programs.

Currently, physician offices applying for recognition report data on their practices, including printouts of the results on a Web-based data collection tool. For example, if an office reports that it has a patient registry, it must identify patients with different chronic conditions (the function) and report whether the office sent reminders prompting office visits or other necessary follow-up (the outcome of the use of the registry). NCQA allows physician offices to receive credit without actually using IT, but reports that physician offices that use information technology to perform the functions have a far easier time complying.

CMS is working with NCQA to revise this set to use in the QIO 8th scope of work.<sup>10</sup> The draft 8<sup>th</sup> scope of work requires every QIO to work with physicians to adopt and use electronic health records, electronic prescribing, and reminders to better manage patient care on these and other functions (CMS 2004a). In addition, CMS is planning to use these types of measures in the Medicare Care Management Performance Demonstration mandated by the MMA to test pay-for-performance strategies for physicians.

Two other structural measures—certification and education—could eventually be part of a measure set, but the link with improved care would need to be clear. Certification measures could include whether a physician was board certified in his or her specialty or other types of certification or education that help keep physicians' clinical knowledge current. Continuing education measures could include physician participation in courses on strategies for improving quality or enhancing physician clinical knowledge.

Most hospitals, health plans, the JCAHO, and the NCQA use board certification as one measure of physician quality. However, the linkage with quality is unclear. A recent systematic review found that more than half the studies of this relationship showed an association between board certification status and positive clinical outcomes (Sharp et al. 2002). However, few published studies used methods appropriate for the research question.

As of 2002, 85 percent of licensed physicians were board certified (Brennan et al. 2004). Because so many physicians are board certified, the American Board of Medical Specialties (ABMS) has begun to revise its process to better measure physician quality. Physicians now must recertify periodically. In addition, several member boards have begun to incorporate data about current physicians' performance into the recertification process. The ABMS recently announced that all 24 specialty boards had agreed to develop a "maintenance of certification" requirement, including measures of patient care, practice-based learning, and interpersonal skills (Romano 2004). Board certification could be part of a pay-for-performance program, but the specific requirements need to be clearly linked with quality.

### **Condition-specific process measures**

Process measures are the most widely used and accepted for physician quality and apply broadly to different types of conditions and physicians. Clinicians use these

measures to assess their performance and at the same time, identify necessary improvements. For example, the percentage of diabetic patients who have had their hemoglobin A1c tests at appropriate intervals is a measure of quality, but it also tells the physician what steps are needed for improvement. While a wide variety of physician measures are available from medical records, flow sheets, or electronic health records, some are also available through claims. Claims-based measures put little new burden on physicians, and efforts are under way to develop a broader set.

MedPAC is sensitive to the potential burden of data collection. Therefore, while acknowledging the quality of information collected from other sources, we conclude that, at least initially, the program should use currently collected data, such as claims and other administrative data to derive condition-specific process measures. We also recommend improving the information stream CMS could use to link with claims data. (This is discussed in more detail below.)

Although measures derived from physician claims are not an extra burden for physicians, they do not provide as detailed information as other data collection sources. For example, a physician claim tells us whether a certain test was performed, but information on the outcome of that test resides in medical records.

Some researchers have tested whether the detailed information derived from medical records provides a more accurate picture of physician quality by observing the correlation between rankings based on claims-based scores and those based on medical record abstraction. Recent unpublished research shows a strong correlation between the relative rankings of physicians based on information from claims and those based on information from medical records for a set of conditions (Greenfield and Kaplan 2004). While this research focused on measures for a few conditions, including diabetes and heart care, those conditions affect many Medicare beneficiaries and, therefore, the care of many types of physicians. RAND is currently testing the ability to use claims-based process measures on physicians in many different conditions of importance to Medicare beneficiaries, including:

- asthma
- atrial fibrillation
- breast cancer

- cataracts
- cerebrovascular disease
- chronic obstructive pulmonary disease
- colon cancer
- congestive heart failure
- coronary artery disease
- depression
- diabetes
- hip fracture
- hyperlipidemia
- hypertension
- orthopedic conditions
- pneumonia
- preventive care

RAND's research shows that claims-based measures are available for a wide spectrum of conditions (around 25) and physicians, but not for every individual physician or specialty (McGlynn 2005). However, they suggest that the more difficult question (on which they have additional research under way) is whether the number and type of claims-based process measures (absent any other type of measures) for any individual physician are sufficient to reach conclusions regarding the quality of the physician's care.

Several programs have used other tools for data collection, such as medical record abstraction, flow sheets, or electronic health records.<sup>11</sup> Such tools would support many more measures of physician quality. One example of a program that measures physician quality by requiring them to collect their own data is the recognition program developed jointly by the American Diabetes Association and NCQA. It requires physicians to report detailed clinical information on at least 35 diabetic patients. Physicians must use one of the tools noted above to obtain the information.

Flow sheets are designed to be filled out each time a physician sees a patient. Flow sheets create a history of patient care and make it simple for the physician to check whether the patient is up-to-date on recommended

treatments. The Physician Performance Improvement Consortium of the American Medical Association (the AMA Consortium) has developed measures on 10 conditions and a flow sheet to be filled out on every condition at the time the physician sees the patient. In addition to recommending use of a flow sheet, the Consortium has also worked with CMS to develop specifications for all of its measures so they can be integrated into electronic health records.

Working with NCQA and the AMA Consortium, CMS has developed a list of physician quality measures and categorized them by source of information—administrative data, medical record abstraction, flow sheet, or electronic health record. CMS has asked NQF to endorse the set. This process may identify additional measures that could be used in this program and the number and types of measures that could be applied using different data collection instruments.

We note the need to measure the quality of physicians' care in settings other than their offices. The pay-for-performance program should also explore linking physician performance measurement to the quality scores of the hospital or other setting where physicians practice. For example, if a hospital had high scores on care for a particular condition, physicians who contributed to those high scores would also receive credit.

### Outcomes measures

We asked physician quality experts about three types of outcomes measures, but found that without further data and research, none could be used at this time. We considered intermediate outcomes, potentially avoidable admissions, and outcomes of physician care in settings other than physician offices, such as hospitals, home health agencies, or skilled nursing facilities:

- Intermediate outcomes are the short-term results of care, such as recommended cholesterol levels for patients with coronary artery disease. The long-term outcome is preventing an acute episode. Physician claims, the only currently collected information on patients in ambulatory settings, do not provide information on intermediate outcomes. However, two improvements in administrative data would help. If laboratory values and prescription data were linked with physician claims, quality experts say that the set of physician process and outcomes measures would be much more useful. (This point is discussed below.)

- Potentially avoidable admissions are hospitalizations due to conditions that if appropriately managed outside the hospital would have been avoidable. These claims-based measures are generally used to assess the quality of care for populations. Without further research, these would not be appropriate to assess the quality of individual physicians.
- Outcomes of care in settings of care outside the physician’s office would provide additional information and incentives for improving physician care and coordination of care across settings. Because of the need to align incentives across settings and the need for a broader array of physician measures, further analysis should explore how such linkages could be made.

### Patient experience

Patient self-reports of their experience of care are an important aspect of physician quality. When a standardized survey is ready, these self-reports could be included in a set of pay-for-performance measures. Surveys of patients reveal how involved patients are in their care and whether they understand their role in improving their health. Several large health plans and purchasers have been encouraging use of patient surveys on their experience of ambulatory care, and many pay-for-performance initiatives have included the concept in their measure sets. Much research has focused on this area in the last few years, and AHRQ is developing a standardized survey. AHRQ expects to release this standardized tool into the public domain within a year and it could become a part of the pay-for-performance measure set.

### Improving the administrative data available on the quality of physician care

Further development of physician measures based on administrative data is essential. Measures based on physician claims data will impose the least burden on physicians and CMS, at least until clinical IT is in wider use. Two types of information would greatly enhance measures derived from administrative sources—laboratory values and prescription data. The laboratory values and prescription data could be linked to physician claims using beneficiary and provider identifiers to provide a more complete picture of patient care.

## RECOMMENDATION 4F

**CMS should require those who perform laboratory tests to submit laboratory values, using common vocabulary standards.**

### RATIONALE 4F

This change would give Medicare a greater ability to assess the quality of physician care.

### IMPLICATIONS 4F

#### Spending

- This recommendation should not affect federal program spending relative to current law.

#### Beneficiary and provider

- This recommendation is expected to improve beneficiary quality of care.
- This recommendation will result in some increased burden for those who conduct laboratory tests.

Reporting laboratory values is not without precedent. Claims submitted by dialysis facilities must include laboratory values based on two types of tests. Our recommendation, however, would require those who perform the laboratory tests, including some physicians and hospitals, to submit the value to CMS.

To avoid creating a new data stream for laboratories and CMS, this information should be included on the claims form. The new information could be included in new or existing fields on the claims form or else reported as an attachment to the claims form. Including it as an attachment might make it easier to capture the more in-depth information and text necessary to describe some test results. Laboratories with electronic clinical information systems may find this easier than small laboratories or physician offices without electronic systems.

To ensure that the information reported is comparable, laboratories would need to use a standard format and vocabulary. The Logical Observations: Identifiers, Names, Codes (LOINC) standards are available and have been adopted by the federal government and supported by large laboratories and associations. Use of common vocabulary and messaging standards would also make it much easier for physicians and others to receive and use information from laboratories electronically. (We discuss this point in greater detail in the IT section of this chapter.)

Reporting laboratory information as a part of claims is not without burden. Industry representatives, both laboratories and physician groups, say that clinical and payment systems are currently separated and that it would take work to link them. They suggest it could be difficult to design fields in the claims form that would capture the variety of results reported, such as panels and text results. Further, while many in the industry use LOINC standards for some of their results and support their use more broadly, they say it will take time to develop strategies for applying the standards and for all laboratories, including those in physician offices, to redesign their systems.

Some have also expressed concern that because some types of test results come back after claims are submitted, this requirement could delay payment. However, clinical laboratory representatives told us they typically wait until test results are reported before submitting claims, so it does not appear this is a widespread problem.

To allow providers and CMS time to adopt standards and an infrastructure to collect this information, a two- or three-year transition before using it for pay for performance might be prudent. But adoption and implementation of standards must begin now.

Prescription data on beneficiaries and physicians who prescribe the pharmaceuticals would also greatly enhance physician quality measure sets based on claims. For example, prescription data could be used to identify patients with diabetes. Then the claims for those patients could provide information on whether they were receiving appropriate tests and examinations. Linked further with laboratory results, these data could then help determine whether patients' diabetes was under control. Some prescription information can also help identify whether medication errors are occurring in hospitals.

**RECOMMENDATION 4G**

**CMS should ensure that the prescription claims data from the Part D program are available for assessing the quality of pharmaceutical and physician care.**

**RATIONALE 4G**

CMS will have a much more complete picture of patient and physician care if it knows which pharmaceuticals have been prescribed and whether beneficiaries have filled their prescriptions. The data will help CMS determine who has certain conditions and whether, given their condition, they are receiving clinically appropriate care.

**Spending**

- This recommendation should not affect federal program spending relative to current law.

**Beneficiary and provider**

- This recommendation is expected to improve the quality of beneficiary care.
- This recommendation is not expected to affect providers.

In the proposed regulation describing how the Part D prescription program will work, CMS asked for guidance on the manner and format of such information. CMS already needs Part D data to develop its risk-adjustment methodology and to track beneficiary and program spending. The data elements required for quality measurement need not be complex: The name and dosage of the drug, the prescriber identification in a form to be linked with the national provider identifier, and the beneficiary's unique identifier are all that is necessary. These data could also be used to assess the quality of pharmaceutical care provided through the Part D drug benefit.

**Implementation issues**

Differentiating payment to providers on the basis of quality is a significant step for Medicare. Having analyzed the measures and measurement activities, we find it is feasible to do so, but also recognize the many challenges ahead. Implementing this program will require Medicare to measure the care delivered by a broad spectrum of providers, collect and analyze significant amounts of new data, and continue research and assessment of measures. Some of these functions could be performed by CMS or under contract with CMS. Others could be separate from CMS but coordinated with this program.

**Addressing the scope of patient care**

Providers see a wide variety of patients. Condition-specific measures are not yet available on every type of patient. However, measures of quality that cut across different types of patients are available. The measures we suggest be used in a pay-for-performance program, taken together, can be applied to every type of hospital,

physician, or home health agency. The recommendations for additional data collection and research will greatly enhance the depth and breadth of measures for each individual provider, but even without such information all providers could be eligible for rewards. Several strategies help ensure that the measures are as useful as possible.

First, the cross-cutting measures could be weighted more heavily than condition-specific measures in the beginning of the program. For hospitals, a fairly broad array of process measures that are condition-specific are already in use, but smaller hospitals may not have enough patients with a certain condition, so safe practices and patient experience may receive higher weight initially. For home health agencies, most of the current functional improvement measures are broadly applicable, so they may not need cross-cutting measures. However, for those patients whose goal is stabilization, measures that assess their care are also important. For physicians, in the short run, claims-based analysis (without lab values or prescription data) may limit the number of condition-specific measures. Therefore, as noted previously, broad measures of functions and outcomes of IT use could be weighted more heavily until lab values and prescription data are linked with physician claims or until current research on use of claims-based measures is further along. When more physicians use electronic health records, a wider array of condition-specific measures will be available.

Second, data for longer time periods could be used. The AHRQ report on the use of outcomes indicators for hospitals notes that collecting multiple years of data may provide enough data to address the small sample sizes in some rural or smaller hospitals. CMS has also noted that the number of hospitals able to collect minimum sample sizes varies depending on how many quarters of data are used. The issue of small sample size for physicians could also be lessened with longer measurement periods.

## **Data collection and analysis**

CMS already collects information on many of these measures for hospitals, home health agencies, and physicians. The OASIS data for home health agencies, many hospital process and claims-based outcomes, and physician process measures based on claims are already collected. Although the claims-based information on hospitals and physicians is collected, it has not been used for this purpose. CMS would need to establish a process to

assign scores to individual hospitals and physicians. However, except for home health, new data streams would also be necessary.

CMS also already has hospital data on the “10” process measures (those linked to the update by the MMA), which are derived from information in medical records, and is beginning to collect information on 12 more from hospitals that report through the HQA initiative. Because of this initiative, CMS, JCAHO, and the hospitals involved in the HQA have largely built the infrastructure for collecting this information and assigning hospital scores. Although the efforts to develop this infrastructure were considerable, it can accommodate new measures.

Medicare would need to establish new processes for collecting information on hospital safe practices. More than 1,000 hospitals (around one fourth), have already filled out the Web-based data collection tool for the safe practices. The Leapfrog Group contracts with Medstat for data collection and scoring for this survey. The TMIT, which developed the survey, is responsible for auditing and ongoing evaluation and evolution of the survey. CMS could contract with these groups, issue a request for proposal for these services, or potentially contract with the QIOs to administer the survey and audit hospital responses.

Medicare would also need to establish new processes for collecting information on physician functions and outcomes associated with IT use. As mentioned earlier, NCQA has developed a tool to evaluate physicians on such measures as whether the physician’s practice uses systems to track patients and ensure they receive appropriate follow-up. Having worked with NCQA to revise the tool for its own purposes, CMS is familiar with it.

The number of physicians is very large. Therefore, this strategy should be developed carefully. CMS could evaluate surveys centrally, contract with the QIOs (in particular those currently using the tool), contract with NCQA to expand its recognition program or other organizations that might wish to develop this capacity. Another model would be for NCQA to certify organizations to perform the data analysis and auditing function. CMS currently works with NCQA in this way to audit Medicare Advantage (MA) quality reports. One way to limit these numbers would be to measure groups of physicians and assign scores to all the physicians in the group, or at least give physicians the option of being measured as a group.

The patient experience surveys will require a new data collection and analysis infrastructure. CMS already collects this type of information on a CAHPS survey from a large sample of beneficiaries who evaluate their experience in the fee-for-service program and in MA plans, as well as from beneficiaries who disenroll from MA plans. Thus, CMS is familiar with the questions and analysis. However, CMS's experience is limited to attributing scores to the approximately 300 MA plans. Developing a strategy for scoring patient reports on individual physicians and hospitals would require significant expansion in the current CAHPS analysis. However, CMS is building the capacity for collecting information from patients on a hospital CAHPS survey into their HQA initiative.

CMS could also work with others knowledgeable about CAHPS. NCQA works with the health plan ambulatory CAHPS, from which many of the clinician-specific CAHPS measures are expected to be drawn, and many vendors and consultants have been assisting hospitals in their related surveys. CMS would not have to develop the expertise and data infrastructure alone.

## **Process for updating measures**

After Medicare chooses an initial measure set to start the pay-for-performance program, it would need to improve and adapt measure sets over time. Improving measure sets involves considering criteria for new measures, dropping measures, and ensuring that research is under way to create or validate others. Medicare would also need to evaluate the adequacy of risk adjustment in new and existing measures.

CMS or another entity could coordinate the process of improving and adapting measure sets. AHRQ, specialty societies, and health services researchers could inform the discussion. Groups such as the HQA, the AMA Consortium, and the Leapfrog Group could help bring the various interested parties together to establish priorities and coordinate efforts. Because the NQF plays such an important role in facilitating discussion among these key stakeholders, it may be a starting place to begin to build the process.

Although CMS has made and continues to make significant progress in its ability to measure and collect information on MA plans, dialysis care, home health agencies, hospitals, and physicians, the increased activity required by this new program may require some additional

funding. CMS could also reallocate some of its funding to administer these programs or rely on its new contractor flexibility to work with private sector organizations to perform some of the necessary functions.

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## **Accelerate adoption of health information technology**

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Many observers believe that use of IT will improve the quality of health care and our ability to measure it, and increase efficiency for both individual providers and the health system. However, use of IT is low due to barriers such as the lack of return on investment, cost, and the difficulty of successful implementation. Therefore, many argue that additional government action is needed to accelerate its adoption.

The potential for IT to improve quality and our ability to measure it motivate its inclusion in our previous discussion of pay for performance in Medicare, particularly in the area of physician services. In this section, we have a fuller discussion of the role of IT in pay for performance under Medicare. We also consider additional actions to further its use, both within and outside the Medicare program. These actions are organized around three strategies: offering financial incentives, helping providers navigate the IT market and implement systems, and promoting the sharing of information among providers.

Providing financial incentives—through pay-for-performance initiatives, direct grants and loans, or requirements—could promote adoption of IT. We recommend that functions of IT systems that are linked to quality improvements be included as measures in pay-for-performance initiatives in all sectors, beginning with physician offices.

Helping providers navigate the IT market and implement systems could address some of the barriers to IT adoption. Public and private sector efforts to certify software products and provide technical assistance should help providers assess products, understand their needs, and manage implementation and ongoing maintenance.

Promoting the sharing of information among providers could improve coordination of care and efficiency. Data exchange could also increase the value of IT investments to individual providers because they could access needed clinical information, such as patient histories and lab

results. One building block necessary for information exchange is common technical standards; another is ensuring that they are used. Our recommendation in the previous section that laboratory values be submitted to CMS using common vocabulary standards addresses this second step. This section also discusses the role of community networks in exchanging health information and the legal barriers to hospitals and physicians sharing health information.

The federal government, other purchasers, and some private sector foundations have already taken many steps to accelerate adoption, and additional actions should complement, not duplicate, those efforts. The appointment

of a national coordinator for health information technology indicates the level of interest in IT at the federal level. The Framework for Strategic Action released in July 2004 provides guidance on possible directions (see text box below).

Government actions to promote IT must take into account the fiscal realities presented in Chapter 1 and the potential for unintended consequences. Policymakers must also appreciate the complexity of health care processes, which amplify the difficulty of adopting health IT. Pushing adoption before providers can manage system change may be unwise.

## Federal push for health information technology

In April 2004, President Bush issued an executive order calling for widespread adoption of interoperable electronic health records (EHRs) within 10 years and appointed a national coordinator for health information technology. In July 2004, the Coordinator and the Secretary released the *Framework for Strategic Action*, a plan to guide the nationwide implementation of information technology (IT) in both the public and private sectors, with an initial focus on the physician office (ONCHIT 2004b). The framework outlines the administration's four goals:

- *Inform clinical practice by encouraging clinicians to adopt EHRs.* The framework outlines a number of strategies to encourage EHR adoption and reduce the risk for providers who invest in IT systems. Potential strategies include providing regional grants and contracts, improving the availability of low-rate loans, updating physician self-referral and anti-kickback protections, paying for use of EHRs, starting pay-for-performance programs, and providing ongoing technical and product selection assistance.
- *Interconnect clinicians by creating an interoperable information infrastructure.* Health information must be portable and accessible as consumers move from one point of care to another. Strategies to further interoperability include fostering regional

collaborations through the formation and operation of regional health information organizations and through the development of a national health information network. In the framework, the Department of Health and Human Services (HHS) also emphasizes the need to provide interoperability and exchange of data through federal health information systems.

- *Personalize care by taking steps to help individuals manage their own wellness.* Such steps include encouraging the use of personal health records, enhancing informed consumer choice, and promoting the use of telehealth systems.
- *Improve population health through the collection of timely, accurate, and detailed clinical information.* Strategies to accomplish this goal include unifying public health surveillance architecture, streamlining quality and health status monitoring, and accelerating research and dissemination of evidence.

To further these goals, HHS anticipates collaboration between the public and private sectors. A number of federal initiatives are under way, including the development of standards and grant-based demonstration projects. Multiple agencies within the department are involved. ■

## Benefits and diffusion of health information technology

IT supports the delivery of health care. When treating a patient, doctors, nurses, and other health professionals must gather, sort, and evaluate information from multiple sources, including patients, their families, laboratories, primary physicians, consulting physicians, hospitals, and other institutional providers. In addition, the evidence base for medical decision making is large and changes frequently as researchers and manufacturers introduce new research results, techniques, drugs, and medical devices. Currently, most actors in the health care system collect and transmit information on paper, over the phone, and via fax machines. More advanced information technology offers a tool to streamline and support the process of collecting and analyzing the data needed to provide the best and most efficient care possible.

This discussion focuses on clinical IT used in managing patient care, rather than administrative systems used for billing and other administrative functions. Clinical IT comprises multiple applications that support different functions in health care, such as:

- tracking patients' care over time (the electronic health record);
- allowing physicians to order medications, lab work, and other tests electronically, and then access test results (computerized provider order entry);
- providing alerts and reminders for physicians (clinical decision support systems); and
- producing and transmitting prescriptions electronically (e-prescribing).

Of course, these functions can overlap, as with provider order entry and e-prescribing systems that include decision support. Many IT vendors now offer products that integrate numerous functions.

In the following two sections, we summarize the evidence linking IT use to improved quality, describe the level of diffusion, and consider the barriers to further adoption. More detailed discussion of these topics can be found in our June 2004 *Report to the Congress*.

### Benefits of health information technology

Limited but suggestive evidence shows that some kinds of information technology improve the quality and safety of care. For example, use of computerized provider order

entry (CPOE) of medications with clinical decision support has been shown to reduce medication errors and adverse drug events in hospitals (Bates et al. 1998; Oren et al. 2003). Use of barcoding of medications also reduces errors (Bates and Gawande 2003). In an ambulatory setting, use of electronic reminders and alerts has been shown to improve some processes and outcomes of care (Hunt et al. 1998). A recent study of quality of care in the Department of Veterans Affairs (VA) Health System, which uses a systemwide electronic health record (EHR), showed that VA patients were more likely to receive recommended care (Asch et al. 2004). Other studies note that IT may also introduce new errors, such as accidentally entering drug orders for the wrong patient (USP 2004, McDonald et al. 2004).

In addition, information technology could be a key tool for quality performance measurement and reporting. Quality measurement is an important building block for improving quality. It gives providers information on their own performance to identify areas for quality improvement efforts, evaluate the results of those efforts, and compare their performance to others. It also allows payers and consumers to make judgments about the quality of care they pay for and receive. However, collecting and reporting quality information can pose a burden on providers, particularly when it involves abstracting information from medical records or other special data collection efforts. Information technology, if sufficiently advanced, could automate and streamline this process. Paying for quality is one way to build the business case for IT adoption.

Some studies and anecdotal evidence also suggest that certain kinds of technology may improve providers' efficiency, although rigorous analyses of return on investment at the level of an individual provider are rare.

- Digital imaging software can decrease the costs of inputs like film and staff time to archive and retrieve X-rays and other images.
- E-prescribing saved one regional health system, Geisinger, nearly \$1,000 per physician annually due to greater use of formulary drugs. Use of an EHR and other IT systems led to fewer lab and radiology reports printed and filed, while documentation and billing were more accurate and complete. Geisinger also lowered transcription costs (20 percent reduction systemwide) and paper chart pulls (reduced from 1 million to 400,000 annually). Physician productivity

generally did not drop significantly when various IT systems were implemented. Indeed, in many cases, it improved after installation (Walker 2004).

- An EHR implemented by one small physician practice in Colorado led to a 6 percent decrease in overhead expenses for record keeping and chart pulls in the first year. The practice estimated a two-year payback period on their \$125,000 investment. Other anecdotal reports cite efficiency improvements, but they are not universal (Omura 2004, Miller and Sim 2004, Richmond 2004).
- Interoperability in IT, or electronic communication among organizations, may save resources on a system level through fewer repeated tests and improved efficiency (CITL 2004, Walker et al. 2005).

Information technology can also be used to improve population health by enabling rapid collection of epidemiological information, reporting cases of specific diseases, and identifying individuals who might be at risk from a specific exposure. Large databases of patient care and outcome information (with patient identifiers removed) could also improve clinical research. While we recognize the importance of IT for population health, our discussion is focused on the use of IT for personal health services that are covered by the Medicare program, rather than broader public health applications. In addition, while we recognize the potential for personal health records maintained by consumers, they are beyond the scope of this work.

### **Diffusion of health information technology and barriers to adoption**

Despite the promise of clinical information technology, diffusion among providers is low but growing. Estimates of physician use of EHRs vary, with many falling in the range of 10 percent to 25 percent. Use of IT is higher in staff model HMOs, large group practices, and medical schools. Surveys also indicate that many physicians intend to invest. In hospitals, diffusion of IT varies with the type of technology, but is also expected to increase. Studies report that 5 percent to 6 percent of hospitals currently use a CPOE system; a similar percentage use EHRs. More hospitals use digital imaging and departmental IT systems (MedPAC 2004b). In a recent Banc of America survey of 121 nonprofit hospitals and hospital systems, 66 percent of respondents reported that clinical IT is one of their top three capital spending priorities (BoA 2004). Among the

major post-acute care providers for Medicare, the use of point-of-care technology varies greatly, from 30 percent to 40 percent of home health agencies to less than 5 percent of skilled nursing facilities. The text box on p. 208–209 describes diffusion of the IT applications used in home health and skilled nursing facilities.

Many factors contribute to the low rate of diffusion. Providers, particularly physicians, cite the cost of IT systems and the lack of a clear return on investment as barriers. However, other barriers include the difficulties of successful implementation. Few providers, and especially those in smaller settings, know enough to navigate a large and complex market of IT products, implement their choice, and maintain a system over time. In addition, implementing health IT requires changes in work processes and culture that can be difficult to engineer and may be resisted by clinicians and office staff. These difficulties have led to implementation failures. Some providers have been concerned that productivity will decline when new systems are implemented, leading to decreased revenues. However, the experience of Geisinger and others suggests that any productivity declines are temporary.

Beyond cost and implementation barriers, payment incentives may be skewed so that the purchaser of technology may not reap all of the financial rewards of the investment. To the extent that use of EHRs results in fewer tests, for example, payers benefit because costs are lower, but the physicians who invest in them do not share in those savings and may have lower revenues (Walker et al. 2005, CITL 2004). Building the business case may thus require changes in financial incentives to value quality care and good coordination rather than additional services.

Another type of barrier is that many of the information technologies currently in use lack standard ways of transmitting information or describing content, limiting the ability to share and use information across systems (interoperability). Therefore, an institution may find that information contained in its clinical information system cannot be easily linked to information in its billing systems. Information from an outside source, such as a laboratory, may not be usable in an institution's system because a different syntax is used. Since patient care is delivered across a number of settings, providers may hesitate to invest in systems that cannot be linked to others. Sharing information across providers, however, promises great benefits, including greater availability of information

## Information technology in post-acute care

The diffusion of clinical information technology (IT) varies in post-acute care (PAC) settings such as home health agencies and skilled nursing facilities (SNFs), with greater diffusion in home health than SNFs. Many of the same potential benefits and barriers exist for IT implementation in PAC settings as in hospitals and physician offices.

Health information technology has the potential to improve post-acute care in a number of ways. A survey by Meredith et al. (2001) showed that one-third of home health care patients age 65 and older had evidence of a potential medication problem or were taking medication considered inappropriate for the elderly. In addition, patients in PAC settings often have multiple comorbidities. IT could help manage these complex patients, including tracking medication use. Continuity of care might be improved through use of interoperable technology that transmits patient data from previous providers. IT could enhance the collection of government-mandated patient assessments such as the Outcome and Assessment Information Set (OASIS) and the Minimum Data Set (MDS); both require detailed and lengthy data collection and electronic transmission. Finally, data gathered through IT can be used internally for quality and performance management.

### Home health

A number of different technologies are currently used in home health. Some, including PDAs, tablet PCs, and laptops, capture and store data at the point of care. Others transmit data from a patient's home. Finally, telephony and scanning are used on a smaller scale.

Point-of-care devices can store and transmit referral information, demographics, payer information, medication databases, and clinical progress notes. Experts speculate that 30 percent to 40 percent of home health clinicians use some form of point-of-care data capture system. The diffusion of point-of-care technology in home health is concentrated among large agencies. Costs and the difficulty of measuring the rate of return seem to be significant barriers to further diffusion.

The payment system is a major driver of point-of-care technologies in home health. Home health agencies are eligible to receive an early partial payment if they collect and submit OASIS data within seven days of a patient's admission. Because data must be submitted electronically, point-of-care technologies reduce transcription time and enable agencies to meet the deadline for early payment.

Telehealth is also used in home health care. An expert estimates that telehealth is used by 5 percent to 10 percent of home health agencies, mostly for chronic care and diabetes patients. In general, telehealth involves the use of a device that transmits information from a patient's home to a central location staffed by a clinician. Telehealth technologies range from sophisticated video-based monitors that transmit data such as heart rate, weight, blood pressure, oxygen saturation, blood glucose levels, and answers to disease-related questions to blood-pressure cuffs that transmit readings. Because some telehealth devices may substitute for visits by nurses or therapists, they can provide cost savings to agencies. However, cost savings only occur if the referring physician recognizes telehealth visits as a substitute for a home visit.

Telehealth may also improve patient care quality. One study of patients with congestive heart failure, coronary heart disease, diabetes, or chronic obstructive pulmonary disease showed that home monitoring is associated with lower rates of hospitalization and emergent care visits (Rosenblum et al. 2004). A second study showed that a remote video system in home health care settings can be well received by patients and can have the potential for cost savings (Johnston and Deuser 2000).

Two technologies used much less frequently are telephony and scanning technology. Telephony software allows nurse aides to avoid some manual entry of data through the use of the telephone. Telephony is generally used for simple functions such as recording the time and duration of visit. With scanning technology, clinicians fax or deliver paperwork to a central location where high-speed scanners capture the data. The machines can read the information and output the data in electronic form.

## Information technology in post-acute care (continued)

The Visiting Nurse Service of New York (VNSNY) uses many kinds of IT. The point-of-care tablet PC system used at the VNSNY allows home health nurses to view all OASIS data and the last clinical progress notes while they are in the field. During the care session, nurses can check for drug-to-drug interactions and duplicate therapy. The tablet system can prompt them on structured interventions. After the session is over, the nurse can then submit all the information to a central office over the patient's phone line, saving travel time. For this agency, the system improved timeliness in obtaining medical orders and billing. The VNSNY also uses a telehealth system that allows for speech therapists to administer therapy via video-conferencing. The agency reported an increase in productivity through the use of telehealth, but the return on investment has been hard to quantify.

### Skilled nursing facilities

Experts estimate that the diffusion of clinical information technology in SNFs is low. Although all SNFs use IT to submit MDS electronically, the number using point-of-care technology to capture and store data is thought to be less than 5 percent. The number, however, is growing. SNFs may use IT for admissions, care planning, notes, and ordering medications and consultations.

One study showed that the benefits of using clinical IT in SNFs vary by facility. In some nursing homes where orders were entered electronically, the staff reported a reduction in ordering time and error rates (Kramer et al. 2004). Although receiving previous hospital information was considered critical, many clinicians still conducted an independent assessment on admission. ■

for clinical decision making, fewer repeat tests, and better coordination of care across sites of service. From a practical perspective, increasing adoption by providers and building the capacity to share information across settings will need to happen simultaneously.

Given what we know about clinical IT, its benefits, and the barriers to diffusion, what should be done to accelerate adoption and information exchange? In addressing this question, we considered many options, taking into account what is already being done in the public and private sectors. We organized our analysis around three strategies: offering financial incentives, helping providers navigate the IT market, and promoting sharing of information among providers. We relied on recent literature and consulted widely with experts in the field, including hospitals, physicians, home health agencies, and health systems that have implemented IT; communities involved in information exchange projects; speciality societies active in helping their members adopt IT; staff at agencies within the Department of Health and Human Services (HHS); as well as QIOs, IT professional societies, and clinical laboratories. We also assembled an expert panel of

those who have successfully adopted IT in a small physician office, a regional health system, and a community network.

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### Provide financial incentives

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Cost is often cited as a major barrier to adoption of IT, suggesting that financial incentives may be needed to improve the business case for investment. The federal government is a major purchaser of health care. It can provide financial incentives for information technology, both within payment systems such as Medicare and through other federal programs. This section recommends including IT in pay-for-performance initiatives in Medicare and discusses the pros and cons of two other actions: providing grants and loans and requiring use of IT. Some have argued that Medicare and other payers should pay providers for the use of IT, but in its deliberations, the Commission concluded that Medicare should focus its incentives on the results of IT use—performance—rather than the use of the tool itself.

The type and size of appropriate financial incentives are not obvious. How strong an incentive is required? Should incentives be direct (linked specifically to IT) or will more indirect incentives (quality measures linked to IT use) work? One group has suggested that the full costs of implementing EHRs must be covered to encourage adoption by physicians in small and medium group practices, with a rough cost estimate of between \$22 billion and \$43 billion over three years (Connecting for Health 2004).<sup>12</sup> However, it is not clear that this level of federal incentive is possible or prudent. To ensure effective investment, providers must bear at least some of the risk. In addition, successful implementation of health IT requires leadership and commitment to changing work processes. Offering a large or full subsidy could encourage adoption by providers lacking the necessary underlying commitment. With high failure rates, this kind of approach could put public funds at risk.

## Information technology and pay for performance

MedPAC has embraced pay-for-performance initiatives to improve the quality of care provided to beneficiaries (see preceding section for full discussion). Pay for performance could motivate use of information technology in three ways:

- Providers will need to collect and report information on the performance measures; information systems may make this easier.
- Use of information technology itself could be directly measured; IT measures would be one domain of a measure set that also included other quality measures.
- Additional quality payments could help build the business case for making an IT investment and sustaining its use in the face of competing priorities.

Some private sector plans and purchasers have incorporated use of IT into their pay-for-performance initiatives. Physician use of IT is included as a quality measure in recognition programs and sometimes as a basis for financially rewarding physicians by a number of groups, including the Integrated Healthcare Association—a California-based group of health plans, health systems, and physician groups—and the Bridges to Excellence program sponsored by General Electric and other large employers.<sup>13</sup> Some hospitals report on their use of CPOE to the Leapfrog Group, which publically reports this

information. Some payers have financially rewarded providers on that basis. A recent review of pay-for-performance programs indicated that about half included IT measures in 2004, a significant increase over 2003 (Baker and Carter 2004).

Medicare could also include information technology measures in its pay-for-performance initiatives—that is, it could include measures of IT adoption. However, this approach has limitations. The first involves ensuring that clear and enforceable definitions of what constitutes a given IT application are available. For example, does a spreadsheet containing patient-specific information that is maintained by a physician office constitute an EHR? Certification of IT products (discussed below, p. 212) may help in defining them, as measures could be tied to use of certified products. However, having the product does not immediately translate into use or guarantee the desired outcome of improved quality.

Alternatively, Medicare could include measures that describe evidence-based quality- or safety-enhancing functions performed with the help of IT. This approach focuses the incentive on quality-improving activities, rather than on the tool used. It also allows providers to achieve performance in the early stages without necessarily investing in IT, although it would be easier if they did so. This could be especially important for physicians in small practices, where adoption of IT has been slower. By focusing on quality-enhancing functions, these measures could also give guidance on the kinds of systematic work process changes that are required for successful IT implementation.

In the physician office, quality-enhancing activities might include tracking patients with diabetes and sending them reminders about preventive services, or providing educational support for patients with chronic illnesses. For hospitals, an example of a quality-enhancing activity would be ensuring that physicians check for drug-to-drug interactions and drug allergies when they place pharmacy orders. This clinical decision support function is the link between CPOE and safety improvements. In the home health setting, a measure could be identifying patients on medications that require the management of side effects and documenting steps taken to help them. In all of these settings, other mechanisms could be used to perform the function, but appropriate IT would facilitate the process. Focusing on the function, not the technology, targets the quality-enhancing outcome, but also recognizes that adoption of IT is an evolutionary process.

As more providers adopt IT, measures of functions that can only be performed with IT could be added. Beyond use of IT in a provider's own setting, future measures could also address the transfer of information across settings. For example, does a primary care provider put lab results and reports from specialists into the EHR? Does a specialist send reports in compatible formats? Does a hospital send relevant electronic data on patients transferred to post-acute care settings?

Because physicians play a central role in directing patient care, physician adoption and use of IT should be a part of physician pay-for-performance initiatives from the beginning of such a program. Physician use of EHRs promises to lead to better care management, reduced errors, and improved efficiency. Finally, physician adoption of IT can facilitate reporting of meaningful quality indicators that may not be available through claims analysis. In other settings, measures of quality-enhancing functions supported by IT use may need further development.

#### RECOMMENDATION 4H

**The Congress should direct CMS to include measures of functions supported by the use of information technology in Medicare initiatives to financially reward providers on the basis of quality.**

#### RATIONALE 4H

Adoption of clinical IT by providers has the potential to improve the quality, safety, and efficiency of health care. Because the benefits of IT result from its use for specific quality-enhancing functions, Medicare should incorporate measures of quality-enhancing functions supported by the use of information technology in any initiative to financially reward providers on the basis of quality, beginning with physicians. Providers will want to adopt IT because it will make quality measurement and reporting easier. Furthermore, the prospect of additional payments under pay for performance will enhance the business case for IT adoption.

#### IMPLICATIONS 4H

##### Spending

- This recommendation would not affect federal program spending relative to current law.

##### Beneficiary and provider

- This recommendation is expected to improve beneficiary quality of care.

- Providers could receive higher or lower payments depending on their quality performance.

As discussed in the section on pay for performance, CMS must establish a process to develop measures and ensure coordination between Medicare and other payers, including for IT measures. Purchasers should also coordinate with IT vendors to ensure that their systems can generate the needed measures.

#### Grants and loans to providers

Some have advocated large-scale grant and loan programs to providers to jump-start adoption of information technology. The Commission considered the pros and cons of this approach, as well as the extent of existing programs, and concluded that the risks outweigh the benefits. We return to the idea of loan funds in the context of community data exchange projects below.

Establishing large-scale federal grants and loans could make sense if capital costs were the only barrier to adoption. Grant and loan funds could potentially leverage investment from capital markets. Efforts to improve the stability of the market through certification and technical assistance (discussed below, p. 212) could improve the odds of success.

However, factors beyond cost also limit adoption, and could limit the effectiveness of large-scale grants and loans. If there were a clear return on investment from clinical IT, adoption would occur as it has for administrative IT. In addition, commitment to change and willingness to revise work processes have been important cornerstones of successful IT implementation. It would be difficult to ensure that recipients have these attributes. If they did not, large federal investments in grants and loans would be an inefficient use of funds. Moreover, federal funds would need to be targeted at providers that clearly cannot afford health IT on their own; otherwise, public loan and grant funds risk displacing private capital. Some evidence shows that physicians can recoup their investments in IT systems through efficiency gains and enhanced revenues derived from, among other things, better documentation of care (Miller and Sim 2004, Omura 2004, CITL 2003, Richmond 2004). Finally, loan and grant funds incur high administrative costs.

On a more limited scale, however, grants and loans can provide seed money for IT efforts that provide demonstration value. As discussed in our June 2004

*Report to the Congress*, numerous grants are already in place in the public and private sectors. The federal government has recently increased its funding. In October 2004, AHRQ announced \$139 million in grants over 5 years to local providers and communities seeking to develop and use health IT, to 5 states for promotion of statewide and regional networks, and to a National Health Information Resource Center that will provide technical assistance and provide a forum for exchange of best practices. About half of the grants were awarded for technology implementation, and the rest awarded for either planning or research purposes.

A recent IOM report outlined the unique challenges facing rural providers and the potential for certain systems like telehealth to improve rural health care (IOM 2004). Partly in recognition of these issues, a large number of the AHRQ grants had some rural focus and about half were awarded for either planning or implementing initiatives that involve sharing of information across provider settings or among hospitals.

## Requirements

MedPAC also considered requiring use of IT. We concluded that this approach is too burdensome to adopt at this time, but could be appropriate in the future. The program could require use of IT by hospitals and other institutional providers by changing the conditions of participation that must be met to receive Medicare payments. For example, CMS could require that hospitals adopt CPOE systems to participate in Medicare.

Conditions of participation do not apply to physicians. Therefore, a different vehicle, requiring a change in law, would be needed to require use of ambulatory EHRs or other IT systems by physicians or other noninstitutional providers.

Requirements have the advantage of specifying the kinds of IT that would be most beneficial for improving quality and quality measurement. Since Medicare is a large payer, requirements would also lead to rapid adoption of IT. To be effective, they would need to be accompanied by actions to help providers implement systems successfully (discussed in next section). They would also need to be announced well in advance of implementation, so that providers have time to comply.

Providers may view IT requirements as overly burdensome, given the costs of IT systems and the barriers to successful implementation. This is a reasonable position

in the current environment, where use is low and investment is risky. However, the pace of adoption is picking up and both the public and private sectors have been engaged in activities to assist providers in implementation. As the market evolves and IT use grows, requirements should become more feasible.

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## Help providers navigate the IT market and implement systems

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Health care providers have limited capacity to evaluate the numerous vendors and products available and to manage full-scale implementation, which includes significant work process changes. The government and private sector could take actions to increase market stability, lower the risk of failure, and assist in implementation. Important and needed efforts are already under way to help providers make sense of their options by certifying software products and providing technical assistance in the acquisition and deployment of IT.

## Certification

Certification would provide objective analysis of the functions and capabilities of health IT applications and tell providers which products meet specified criteria. It is likely to help providers, and particularly those practicing in smaller settings, choose systems by providing objective guidance on their capabilities. Establishing criteria also provides vendors with guidance on the basic features they should build into their products, including compliance with standards to support interoperability.

From Medicare's perspective, having a certification process could help define what is meant by information technology and electronic health records, which may become important in the context of pay for performance. Knowing that certified EHRs can perform the functions that have been linked to improving quality gives some assurance that public investments in IT adoption could have the desired result.

The private sector, in consultation with HHS, has appointed a Certification Commission for Healthcare Information Technology (CCHIT). It was formed by three organizations representing the health care industry and health information management professionals, and includes two representatives from HHS (one from CMS).<sup>14</sup>

CCHIT will establish criteria for certification and mechanisms for testing products, beginning with ambulatory EHRs for physician offices. CCHIT will build on existing EHR standards, including the draft standard for a functional model of an EHR set out by Health Level 7 (HL7), a standards development organization certified by the American National Standards Institute.

The model outlines functions to be included in an EHR, organized into direct care, supportive care, and information infrastructure. Functions under direct care include, for example, maintaining a patient record and managing a problem list for each patient. Supportive care functions include creation and transfer of disease-specific patient registries, capturing and reporting information on

outcomes measures, and generating reports. Information infrastructure functions include following appropriate security measures and using accepted standards for data content and messaging (Table 4-5 provides a fuller, but not complete, enumeration of functions in the HL7 EHR System Functional Model).

### Technical assistance

Certification should facilitate choice among applications, but many providers could also use help in understanding their IT needs, managing the changes in work process that ideally accompany adoption of IT, and developing an ongoing capacity for maintenance and growth.

**TABLE  
4-5**

**Illustrative functions of an electronic health record**

Function	Description
<b>Direct care</b>	
Identify and maintain a patient record	Store and link key identifying information to the patient record. Identify a patient's record using a lookup function.
Manage problem list	Create patient-specific problem list to document medical history. Record all pertinent dates to track changes. The entire problem history is viewable.
Manage medication list	Manage exhaustive medication list over time. Store all pertinent dates. The entire medication history is viewable.
Manage allergy and adverse reaction list	Identify, code, and manage allergens over time. Include drug reactions and intolerances to dietary or environmental triggers. The entire allergy history is viewable.
<b>Support</b>	
Support registries	Export health information to disease-specific and immunization registries. Add new registries as needed.
Measure and analyze outcomes	Capture information to be used in outcomes analysis for populations, providers, facilities, and communities.
Generate reports	Create standard and ad hoc reports for clinical, administrative, and financial decision making, and for patient use.
Verify eligibility and determine coverage	Interact with other systems, applications, and modules to verify eligibility for health insurance and special programs, including verifying benefits and coverage.
<b>Information infrastructure</b>	
Authenticate users	Authenticate electronic health record users before allowing access to system.
Ensure data retention, availability, and destruction	Retain, ensure availability, and destroy health record information according to organizational standards.
Support data interchange	Adhere to standards for connectivity, information structures, and semantics to support seamless operations between complementary systems.
Manage health record information	Manage information across electronic health record applications by ensuring that clinical information entered by providers is a valid, accurate, and complete representation of clinical notes.

Source: Based on the HL7 Electronic Health Record System Functional Model Draft Standard for Trial Use, from Health Level Seven (2004).

Within the marketplace, vendors and consultants can provide technical assistance. However, vendors may not be an unbiased source of information. Specialty societies provide another alternative—some have begun to help their members with technical assistance. For example, the American Academy of Family Physicians (AAFP) has negotiated vendor discounts on hardware and software for its members, is conducting a small-scale pilot project on EHR adoption, and provides information resources through its Center for Health Information Technology. AAFP has also explored open-source medical software, which enables anyone to use or adapt the code and distribute it to others.<sup>15</sup>

Similarly, the American College of Physicians (ACP) is offering its members information and support for EHR implementation through its Practice Management Center and provides clinical decision support information through its Physicians' Information and Education Resource. Both the AAFP and the ACP are part of CMS's Doctors' Office Quality Information Technology (DOQ-IT) program, described below. In addition, the AMA and 13 medical specialty societies have joined the Physicians Electronic Health Record Coalition to help their members assess their needs, select products, and use EHRs.

Within the Medicare program, the QIOs may play this role as well, either directly or through subcontracts with other organizations. The DOQ-IT project sponsored by CMS is promoting the adoption of EHRs in small- and medium-sized physician offices. The four QIOs involved in the project assist physicians in evaluating alternatives, implementing systems, and using the EHR to improve quality. The physician support model developed under DOQ-IT will likely be the base for the Medicare Care Management Performance demonstration project mandated in the MMA. This project will incorporate use of IT and quality measurement in a pay-for-performance program, using measures developed in conjunction with NCQA.

The draft 8<sup>th</sup> scope of work requires all QIOs to provide technical assistance for information technology as a task, expanding on DOQ-IT. The QIOs will encourage physicians to adopt IT and also help them assess their system needs and implement work process changes. QIO performance will be measured, in part, through physician adoption and effective use of IT.<sup>16</sup>

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## Promote sharing of information across providers and patients

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Most patients find that the various actors involved in their care are not well coordinated, and information generated in one setting is not transferred to another setting efficiently, if at all (Coleman and Berenson 2004). One of the promises of health IT is to allow real-time, reliable transfer of information across providers and patients. For example, the results of tests performed in ambulatory settings would be available to doctors in the hospital. Changes in medications made during hospital stays could be available to primary care physicians after discharge. Data exchange could improve the information available for clinical decision making and reduce repeat tests and expenses for administrative tasks, perhaps leading to significant savings across the health care system (CITL 2004, Walker et al. 2005).

Achieving interoperability (creating electronic data sharing capabilities across providers) has been a goal of HHS for many years. Continuing work toward that end includes encouraging standards development, providing incentives for participants to use the standards, stimulating community efforts at information exchange, and addressing legal barriers. All of these efforts must also ensure the security and privacy of shared health information. Exchange of patients' health information for purposes of treatment, payment, and health care operations is allowed under the Health Insurance Portability and Accountability Act of 1996 (HIPAA). However, protocols for defining access rights, authenticating users, and securing data must be developed.

## Develop standards

The technical questions of how health IT systems can communicate involve what a system does (function), the types of information it contains (content), the language used to convey information (vocabulary), and how one system can transmit information to another (messaging). Standards are needed in each of these areas (Table 4-6 provides examples). The complexity of information used in health care and the numerous settings of care pose additional technical challenges. For example, a vocabulary used to provide lab test results (e.g., LOINC) is distinct from that used for billing (e.g., International Classification of Diseases, Ninth Revision [ICD-9]), which is distinct from one used for general clinical information (e.g., Systematized Nomenclature of Medicine [SNOMED]).

**TABLE  
4-6**

**Standards apply to multiple dimensions of health information technology**

<b>Dimension</b>	<b>Sample standards with illustrative elements and descriptions</b>
<p><b>Function:</b> What can the system do?</p>	<p><b>Electronic health record functional model</b></p> <ul style="list-style-type: none"> <li>• Maintain patient record</li> <li>• Maintain problem list</li> <li>• Maintain medication list</li> <li>• Create patient registries</li> <li>• Capture and report outcome measures</li> <li>• Generate reports</li> <li>• Follow appropriate security measures</li> <li>• Use accepted standards for terminology and messaging</li> </ul>
<p><b>Content:</b> What specific pieces of information will be included?</p>	<p><b>Continuity of care record</b> (under development)</p> <ul style="list-style-type: none"> <li>• Patient identifying information</li> <li>• Advance directives</li> <li>• Condition, diagnosis, or problem</li> <li>• Adverse reactions and allergies</li> <li>• Medications</li> <li>• Recent test results</li> <li>• Care documentation (dates and purposes of visits, names of practitioners seen)</li> <li>• Care plan</li> <li>• Practitioners</li> </ul>
<p><b>Vocabulary:</b> What language will be used to convey content?</p>	<p><b>Logical Observations: Identifiers, Names, Codes (LOINC)</b></p> <ul style="list-style-type: none"> <li>• Coding system for laboratory results</li> </ul> <p><b>Systematized Nomenclature of Medicine (SNOMED)</b></p> <ul style="list-style-type: none"> <li>• Coding system for clinical terminology</li> </ul> <p><b>ICD-9-CM</b></p> <ul style="list-style-type: none"> <li>• Coding system for diagnoses</li> </ul>
<p><b>Messaging:</b> How will the content from one system be transferred to another?</p>	<p><b>Digital Imaging and Communications in Medicine (DICOM)</b></p> <ul style="list-style-type: none"> <li>• Protocols for transmitting digital images from one system to another</li> </ul> <p><b>HL7</b></p> <ul style="list-style-type: none"> <li>• Protocols for electronic data exchange in health care environments</li> </ul> <p><b>National Council for Prescription Drug Programs (NCPDP) SCRIPT</b></p> <ul style="list-style-type: none"> <li>• Protocols for transmitting prescription information from prescribers to dispensers</li> </ul> <p><b>RxHub Formulary and Benefit Information File Transfer Protocol</b> (currently proprietary)</p> <ul style="list-style-type: none"> <li>• Protocols to communicate formulary and benefit coverage information from payers and pharmaceutical benefit managers to prescribers</li> </ul> <p><b>X12N</b></p> <ul style="list-style-type: none"> <li>• Standard for electronic data interchange used in administrative and financial health care transactions</li> <li>• Compliant with HIPAA transactions standards</li> </ul>

Note: ICD-9-CM (International Classification of Disease, Ninth Revision, Clinical Modification), HL7 (Health Level Seven), HIPAA (Health Insurance Portability and Accountability Act of 1996).

Source: National Health Information Infrastructure 2004, Tessier 2004, National Committee on Vital and Health Statistics 2004, Health Level Seven 2004.

Each of these vocabularies has multiple components and definitions. SNOMED, for example, contains almost 1.5 million semantic relationships grouped into more than 360,000 concepts.

MedPAC's June 2004 *Report to the Congress* summarized many of the efforts already under way in the private sector to develop standards that will allow for interoperable systems. A recent addition is the EHR System Functional Model Draft Standard for Trial Use that was released by HL7 in the summer of 2004. It provides a comprehensive list of the potential functions of an EHR that users may want and vendors may build into their systems.

Examples of additional standards that are under development include e-prescribing and the continuity-of-care record. The MMA requires the National Committee on Vital and Health Statistics (NCVHS) to develop a set of standards for ambulatory e-prescribing that will be operational by the start of the prescription drug benefit in 2006. Some examples of the functions that an e-prescribing system could perform are:

- linking to benefit and formulary information,
- providing reference information on drugs and dosing,
- incorporating patient-specific information on allergies and current medications,
- writing prescriptions,
- connecting with the pharmacy to transmit the prescription electronically, and
- providing information back to the prescriber on whether a prescription was filled and if generic substitutions occurred.

Few, if any, e-prescribing systems currently in place are capable of all of these functions. NCVHS will be working on the relevant content, vocabulary, and messaging standards needed for e-prescribing systems to perform these functions, building on those already in use (NCVHS 2004). CMS issued a proposed rule containing initial foundation standards in early 2005 (CMS 2005).

The continuity-of-care record (CCR) would provide core patient information. It is meant to be a limited record that includes only essential information needed to ensure continuity of care when patients transition from one provider to another; as such, it may not be as useful for specialty care. Examples of the kinds of information in the CCR include:

- diagnoses,
- allergies,
- recent care provided,
- recommendations for future care (care plan),
- the reason for referral or transfer, and
- demographic and insurance information.

Providers can access the CCR to obtain recent health information and update it with new information. A standard specification is being developed jointly by standards setting organizations, representatives of providers, IT professionals, and patient advocates.<sup>17</sup> It is built on a paper-based Patient Care Referral Form developed by the Massachusetts Department of Public Health and used widely in Massachusetts (Tessier 2004, Massachusetts Medical Society 2003).

Despite the considerable efforts under way for developing standards, the ability of existing IT systems to exchange information across settings and providers is limited. Continued technical development is needed. The technical approaches include further development of standards, as well as cross-walks and other work-arounds that will allow sharing of data across systems that do not share a common structure. The administration acknowledged the limited development of our national health information network in a recent request for information to stakeholders for comments on how "interoperability and health information exchange could be deployed and operated on a sustainable basis" (ONCHIT 2004a).

Addressing these needs will be a priority within HHS as it seeks to define and plan for a national health information network that provides a common framework for standards implementation, security protocols, and other requirements for allowing health information exchange. The commitment to moving forward is strong on the part of the federal government, foundations, and the private sector. The current model of private sector development with government collaboration is stimulating discussions necessary to move forward. Continued federal involvement will come from the Office of the National Coordinator on Health Information Technology, NCVHS, the Consolidated Health Informatics initiative, and other agencies. In addition, the MMA charged a new Commission on Systemic Interoperability with studying

the best strategy, including a timeline and priorities for adoption and implementation to create a nationwide system of interoperable IT.

## Ensure standards are used

Development of a national health information network, as envisioned by HHS, will eventually provide broad guidance on how to achieve interoperability for all health information, one piece of which is ensuring standards are used. In the interim, other incremental actions may be needed to ensure that participants in the market use current standards.

Although many standards have been developed, most are not widely used, partly because adopting new standards requires reworking existing systems and developing detailed specifications to operationalize them. For example, moving from billing based on ICD-9 to a new vocabulary such as SNOMED would require providers and insurers to learn and retool their systems to use new codes to describe the work that is done and paid for.

However, when standards are not used, it is difficult for one provider to incorporate important clinical information from another provider into its own electronic records or a data repository. To do so can require abstraction and manual data entry, which is expensive and can introduce errors.

Making it feasible for physicians to obtain data from other sources—such as laboratories, radiologists, and pharmacies—can improve care and heighten physician demand for IT. Having current and historical information on lab results can help with patient management. Access to prescription data would give physicians information they do not currently have—namely, whether prescriptions were filled or refilled. Many of the quality measures for physician services require lab and pharmacy data, which today generally requires record abstraction to obtain. In addition, successful implementers of IT systems have noted that physicians greatly appreciate electronic access to this high-value information and making it available has generated greater willingness to undertake IT projects.

To encourage standardization, the federal government is adopting certain standards for use across all federal agencies. The Federal Health Architecture (FHA) brings together government agencies to promote common technical approaches and business processes and share infrastructures. Under the FHA, the Consolidated Health Informatics (CHI) initiative has focused on identifying

specific health standards.<sup>18</sup> By choosing standards for the federal government to follow, CHI provides direction while allowing private organizations to develop individual standards. To date, the CHI has adopted 19 standards.<sup>19</sup>

The government can also promote use of standards by requiring them for submitting data to the government, as was done in the HIPAA transactions standards for claims submission and will be done for e-prescribing under Medicare Part D. In our discussion of physician pay for performance (p. 196), we recommend that CMS require those who perform lab tests to submit lab values on claims, using common vocabulary standards.<sup>20</sup>

Many clinical labs currently share information with providers electronically, but generally not in a standard way. Accepted vocabulary standards for coding lab data (e.g., LOINC) and sending it (e.g., HL7) exist and have been adopted by the federal government. They are not required, however, and many labs still use their own, internally generated coding sets. In addition, they often send results as Web documents or in other formats that prevent incorporation of results into existing systems.

Lab results generally contain the same structured set of information, such as:

- the name of the test, including detailed specifications;
- the result of the test (or value);
- the units of measure for the test;
- the methodology used; and
- the normal range the lab uses to interpret results.

Standards would provide a common way of presenting this information. While the specific standards for submitting lab data to CMS would be derived through the regulatory process, the LOINC standard has been endorsed by the American Clinical Laboratory Association and the College of American Pathologists and is already used as an alternate code set by a number of the larger clinical labs. The costs of transforming lab data into a common format include mapping laboratory-specific local codes to the standard codes and ensuring that laboratory information systems can accommodate and transmit that information. Although large reference labs conduct many of the lab tests, smaller labs, and particularly labs in hospitals and some physician offices, also do testing. A phased approach could allow additional time for smaller labs to comply.

By requiring labs to submit data according to standards, we will enhance the interoperability of a set of clinically important data. Making these data more available, in turn, could also stimulate physicians to adopt EHRs and facilitate reporting of quality measures derived from lab values.

Use of standards for other sources of clinical information, such as pharmacy and radiology, should also be addressed over time. We earlier recommended submission of Part D pharmacy data to CMS to facilitate quality measurement (p. 202). In addition, the MMA requires use of e-prescribing standards under Medicare Part D.<sup>21</sup>

One initiative in California, Setting Standards, has brought together health plans, providers, and laboratories to develop and agree to use a set of standards for exchanging pharmacy and lab data. The project has been motivated by a desire to increase access to reliable clinical information to improve disease management, as well as to provide physicians with the data needed to submit quality measurements under the Integrated Healthcare Association's pay-for-performance initiative (CHCF 2004).

### **Stimulate community efforts to exchange health information**

Given the local nature of health care and the extent to which local providers share information, stimulating community efforts at information exchange has the potential to improve coordination of care and to encourage adoption of IT. But creating a connected health care system presents a bit of a conundrum. Is the best approach to encourage use of IT by individual providers and then connect them? Or is it better to create information highways that can then be used by individual providers? In the end, both approaches are probably needed.

The previous sections discuss ways to encourage use by individual providers. Here we discuss information exchange that would carry the benefits of ensuring relevant clinical data is available when needed. In the *Framework for Strategic Action*, HHS put forward a strategy of fostering regional collaboration. Local networks of providers and health plans could work together to develop and implement health information exchange. If they use common approaches, the regional networks could form an important building block for the national health information network.

Limited examples of such cooperation exist. Several communities, such as Indianapolis, Santa Barbara County, and New York's Hudson Valley, have developed data repositories or other means of sharing data, but they are limited. These efforts have received considerable grant support. The Santa Barbara effort received \$10 million from the California Health Care Foundation, which also funded feasibility studies (Brailer et al. 2003). The efforts in Indianapolis have also been supported by foundations and recently received an AHRQ grant.

Additional communities are beginning to develop similar capacities. Some of these efforts are being supported through the AHRQ grants. AHRQ has sponsored five states, providing them \$5 million each over five years to develop statewide networks. The states will follow different models but share goals of making data, including lab and pharmacy data, available to numerous parties through a broad partnership that includes purchasers, providers, and public health programs (including Medicaid). Other local efforts have been supported through the eHealth Initiative and the Health Resources and Services Administration through the Connecting Communities for Better Health project.

MedPAC has considered the development of a federal loan fund to support these entities. If a loan fund were established, it should be time-limited, to signal that federal support is only for building capacity. The program would also need to establish criteria to evaluate the readiness of a community network, such as commitment (including financial resources) by a range of providers and payers and a clear outline of how the project could sustain itself after loan funds were spent. The funds would support exchange of data among participants—which could include hospitals, physicians, labs, pharmacies, other providers, and payers—through use of a data repository or other technologies. To be funded, communities would need to specify the participants in the data exchange network and the kinds of data that would be shared, a plan to achieve interoperability while protecting the privacy and security of data, and a contract specifying how the organizations would work together. Special consideration might be given to rural or other communities that can demonstrate exceptional needs.

Although we see the potential of a loan fund for supporting development of community efforts and discuss what a loan fund might look like, MedPAC does not

endorse the concept at this time. The benefits of a loan fund need to be weighed against the administrative costs of starting a new program. There are other barriers to community networks beyond funding: Funding these efforts in the absence of addressing these other barriers may not be an effective use of federal funds. Additionally, a loan program requires that the receiving entity have a revenue stream that would allow it to pay back the loan; that business model is not yet developed.

## Address legal barriers

Legal issues and uncertainties over legal restrictions may hamper efforts to create local health information exchange networks (GAO 2004) and should be reexamined. In local markets, hospitals often have greater financial resources than physicians and might want to encourage adoption of IT by allowing physicians to use their systems. However, a hospital that supports a local information exchange that offers hardware, software, or other items of value to physicians who admit patients to the hospital must be wary of both the Ethics in Patient Referrals Act (Stark law) and the anti-kickback statute. The Stark law prohibits physicians from referring Medicare and Medicaid patients for certain health services to any entity with which they have a financial relationship.<sup>22</sup> The anti-kickback statute does not allow a physician to receive any kind of remuneration in exchange for a referral.

The interim final rule on the Stark law, Phase II, provided a narrow exception for community-wide health information exchange. Hospitals or other entities can provide items or services of information technology to physicians to access and share electronic health records, drug information, and general health information. However, the regulations require that:

- the items and services provided be used primarily for accessing the network,
- provision of the items and services not take into account the volume or value of referrals from the physician,
- the network be available to all providers and residents of the community, and
- the arrangement not otherwise violate the anti-kickback statute (CMS 2004b).

It seems unlikely that a hospital would be willing to engage in an information exchange project that meets all of these criteria, particularly the requirement that a network be available to all providers and residents of the community.

Of course, the legal limitations need to be considered in the context of the purpose of these laws. The Stark and anti-kickback provisions are intended to prevent fraud and abuse. Physicians should make referrals based on the quality of a facility, not financial arrangements. Hospitals should not use financial incentives, including the provision of IT equipment and services, to induce referrals. In the extreme, hospitals and physicians could create closed referral networks that restrain competition.

Nevertheless, it is appropriate to strike a balance between encouraging health information exchange and protecting consumers. The Secretary should direct the Office of the Inspector General and the Department of Justice to reconsider the limited exception and provide guidance on situations that do and do not comply with the laws. Without that kind of change, the existing regulations could stifle important advances in information exchange and adoption of IT.

Other legal avenues for hospitals to support physician use of IT are limited. Physicians can have financial relationships with the entities to which they refer patients if they are charged fair market value for the services they receive. In this scenario, the hospital would need to determine the fair market value of IT resources provided to physicians and could only work with those willing to pay. Other Stark exceptions allow hospitals or other entities to provide nonmonetary compensation to referring physicians of up to \$300 per year and limited incidental benefits (but not cash) to their medical staffs.

The MMA instructed HHS to craft exceptions from the Stark law and safe harbors to the anti-kickback law for provision of IT used to receive and transmit electronic prescription information. The information can flow from hospitals to medical staff; from group practices to members of the practice; and from prescription drug plans or MA plans to pharmacists, pharmacies, and those who write prescriptions. The drafting of specifications for e-prescribing may present the Secretary with an opportunity to clarify how the Stark and anti-kickback laws apply to other uses of IT. ■

## Endnotes

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- 1 A recent survey of pay-for-performance programs in the private sector found that the size of the rewards ranges from 5 to 20 percent for physicians and 1 to 4 percent for hospitals (MedVantage 2004).
- 2 CMS is planning to revise the set and add new measures to it for purposes of the QIO program and the HQA voluntary reporting initiative, but is not allowed to update the measures for the set linked to provision of a full update.
- 3 While the process being measured is the same, sometimes the data definition and method of collection may be different. Therefore, it is critical that CMS, JCAHO, the NQF, and others that measure hospital quality work together to ensure that hospitals only have to collect the information once.
- 4 The NQF recently endorsed a set of quality measures for cardiac surgery. The set is based on measures in a database developed and maintained by the Society of Thoracic Surgeons (STS). If Medicare wished to include privately held databases and measures, these databases could provide additional information on quality, including linking the surgeon and hospital performance. The STS reports that over 80 percent of thoracic surgeons and 70 percent of hospitals with thoracic surgery report to the database (Conn 2004).
- 5 The National Quality Forum actually endorsed 30 safe practices. Because the Leapfrog Group has another process for requesting hospital information on three of the measures—evidence-based hospital referral, implementation of a computerized provider order-entry system, and intensive care unit physician staffing—these practices were not included in the safe practices survey.
- 6 Of the total 38 health status items, 2 items had interrater reliability coefficients of 0.54, 11 had coefficients between 0.60 and 0.70, and 25 had coefficients above 0.70. On this scale, the highest coefficient would be 1.0, or perfect correspondence.
- 7 The NQF has conducted only a preliminary review of these measures.
- 8 The “c-statistic” is the proportion of yes/no pairs the model would correctly predict out of all possible yes/no pairs. Higher scores indicate a better predictive model.
- 9 CMS recently announced that this measure, along with three others, would be replaced by four different measures of improvement.
- 10 The scope of work defines the activities to be performed by the QIOs during their next contract cycle.
- 11 The UK has a physician pay-for-performance program that relies on physician use of electronic health records to obtain information on quality (Roland 2004).
- 12 In developing this estimate, the Connecting for Health Working Group assumed that the capital costs (amortized over three years) and ongoing expenses of an EHR are between \$12,000 and \$24,000 per year.
- 13 Bridges to Excellence uses the recognition program run by NCQA.
- 14 The founding organizations are the National Alliance for Health Information Technology, the American Health Information Management Association, and the Healthcare Information and Management Systems Society (HIMSS).
- 15 Linux, though not medical software, is an example of open-source software.
- 16 In preparation for the IT tasks in the 8th scope of work, all QIOs have been working with a few physician practices in each state.
- 17 Sponsoring organizations include ASTM International, Massachusetts Medical Society, HIMSS, AAFP, American Academy of Pediatrics, AMA, Patient Safety Institute, American Health Care Association, and the National Association for the Support of Long Term Care.
- 18 Agencies involved in the CHI include the Department of Defense, Department of Veterans Affairs, the Centers for Medicare & Medicaid Services, the Centers for Disease Control and Prevention, and the National Institutes of Health.
- 19 A private sector initiative, Integrating the Health Enterprise, is developing the detailed specifications needed to implement standards and integrate systems.
- 20 Our recommendation does not address messaging standards, because claims are already transmitted using standards.
- 21 The law requires that NCVHS develop standards for e-prescribing. Once standards are developed, all prescriptions under Part D that are transmitted electronically must conform to them.
- 22 The designated health services include clinical laboratory, physical therapy, occupational therapy, radiology, radiation therapy, various medical equipment and supplies, home health, outpatient prescription drugs, and inpatient and outpatient hospital services.

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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: At a crossroads in Medicare: Assessing payment adequacy and moving toward value-based purchasing

No recommendations

### Chapter 2: Assessing payment adequacy and updating payments in fee-for-service Medicare

#### Section 2A: Hospital inpatient and outpatient services

**2A-1** The Congress should increase payment rates for the inpatient prospective payment system by the projected increase in the hospital market basket index less 0.4 percent for fiscal year 2006.

*Yes:* Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Milstein, Muller, Nelson, Raphael, Reischauer, Scanlon, Smith, Stowers

*No:* Wolter

*Absent:* Wakefield

**2A-2** The Congress should increase payment rates for the outpatient prospective payment system by the projected increase in the hospital market basket index less 0.4 percent for calendar year 2006.

*Yes:* Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Milstein, Muller, Nelson, Raphael, Reischauer, Scanlon, Smith, Stowers

*No:* Wolter

*Absent:* Wakefield

**2A-3** The Congress should extend hold-harmless payments under the outpatient prospective payment system for rural sole community hospitals and other rural hospitals with 100 or fewer beds through calendar year 2006.

*Yes:* Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Milstein, Muller, Nelson, Raphael, Reischauer, Scanlon, Smith, Stowers, Wolter

*Absent:* Wakefield

## Section 2B: Physician services

The Congress should update payments for physician services by the projected change in input prices less 0.8 percent in 2006.

*Yes:* Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Milstein, Muller, Nelson, Raphael, Reischauer, Scanlon, Smith, Stowers, Wolter

*Absent:* Wakefield

## Section 2C: Skilled nursing facility services

**2C-1** The Congress should eliminate the update to payment rates for skilled nursing facility services for fiscal year 2006.

*Yes:* Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Muller, Nelson, Raphael, Reischauer, Scanlon, Smith, Stowers, Wolter

*Absent:* Milstein, Wakefield

**2C-2** The Secretary should develop a new classification system for care in skilled nursing facilities. Until this happens, the Congress should authorize the Secretary to:

- remove some or all of the 6.7 percent payment add-on currently applied to the rehabilitation RUG–III groups, and
- reallocate the money to the nonrehabilitation RUG–III groups to achieve a better balance of resources among all of the RUG–III groups.

*Yes:* Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Muller, Nelson, Raphael, Reischauer, Scanlon, Smith, Stowers, Wolter

*Absent:* Milstein, Wakefield

**2C-3** CMS should:

- develop and use more quality indicators specific to short-stay patients in skilled nursing facilities,
- put a high priority on developing appropriate quality measures for pay for performance, and
- collect information on activities of daily living at admission and discharge.

*Yes:* Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Muller, Nelson, Raphael, Reischauer, Scanlon, Smith, Stowers, Wolter

*Absent:* Milstein, Wakefield

## Section 2D: Home health services

The Congress should eliminate the update to payment rates for home health care services for calendar year 2006.

*Yes:* Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Muller, Nelson, Raphael, Reischauer, Scanlon, Smith, Stowers, Wolter  
*Absent:* Milstein, Wakefield

## Section 2E: Outpatient dialysis services

The Congress should update the composite rate by the projected rate of increase in the end-stage renal disease market basket index less 0.4 percent for calendar year 2006.

*Yes:* Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Milstein, Muller, Nelson, Raphael, Reischauer, Scanlon, Smith, Stowers, Wolter  
*Absent:* Wakefield

## Chapter 3: Issues in physician payment policy

**3A** The Secretary should use Medicare claims data to measure fee-for-service physicians' resource use and share results with physicians confidentially to educate them about how they compare with aggregated peer performance. The Congress should direct the Secretary to perform this function.

*Yes:* Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Milstein, Muller, Nelson, Raphael, Reischauer, Scanlon, Smith, Stowers, Wolter  
*Absent:* Wakefield

**3B** 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.

*Yes:* Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Milstein, Muller, Nelson, Raphael, Reischauer, Scanlon, Smith, Stowers, Wolter  
*Absent:* Wakefield

**3C** The Congress should direct the Secretary to set standards for physicians who bill Medicare for interpreting diagnostic imaging studies. The Secretary should select private organizations to administer the standards.

*Yes:* Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Milstein, Muller, Nelson, Raphael, Reischauer, Scanlon, Smith, Stowers, Wolter  
*Absent:* Wakefield

**3D** The Congress should direct the Secretary to set standards for all providers who bill Medicare for performing diagnostic imaging studies. The Secretary should select private organizations to administer the standards.

*Yes:* Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Milstein, Muller, Nelson, Raphael, Reischauer, Scanlon, Smith, Stowers, Wolter  
*Absent:* Wakefield

**3E** The Secretary should include nuclear medicine and PET procedures as designated health services under the Ethics in Patient Referrals Act.

*Yes:* Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Milstein, Muller, Nelson, Raphael, Reischauer, Scanlon, Smith, Stowers, Wolter

*Absent:* Wakefield

**3F** The Secretary should expand the definition of physician ownership in the Ethics in Patient Referrals Act to include interests in an entity that derives a substantial proportion of its revenue from a provider of designated health services.

*Yes:* Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Milstein, Muller, Nelson, Raphael, Reischauer, Scanlon, Smith, Stowers, Wolter

*Absent:* Wakefield

## **Chapter 4: Strategies to improve care: Pay for performance and information technology**

**4A** The Congress should establish a quality incentive payment policy for hospitals in Medicare.

*Yes:* Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Milstein, Muller, Nelson, Raphael, Reischauer, Scanlon, Smith, Stowers, Wolter

*Absent:* Wakefield

**4B** CMS should require hospitals to identify which secondary diagnoses were present on admission on their claims forms.

*Yes:* Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Milstein, Muller, Nelson, Raphael, Reischauer, Scanlon, Smith, Stowers, Wolter

*Absent:* Wakefield

**4C** The Congress should establish a quality incentive payment policy for home health agencies in Medicare.

*Yes:* Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Milstein, Muller, Nelson, Raphael, Reischauer, Smith, Stowers, Wolter

*Not Voting:* Scanlon

*Absent:* Wakefield

**4D** The Secretary should develop a valid set of measures of home health adverse events, including adequate risk adjustment.

*Yes:* Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Milstein, Muller, Nelson, Raphael, Reischauer, Scanlon, Smith, Stowers, Wolter

*Absent:* Wakefield

**4E** The Congress should establish a quality incentive payment policy for physicians in Medicare.

*Yes:* Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Milstein, Muller, Nelson, Raphael, Reischauer, Smith, Stowers, Wolter

*Not Voting:* Scanlon

*Absent:* Wakefield

**4F** CMS should require those who perform laboratory tests to submit laboratory values, using common vocabulary standards.

*Yes: Bertko, Burke, Crosson, DeParle, Durenberger, Hackbarth, Milstein, Muller, Raphael, Reischauer, Scanlon, Smith, Stowers, Wolter*

*No: DeBusk, Nelson*

*Absent: Wakefield*

**4G** CMS should ensure that the prescription claims data from the Part D program are available for assessing the quality of pharmaceutical and physician care.

*Yes: Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Milstein, Muller, Nelson, Raphael, Reischauer, Scanlon, Smith, Stowers, Wolter*

*Absent: Wakefield*

**4H** The Congress should direct CMS to include measures of functions supported by the use of information technology in Medicare initiatives to financially reward providers on the basis of quality.

*Yes: Bertko, Burke, Crosson, DeBusk, DeParle, Durenberger, Hackbarth, Milstein, Muller, Nelson, Raphael, Reischauer, Scanlon, Smith, Stowers, Wolter*

*Absent: Wakefield*

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# **Acronyms**

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## Acronyms

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<b>AAFP</b>	American Academy of Family Physicians	<b>DHS</b>	designated health services
<b>AAP</b>	average acquisition payment	<b>DOQ-IT</b>	Doctors' Office Quality Information Technology
<b>ABMS</b>	American Board of Medical Specialties	<b>DRG</b>	diagnosis related group
<b>ACE</b>	angiotensin-converting enzyme	<b>DSH</b>	disproportionate share
<b>ACOVE</b>	Assessing Care of Vulnerable Elders	<b>EBITDA</b>	earnings before interest, taxes, depreciation, and amortization
<b>ACP</b>	American College of Physicians	<b>EHR</b>	electronic health record
<b>ACR</b>	American College of Radiology	<b>EPO</b>	erythropoietin
<b>ADL</b>	activity of daily living	<b>ESRD</b>	end-stage renal disease
<b>A&amp;G</b>	administrative and general	<b>FDA</b>	Food and Drug Administration
<b>AHRQ</b>	Agency for Healthcare Research and Quality	<b>FFS</b>	fee-for-service
<b>AIDS</b>	acquired immunodeficiency syndrome	<b>FHA</b>	Federal Health Architecture
<b>AIUM</b>	American Institute of Ultrasound in Medicine	<b>FTC</b>	Federal Trade Commission
<b>ALOS</b>	average length of stay	<b>GAO</b>	Government Accountability Office
<b>AMA</b>	American Medical Association	<b>GDP</b>	gross domestic product
<b>AMI</b>	acute myocardial infarction	<b>GPCI</b>	geographic practice cost index
<b>APC</b>	ambulatory payment classification	<b>HCFA</b>	Health Care Financing Administration
<b>APR-DRG</b>	all patient refined diagnosis related group	<b>HHA</b>	home health agency
<b>APU</b>	annual payment update	<b>HHS</b>	Department of Health and Human Services
<b>ASP</b>	average sales price	<b>HI</b>	Hospital Insurance (Medicare Part A)
<b>AV</b>	arteriovenous	<b>HIMSS</b>	Healthcare Information and Management Systems Society
<b>AWP</b>	average wholesale price	<b>HIPAA</b>	Health Insurance Portability and Accountability Act of 1996
<b>BBA</b>	Balanced Budget Act of 1997	<b>HL7</b>	Health Level 7
<b>BBRA</b>	Balanced Budget Refinement Act of 1999	<b>HMO</b>	health maintenance organization
<b>BCBS</b>	Blue Cross Blue Shield	<b>HQA</b>	Hospital Quality Alliance
<b>BIPA</b>	Medicare, Medicaid, and SCHIP Benefits Improvement & Protection Act of 2000	<b>IAC</b>	Intersocietal Accreditation Commission
<b>BLS</b>	Bureau of Labor Statistics	<b>ICD-9-CM</b>	International Classification of Diseases, Ninth Revision, Clinical Modification
<b>CABG</b>	coronary artery bypass graft	<b>ICU</b>	intensive care unit
<b>CAH</b>	critical access hospital	<b>IDTF</b>	independent diagnostic testing facilities
<b>CAHPS</b>	Consumer Assessment of Health Plans Survey	<b>IME</b>	indirect medical education
<b>CAPD</b>	continuous ambulatory peritoneal dialysis	<b>IOM</b>	Institute of Medicine
<b>CBO</b>	Congressional Budget Office	<b>IPA</b>	independent practice association
<b>CCHIT</b>	Certification Commission for Healthcare Information Technology	<b>IPPS</b>	inpatient prospective payment system
<b>CCI</b>	Correct Coding Initiative	<b>IT</b>	information technology
<b>CCPD</b>	continuous cycler-assisted peritoneal dialysis	<b>JCAHO</b>	Joint Commission on Accreditation of Healthcare Organizations
<b>CCR</b>	continuity-of-care record	<b>LDL</b>	low-density lipoprotein
<b>CHI</b>	Consolidated Health Informatics	<b>LOINC</b>	Logical Observations: Identifiers, Names, Codes
<b>CMS</b>	Centers for Medicare & Medicaid Services	<b>LUPA</b>	low utilization payment adjustment
<b>CPOE</b>	computerized provider order entry	<b>LVSD</b>	left ventricular systolic dysfunction
<b>CT</b>	computed tomography		
<b>CV</b>	coefficient of variation		

<b>MA</b>	Medicare Advantage	<b>PCP</b>	primary care provider
<b>MDS</b>	Minimum Data Set	<b>PDA</b>	personal digital assistant
<b>MedPAC</b>	Medicare Payment Advisory Commission	<b>PET</b>	positron emission tomography
<b>MEI</b>	Medicare Economic Index	<b>PHI</b>	private health insurance
<b>MMA</b>	Medicare Prescription Drug, Improvement, and Modernization Act of 2003	<b>PLI</b>	professional liability insurance
<b>MQSA</b>	Mammography Quality Standards Act	<b>PPO</b>	preferred provider organization
<b>MRI</b>	magnetic resonance imaging	<b>PPS</b>	prospective payment system
<b>MSA</b>	metropolitan statistical area	<b>ProPAC</b>	Prospective Payment Assessment Commission
<b>NAMCS</b>	National Ambulatory Medical Care Survey	<b>QIO</b>	quality improvement organization
<b>NCQA</b>	National Committee for Quality Assurance	<b>RN</b>	registered nurse
<b>NCVHS</b>	National Committee on Vital and Health Statistics	<b>RUG-III</b>	resource utilization group, version III
<b>NHIS</b>	National Hospital Indicators Survey	<b>RVU</b>	relative value unit
<b>NKF</b>	National Kidney Foundation	<b>SCHIP</b>	State Children’s Health Insurance Program
<b>NORC</b>	National Opinion Research Center	<b>SCIC</b>	significant change in condition
<b>NQF</b>	National Quality Forum	<b>SGR</b>	sustainable growth rate
<b>NRC</b>	Nuclear Regulatory Commission	<b>SMI</b>	Supplementary Medical Insurance (Medicare Part B)
<b>OACT</b>	Office of the Actuary	<b>SNF</b>	skilled nursing facility
<b>OASIS</b>	Outcome and Assessment Information Set	<b>SNOMED</b>	Systematized Nomenclature of Medicine
<b>OBQI</b>	Outcome-Based Quality Improvement	<b>STS</b>	Society of Thoracic Surgeons
<b>OBQM</b>	Outcome-Based Quality Monitoring	<b>TBS</b>	Targeted Beneficiary Survey
<b>OIG</b>	Office of Inspector General	<b>TMIT</b>	Texas Medical Institute of Technology
<b>OMB</b>	Office of Management and Budget	<b>UK</b>	United Kingdom
<b>OSCAR</b>	Online Survey, Certification, and Reporting system	<b>U.S.</b>	United States
<b>PAC</b>	post-acute care	<b>USRDS</b>	United States Renal Data System
<b>PAYGO</b>	pay-as-you-go	<b>VA</b>	Department of Veterans Affairs
<b>PC</b>	personal computer	<b>VNSNY</b>	Visiting Nurse Service of New York
<b>PCI</b>	percutaneous coronary intervention	<b>VPS</b>	volume performance standard

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## **More about MedPAC**

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**John M. Bertko, F.S.A., M.A.A.A.,** is vice president and chief actuary for Humana Inc., where he manages the corporate actuarial group and directs the coordination of work by actuaries in Humana's major business units, including public programs, commercial, individual, and TRICARE. Mr. Bertko has extensive experience with risk adjustment and has served in several public policy advisory roles, including prescription drug benefit design. He served the American Academy of Actuaries as a board member from 1994 to 1996 and as vice president for the health practice area from 1995 to 1996. He was a member of the Actuarial Board for Counseling and Discipline from 1996 through 2002. Mr. Bertko is a fellow of the Society of Actuaries and a member of the American Academy of Actuaries. He has a B.S. in mathematics from Case Western Reserve University.

**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 a board member of the Kaiser Family Foundation, the Kaiser Commission on Medicaid and the Uninsured, the Academy for Health Services Research and Health Policy, the American Board of Internal Medicine Foundation, WellPoint Health Networks, Chubb Insurance, and the University of San Francisco. She is a member of the Institute of Medicine and the National Academy of Public Administration. She also sits on the national advisory council at the Center for State Health Policy and 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 served in that position until his current appointment. He also has experience with prescription drug arrangements and has led efforts on comprehensive public report cards on clinical quality, management of a drug formulary, and adoption of a state-of-the-art electronic medical record. He currently is chair-elect of the Board of Directors of the American Medical Group Association. Dr. Crosson received his undergraduate degree in political science from Georgetown University and his M.D. degree from Georgetown's School of Medicine.

**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 Accredo Health, 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 Oxford University, where she was a Rhodes Scholar; and a J.D. degree from Harvard Law School.

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**Glenn M. Hackbarth, J.D.**, is chairman of the Commission and an independent consultant living 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. Harvard Vanguard was created from the staff-model delivery system that was the original core of Harvard Community Health Plan. 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.

**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 health care purchasers coalition in the U.S. Dr. Milstein focuses on performance improvement methods for large health care purchasers and providers, clinical performance measurement, and the psychology of clinical performance failure. He cofounded both the Leapfrog Group and the Consumer Purchaser Disclosure Project, and heads clinical standards setting for both initiatives. He is an associate clinical professor at the University of California at San Francisco. Dr. Milstein has a B.A. in economics from Harvard, an M.P.H. in health services planning from the University of California at Berkeley, and an M.D. degree from Tufts University.

**Ralph W. Muller** 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 on 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 of the National Academy of Sciences (IOM), he serves on the IOM Roundtable on Environmental Health Sciences Research and Medicine and was chairman of the study committee on Racial and Ethnic Disparities in Health Care. Dr. Nelson received his M.D. from Northwestern University.

**Carol Raphael** is president and chief executive officer of the Visiting Nurse Service (VNS) of New York, the country's largest voluntary home health care organization. VNS programs include post-acute and long-term care, rehabilitation, hospice, mental health services, and a managed care plan for dually eligible Medicare and Medicaid beneficiaries. Ms. Raphael developed the Center for Home Care Policy and Research, which studies the management, cost, quality, and outcomes of home- and community-based services. Previously, Ms. Raphael served as the executive deputy commissioner of the Human Resources Administration in charge of the Medicaid and public assistance programs in New York City. Ms. Raphael has served on several Robert Wood Johnson Foundation advisory committees and New York State panels, including the New York State Hospital Review and Planning Council and the Medicaid Reform Task Force. She is on the boards of Lifetime Healthcare, Future Health, and the American Foundation for the Blind and is a member of the Pfizer Hispanic Advisory Board and the Kaiser Permanente Planning Group for Geriatric Care. She was a Visiting Fellow at the King's Fund in London and is a fellow of the New York Academy of Medicine. She has an M.P.A. from Harvard University's Kennedy School of Government.

**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 health policy consultant. Until April 2004, he was managing director of health care issues at the U.S. General Accounting Office (GAO). At GAO, he oversaw congressionally requested studies of Medicare, Medicaid, the private insurance market and health delivery systems, public health, and the military and veterans' health care systems. Before joining GAO in 1993, he was co-director of the Center for Health Policy Studies and an associate professor in the Department of

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**David A. Smith** 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 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 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

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**Mary K. Wakefield, Ph.D., R.N., F.A.A.N.,** is director of and professor at the Center for Rural Health at the University of North Dakota. Dr. Wakefield has held administrative and legislative staff positions in the U.S. Senate and served on many public and private health-related advisory boards. Dr. Wakefield is a member of the Institute of Medicine of the National Academy of Sciences and serves on the Committee on Quality Health Care in America. She is a fellow of the American Academy of Nursing. She has served on a number of rural-health-related committees, including the National Advisory Committee on Rural Health, Office of Rural Health Policy, Health Resources and Services Administration. Dr. Wakefield received her B.S. in nursing from the University of Mary, Bismarck, ND, and her M.S. and Ph.D. from the University of Texas at Austin.

**Nicholas J. Wolter, M.D.,** is a pulmonary and critical care physician who serves as chief executive officer for Deaconess Billings Clinic (DBC) in Billings, Montana. DBC is a regional, not-for-profit medical foundation consisting of a multispecialty group practice, tertiary hospital, critical access hospital affiliates, health maintenance organization, research division, and long-term care facility serving 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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