

SECTION
2 A

**Hospital inpatient and
outpatient services**

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 acute inpatient and outpatient prospective payment systems in 2008 by the projected rate of increase in the hospital market basket index, concurrent with implementation of a quality incentive payment program.

COMMISSIONER VOTES: YES 14 • NO 0 • NOT VOTING 0 • ABSENT 3

.....

2A-2 Concurrent with implementation of severity adjustment to Medicare's diagnosis related group payments, the Congress should reduce the indirect medical education adjustment in fiscal year 2008 by 1 percentage point to 4.5 percent per 10 percent increment in the resident-to-bed ratio. The funds obtained from reducing the indirect medical education adjustment should be used to fund a quality incentive payment system.

COMMISSIONER VOTES: YES 13 • NO 1 • NOT VOTING 0 • ABSENT 3

.....

2A-3 The Secretary should improve the form and accompanying instructions for collecting data on uncompensated care in the Medicare cost report and require hospitals to report using the revised form as soon as possible.

COMMISSIONER VOTES: YES 14 • NO 0 • NOT VOTING 0 • ABSENT 3

SECTION 2A

Hospital inpatient and outpatient services

Section summary

Most of our indicators of payment adequacy for hospital services are positive. More Medicare-participating hospitals have opened than closed in recent years, suggesting continued access to care for Medicare beneficiaries. Inpatient and outpatient service volume continues to increase but at reduced rates of growth in 2005 and into 2006. The quality of care is generally improving. Mortality rates have dropped while CMS's indicators of clinical effectiveness and appropriateness of care have improved, but the results for adverse events are mixed.

Spending on hospital construction increased substantially in recent years—with 30 percent growth just in the last year—and the value of debt for hospitals with upgraded credit ratings far exceeds the value of those with downgrades. The median values of several financial indicators (e.g., measures of debt service coverage) reached their highest value ever recorded in 2005.

Cost growth has fallen since 2003 and on a case-mix-adjusted basis was just slightly higher than the increase in the operating market basket in

In this section

- Are Medicare payments adequate in 2007?
- How should Medicare payments change in 2008?
- The indirect medical education and disproportionate share adjustments

2005. Data from several for-profit chains and a survey sponsored by CMS and MedPAC, however, suggest that the rate of growth in costs may have edged up again in 2006.

The overall Medicare margin for hospitals covered by prospective payment declined from –3.1 percent in 2004 to –3.3 percent in 2005. Considering the evidence of higher cost growth in 2006, we project a margin of –5.4 percent for 2007 (reflecting 2008 policy other than payment updates).

Hospitals with consistently low Medicare margins had smaller declines in length of stay and higher growth in costs than hospitals with consistently high margins. Consequently, they had higher standardized costs per case than other hospitals. One explanation for the difference in performance is that the hospitals with low Medicare margins appear to face less pressure to control their costs, primarily because private payers pay much more than the cost of care. Their revenue from all sources other than Medicare was 16 percent more than associated costs, generating more than enough extra income to offset Medicare losses. The high-margin hospitals, in contrast, roughly broke even on their non-Medicare business. To perform well overall, they had to control their costs, and we see the result in higher Medicare margins.

In considering the appropriate payment update, we had positive findings for beneficiaries' access to care, volume growth, quality of care, and access to capital. But Medicare margins are low and recent cost trends suggest they will fall between 2005 and 2007. At the same time, our analysis of hospitals with consistently high costs and low margins suggests that fewer than a fifth of hospitals contribute to lowering the industry-wide Medicare margin below zero. Medicare should put pressure on hospitals to control their costs rather than accommodate the recent rate of cost growth.

Balancing these considerations, we conclude that an update of market basket is appropriate for inpatient and outpatient services, with this increase implemented concurrently with a quality incentive payment program. The

Commission previously recommended a 1 percent to 2 percent payment pool for a pay-for-performance program. We estimate that our recommendation for reducing the adjustment for indirect medical education (IME) would generate 1 percentage point of funding for the pool. For a larger pool, the additional amount would be taken from the base rates. Although pay for performance would operate separately from the update, hospitals' quality performance would determine whether their net increase in payments in 2008 is above or below the market basket increase.

The Congress should increase payment rates for the acute inpatient and outpatient prospective payment systems in 2008 by the projected rate of increase in the hospital market basket index, concurrent with implementation of a quality incentive payment program.

Recommendation 2A-1

COMMISSIONER VOTES:
YES 14 • NO 0 • NOT VOTING 0 • ABSENT 3

In 2004, Medicare spent \$5.5 billion on the IME adjustment and \$7.7 billion on the adjustment for disproportionate share (DSH), together accounting for 14 percent of inpatient payments. Almost one-third of hospitals receive an IME adjustment and three-quarters receive a DSH adjustment. Hospitals that receive IME or DSH payments—and particularly those that receive both—have much higher Medicare margins than those that receive neither adjustment.

The IME adjustment has always been set higher than the estimated effect of teaching on hospitals' costs per case (the so-called "empirical level"). Based on 2004 data, we found that more than half of IME payments were beyond the empirical level, accounting for \$3 billion in Medicare spending. Reducing the IME adjustment to the empirical level and redistributing the savings among all hospitals would markedly reduce the differences in financial performance under Medicare.

The Commission previously recommended refinements to inpatient payments, including an adjustment for severity of illness, and CMS is developing a mechanism to account for severity. Concurrent with implementation of severity adjustment, the Commission recommends that the Congress reduce the IME adjustment by 1 percentage point to 4.5 percent

per 10 percent increment in the resident-to-bed ratio. The savings should be used to fund a quality incentive payment policy for all hospitals.

Recommendation 2A-2

COMMISSIONER VOTES:

YES 13 • NO 1 • NOT VOTING 0 • ABSENT 3

Concurrent with implementation of severity adjustment to Medicare's diagnosis related group payments, the Congress should reduce the indirect medical education adjustment in fiscal year 2008 by 1 percentage point to 4.5 percent per 10 percent increment in the resident-to-bed ratio. The funds obtained from reducing the indirect medical education adjustment should be used to fund a quality incentive payment system.

The Commission recommends updates and changes to IME concurrent with a pay-for-performance program and adjustment for severity of illness. These policy changes should be viewed as a package to improve the accuracy of Medicare's payments for acute inpatient services and the quality of care.

We found a weak relationship between hospitals' costs per discharge and their share of low-income patients. Many have viewed the DSH adjustment as helping hospitals with their uncompensated care rather than offsetting the cost impact of treating low-income patients. However, we found little evidence of a relationship between the DSH payments hospitals receive and the amount of uncompensated care they provide.

A federal payment for uncompensated care could be funded inside or outside Medicare. If the payment for uncompensated care were within Medicare, the current DSH payments could provide funding. A payment for uncompensated care should be distributed on the basis of each hospital's aggregate costs for uncompensated care. To provide the necessary data, we recommend that CMS improve its instrument for collecting information on uncompensated care. ■

Recommendation 2A-3

COMMISSIONER VOTES:

YES 14 • NO 0 • NOT VOTING 0 • ABSENT 3

The Secretary should improve the form and accompanying instructions for collecting data on uncompensated care in the Medicare cost report and require hospitals to report using the revised form as soon as possible.

Background

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, psychiatric, or rehabilitation services. Medicare purchases these services from short-term general and specialty hospitals that meet its conditions of participation and agree to accept the program's payment rates.

Medicare spending on hospitals

Medicare payments for acute inpatient and outpatient services account for more than 90 percent of Medicare payments made to hospitals covered by the inpatient prospective payment system (PPS).¹ Growth in Medicare spending for hospital services has been robust and is expected to continue to be so. Spending grew from \$91

billion in 1995 to \$145 billion in 2005, an average annual increase of 4.7 percent (Figure 2A-1). Since 2000, the growth rate has been higher, 8.3 percent per year. CMS's Office of the Actuary projects that spending will increase 4.8 percent per year from 2006 to 2016 (OACT 2006).

Medicare's payment system for inpatient and outpatient services

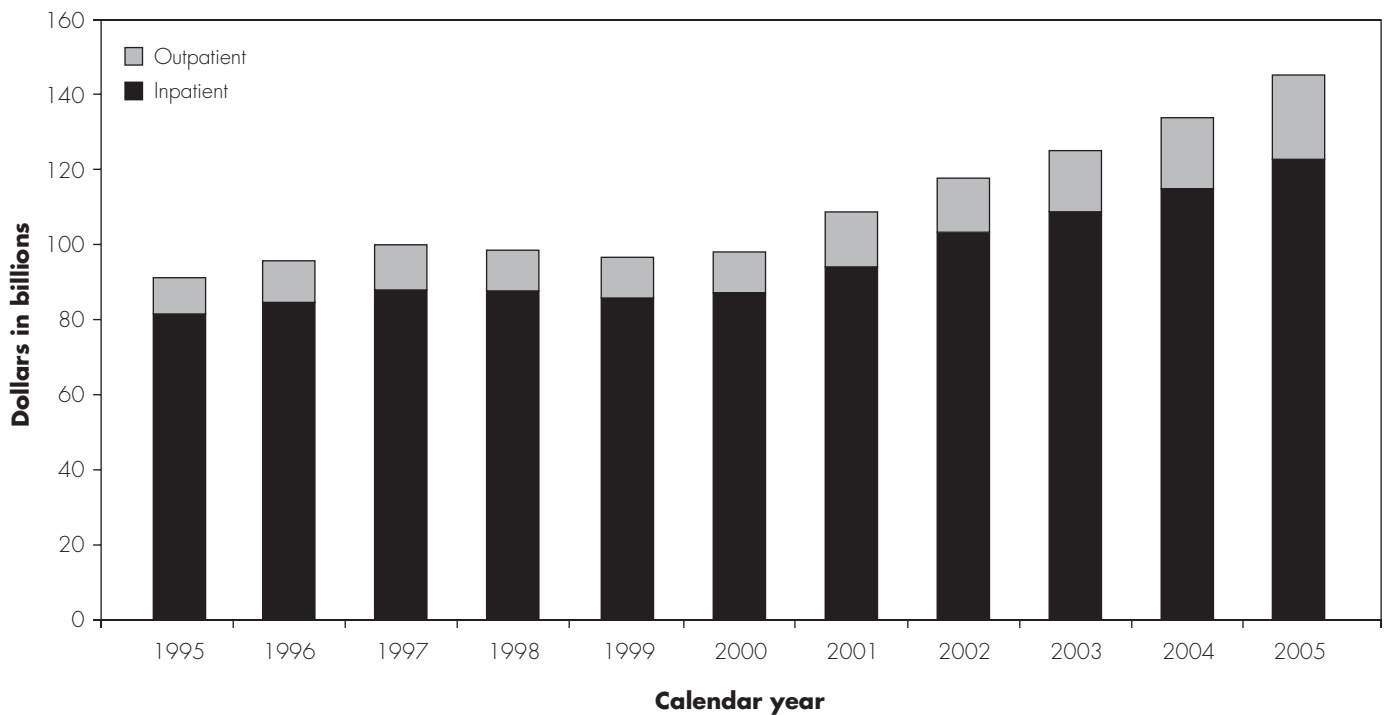
This section provides a brief overview of the inpatient and outpatient PPSs, which have a similar basic construct (a base rate modified for differences in type of case or service as well as geographic differences in wages) but somewhat different sets of payment adjustments.

Acute inpatient payment system

Medicare's acute inpatient PPS pays hospitals a predetermined amount per hospital discharge, with separate payments to cover hospitals' operating and capital expenses. The diagnosis related group (DRG) classification system sorts patients into 538 groups, which aggregate cases with related clinical problems and similar

FIGURE 2A-1

Medicare payments for hospital services continue to grow

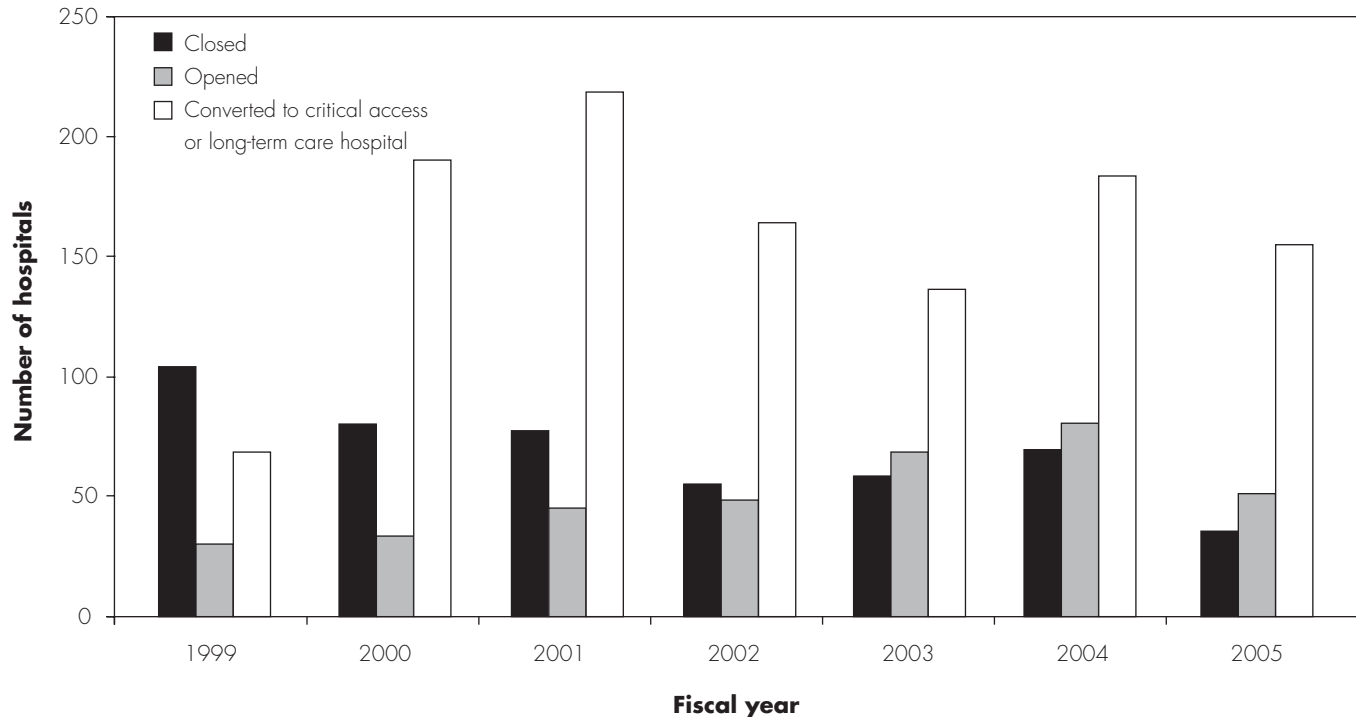


Note: Data include all Medicare-participating hospitals. Includes acute inpatient services covered by the prospective payment system (PPS); critical access hospitals; other inpatient services (psychiatric, cancer, children's, rehabilitation, and long-term care hospitals); outpatient services covered by PPS; and other outpatient services. Payments include program outlays but not beneficiary cost sharing.

Source: 2006 annual report of the Boards of Trustees of the Medicare trust funds.

**FIGURE
2A-2**

More hospitals have opened than closed since 2002, and many have converted to critical access and long-term care hospitals



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

costs. The DRG payment rate is the product of a base payment rate and the relative weight of the DRG. The labor portion of the DRG payment rate is further adjusted by the hospital-wage index to account for differences in area wages.

The inpatient PPS makes policy adjustments to payments for certain cases and to hospitals with specific characteristics, including outlier payments for cases with unusually high costs, an adjustment for indirect medical education (IME) to account for the higher costs of patient care in teaching hospitals, and an adjustment for disproportionate share (DSH) for hospitals that treat an unusually large share of low-income patients. A more detailed description of the acute inpatient PPS can be found on MedPAC's website at http://www.medpac.gov/publications/other_reports/Sept06_MedPAC_Payment_Basics_hospital.pdf.

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

- refining the current DRGs to capture more fully the 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 values in each DRG, and
- adjusting the weights to account for differences in the prevalence of high-cost outlier cases.

CMS responded to one of these recommendations by adopting a method of basing relative weights on costs. Basing DRG relative weights on costs eliminates bias from differences in markup of charges over costs among hospitals and among services within a hospital. After proposing a system of refined DRGs, CMS announced that it would study alternative approaches to adjusting for differences in severity of illness within DRGs and consider adopting one in fiscal year 2008. As an interim step, CMS made several changes to the DRG system in fiscal year 2007 to better recognize differences in severity.

Hospital outpatient payment system

The outpatient PPS pays hospitals a predetermined amount per service. CMS assigns each outpatient service to 1 of approximately 850 ambulatory payment classification (APC) groups. Each APC has a relative weight based on its median cost of service compared with the median cost of a midlevel clinic visit, and a conversion factor translates relative weights into dollar payment amounts. A more detailed description of the outpatient PPS can be found on MedPAC's website at www.medpac.gov/publications/other_reports/Sept06_MedPAC_Payment_Basics_OPD.pdf.

Are Medicare payments adequate in 2007?

Each year, MedPAC makes payment update recommendations for hospital inpatient and outpatient services for the coming year. In our framework, we address whether payments for the current year (2007) are adequate to cover the costs efficient hospitals incur and then how much efficient providers' costs should change in the coming year (2008). In determining payment adequacy, we consider beneficiaries' access to care, changes in the volume of services, changes in the quality of care, hospitals' access to capital, and the relationship of Medicare's payments and providers' costs. In addition, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) requires that we consider the efficient provision of services in recommending updates. Therefore, we consider the appropriateness of hospitals' costs—that is, whether actual costs provide a reasonable representation of efficient hospitals' costs.

Beneficiaries' access to care and supply of providers

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

In each year since 2002, more Medicare-participating hospitals opened than closed. In 2005, 51 hospitals joined the Medicare program and 35 dropped out, for a net gain of 16 (Figure 2A-2). The annual number of closures

**TABLE
2A-1**

The share of hospitals offering most specialized services has grown

| Service | 1998 | 2001 | 2004 |
|---------------------------|------|------|------|
| Neonatal intensive care | 19% | 20% | 21% |
| Burn care | 3 | 3 | 5 |
| Transplant services | 6 | 9 | 8 |
| Open heart surgery | 20 | 22 | 23 |
| Trauma center (level 1-3) | 26 | 32 | 32 |
| Cardiac catheterization | 37 | 38 | 36 |
| Angioplasty | 24 | 26 | 27 |
| Hemodialysis | N/A | 27 | 30 |
| Psychiatric services | 50 | 47 | 47 |
| MRI | 50 | 55 | 58 |

Note: N/A (not available). Data are for services provided directly by community hospitals, which include critical access hospitals in addition to those covered by the acute inpatient and outpatient prospective payment systems.

Source: American Hospital Association annual survey of hospitals.

dropped by more than 60 percent from 1999 to 2005. Some hospitals ceasing participation in the PPS for acute inpatient services continue in Medicare as critical access or long-term care hospitals.

Four rural and 31 urban hospitals closed in 2005. On average, the closing facilities operated at 32 percent occupancy in their last year of operation and were located nine miles from the nearest other hospital covered by the acute inpatient PPS. Thus, closures did not appear to have serious implications for beneficiaries' access to care in surrounding communities.

In addition to those leaving Medicare altogether, more than 1,200 rural hospitals converted to critical access hospital status between 1998 and 2005. Another 73 converted to long-term care hospitals. These facilities are no longer paid under the acute inpatient and outpatient PPSs but are still available to provide care to beneficiaries.

We examined a set of 10 specialized services and found that the share of hospitals offering most of them increased from 1998 to 2004 (Table 2A-1). The proportion offering trauma center services (level 1, 2, or 3) grew from 26 percent to 32 percent and the share offering burn care increased from 3 percent to 5 percent, even though trauma and burn care services are often considered unprofitable for hospitals. The largest change was in MRI services, which increased from 50 percent to 58 percent

**TABLE
2A-2**

The share of hospitals offering outpatient services has remained stable

| Service | 1997 | 2001 | 2002 | 2003 | 2004 | 2006 |
|---------------------|------|------|------|------|------|------|
| Outpatient services | 93% | 94% | 94% | 94% | 94% | 94% |
| Outpatient surgery | 81 | 84 | 86 | 86 | 86 | 86 |
| Emergency services | 92 | 93 | 93 | 92 | 92 | 92 |

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

Source: Provider of Services file from CMS.

of hospitals. We observed small decreases in cardiac catheterization and psychiatric services.

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

Changes in volume of services

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

Inpatient volume

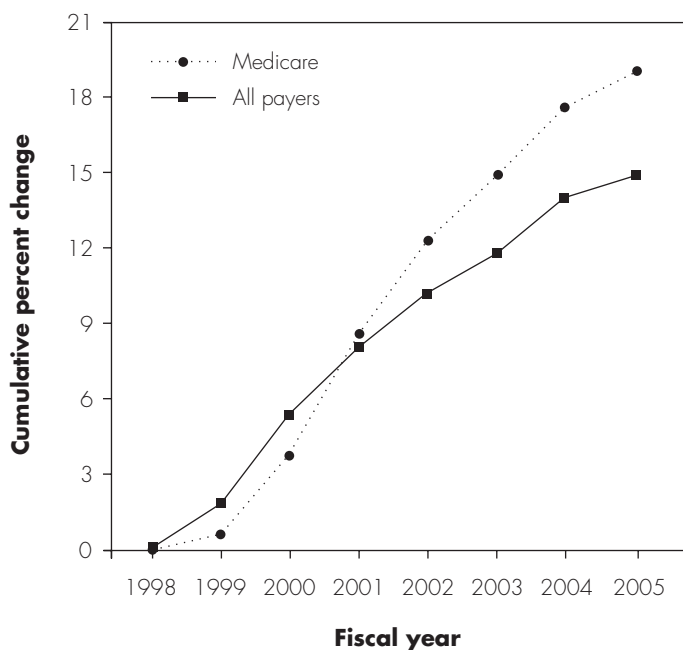
The number of discharges, whether calculated for Medicare or all payers (which includes Medicare), increased every year from 1999 through 2005 (Figure 2A-3). Medicare discharges grew more rapidly than fee-for-service enrollment from 2000 to 2004 but shifted to slightly below beneficiary growth in 2005. The average growth rate for Medicare discharges has exceeded that for all-payer discharges. Results from a quarterly hospital survey of approximately 600 hospitals indicate that growth in both Medicare and all-payer discharges slowed in the four quarters ending March 2006.² The Medicare trustees project a drop in Medicare discharges in 2007 (Boards of Trustees 2006).³

The average length of stay for Medicare patients fell more than 30 percent during the 1990s, with annual declines exceeding 5 percent from 1993 through 1996. The rate of decline then slowed to 1.4 percent in 2005 (Figure 2A-4). The drop in length of stay has been greater for Medicare than for all payers every year since 1999.

The case-mix index (CMI) for Medicare inpatient services provided by acute care hospitals decreased slightly from 1998 through 2001, in part due to changes in hospital coding (MedPAC 2001). Since then, the CMI has registered increases of 1.0 percent in 2002, 0.5 percent in 2003, 0.3 percent in 2004, and 1.3 percent in 2005. In Medicare's per case payment system, case-mix increases result in proportionate increases in payment.

**FIGURE
2A-3**

Hospital discharges continued to grow through 2005

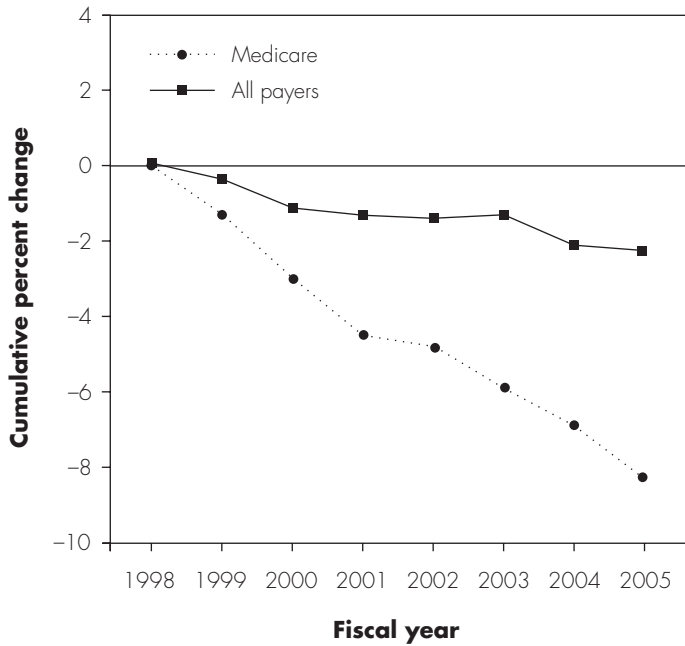


Note: Data are for hospitals covered by the Medicare acute inpatient prospective payment system.

Source: Medicare cost report data from CMS.

**FIGURE
2A-4**

**Hospital length of stay continued
to decline through 2005**



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

Source: Medicare cost report data from CMS.

Outpatient volume

We measure the volume of outpatient care as the number of services provided because the outpatient PPS generally pays for individual services.⁴ Service volume has grown rapidly since 2001—the first full year of the PPS—but the rate of increase has slowed (Figure 2A-5). Analysis of claims data indicates that the number of services increased by 11.9 percent in 2002, 7.7 percent in 2003, 4.9 percent in 2004, and 3.0 percent in 2005. Our analysis excludes separately paid drugs and pass-through devices.⁵

Much of the growth in service volume from 2003 through 2005 resulted from increases in the number of services per beneficiary who received services, rather than from increases in the number of beneficiaries served. To restore their rate of volume growth and reduce competition with physicians (who may set up their own hospital, ambulatory surgery center, or imaging center), hospitals are increasingly pursuing joint ventures, employment of physicians, and other physician–hospital financial relationships (Farnham 2006; Merritt, Hawkins & Associates 2006). As hospitals compete for physician

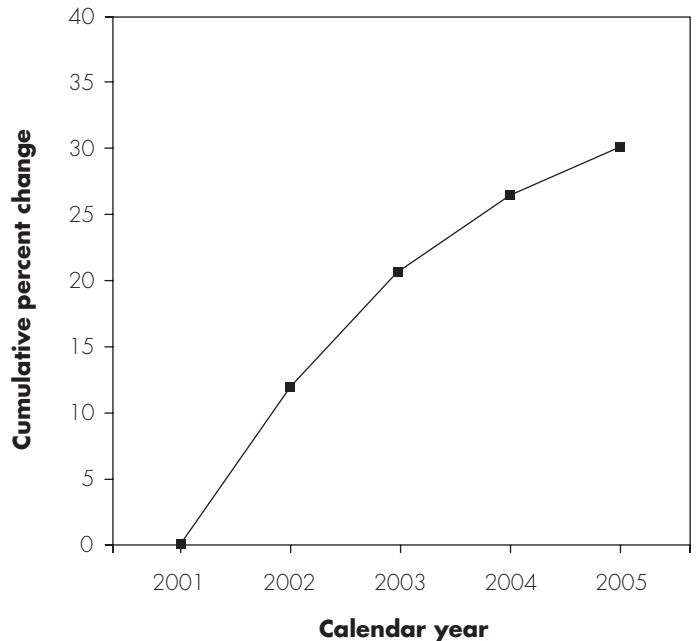
loyalties and patient volume, some of the growth we see in patient volume over time—in the imaging area, for example—may be due to financial incentives to increase volume rather than to changes in the medical needs of the population.

While the rate of growth in service volume declined, the complexity of services increased. The service-mix index for outpatient services increased by 2.5 percent in 2004 and by 2.2 percent in 2005. The service-mix index is calculated as the sum of the relative weights of all outpatient PPS services divided by the volume of all services.⁶ The concept is similar to the CMI for inpatient services.

The services that contributed most to the increase in the service-mix index in 2005 had high relative weights (which measure the resources necessary to furnish the service relative to the national average) and large increases in volume (Table 2A-3, p. 56). Most of the growth is attributable to insertion of devices and complex imaging services.

**FIGURE
2A-5**

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



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

Source: Hospital outpatient claims data from CMS.

**TABLE
2A-3**

Device insertion and imaging contribute most to the increase in outpatient service complexity, 2004–2005

| APC | Title | Relative weight | Percent change in volume | Volume in 2005 (in thousands) |
|------|--|-----------------|--------------------------|-------------------------------|
| 0107 | Insertion of cardioverter-defibrillator | 315.2 | 104.4% | 19 |
| 0108 | Insertion/replacement/repair of cardioverter-defibrillator leads | 423.3 | 48.3 | 11 |
| 0105 | Revision/removal of pacemakers, AICD, or vascular | 21.5 | 47.2 | 66 |
| 0222 | Implantation of neurological device | 217.1 | 43.7 | 8 |
| 0654 | Insertion/replacement of permanent dual chamber pacemaker | 105.4 | 27.0 | 29 |
| 0283 | CT with contrast material | 4.7 | 3.1 | 3,400 |
| 0259 | Level VI ear, nose, and throat procedure | 444.1 | 66.0 | 2 |
| 0337 | MRI/MRA without contrast followed with contrast | 9.2 | 9.3 | 845 |
| 0339 | Observation | 7.2 | 62.8 | 146 |
| 0229 | Transcatheter placement of intravascular shunt | 62.1 | 11.1 | 57 |
| | Overall average | 2.8 | 3.0 | 362 |

Note: APC (ambulatory payment classification), AICD (automatic implantable cardioverter defibrillator), CT (computed tomography), MRA (magnetic resonance angiography). The APCs shown are those contributing most to the 2004–2005 change in service-mix index, in order of contribution.

Source: MedPAC analysis of 2004–2005 outpatient claims files from CMS.

The substantial growth in the number of outpatient services and service-mix index has contributed to strong growth in spending in the outpatient PPS (CMS 2006b). This strong spending growth, in turn, has been a major contributor to increases in the Medicare Part B premium (CMS 2006a).

The large increases in outpatient volume and service complexity suggest a need to recalibrate the outpatient PPS. Regression analysis indicates that relatively complex outpatient services may be more profitable to hospitals than less complex services (CMS 2005, MedPAC 2006). Favorable payments for complex services give hospitals an incentive to provide more of those services and fewer basic services, which increases overall service complexity. MedPAC is concerned about this disparity and plans to examine options for recalibrating the payment system to accurately match payments to the costs of individual services.

Changes in quality of care

Trends in the quality of care hospitals provide to Medicare beneficiaries show a mixed picture. Mortality rates dropped and CMS’s indicators of clinical effectiveness and appropriateness of care show improvement. But the results for adverse events are mixed, with rates increasing for some measures and decreasing for others. We discuss each of these indicators next.⁷

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

We calculated the mortality and patient safety indicators from Medicare administrative data and examined all Medicare inpatient claims with specified conditions or procedures using CMS’s MedPAR file. We used an AHRQ methodology to risk-adjust the data on adverse events.

In-hospital and 30-day mortality (risk adjusted) declined from 1998 to 2005 for seven of the eight conditions or procedures we measured. In-hospital mortality rates for congestive heart failure, gastrointestinal hemorrhage, acute myocardial infarction, and pneumonia fell by more than 20 percent. The 30-day rate is somewhat more difficult to interpret because it reflects care experienced in post-acute and outpatient settings along with the in-hospital experience.

Adverse events reflect another dimension of quality: patient safety. The rate of adverse events (risk adjusted) increased for 5 of the 13 measures analyzed from 1998 to 2005; we show results for the 9 most common measures (Table 2A-4). Although these events are rare, often with rates of less than 100 per 10,000 eligible discharges, collectively they affected approximately 367,000 cases in 2005. The most common adverse event is decubitus ulcer (bed sores), for which the rate increased. The second most common event is failure to rescue, which results in death. The rate for this measure decreased, which is consistent with the decline in mortality rates.

CMS and the Hospital Quality Alliance report clinical effectiveness data on the CMS Hospital Compare website. These measures reflect hospital performance in delivering recommended care to Medicare beneficiaries with heart attack, heart failure, and pneumonia. Care improved for 15 of 17 measures from 2004 to 2005.

Despite the widespread improvement in these indicators, many beneficiaries still do not receive clinically indicated services. For example, fewer than one-third of patients with acute myocardial infarction receive thrombolytic agents within 30 minutes of arrival at the hospital and fewer than 60 percent of patients with pneumonia receive pneumococcal immunizations.

Although many measures show improvement, we are concerned about the trend for the patient safety indicators. The increase in some adverse events coupled with the gap between actual and recommended care reflected in the Hospital Compare measures indicate that further efforts to improve quality are needed, including linking payment to quality performance. As we discussed in our March 2005 report, the Commission recommends that the Congress establish a quality incentive payment policy for hospitals that participate in Medicare (MedPAC 2005b).

Hospitals' access to capital

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

**TABLE
2A-4**

Patient safety indicators show mixed changes

| Indicator | Change in rate 1998 to 2005 | Events 2005 |
|-----------------------------------|-----------------------------|-------------|
| Decubitus ulcer | Worse | 159,016 |
| Failure to rescue | Better | 61,174 |
| Postoperative PE or DVT | Worse | 43,108 |
| Puncture/laceration | Worse | 38,771 |
| Infection due to care | Better | 19,247 |
| Postoperative respiratory failure | Worse | 11,944 |
| Iatrogenic pneumothorax | Better | 11,015 |
| Postoperative hemorrhage | Better | 7,438 |
| Postoperative sepsis | Worse | 6,715 |

Note: PE (pulmonary embolism), DVT (deep vein thrombosis). Measures are risk-adjusted rates per eligible discharge.

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

Indicators suggest that access to capital is good

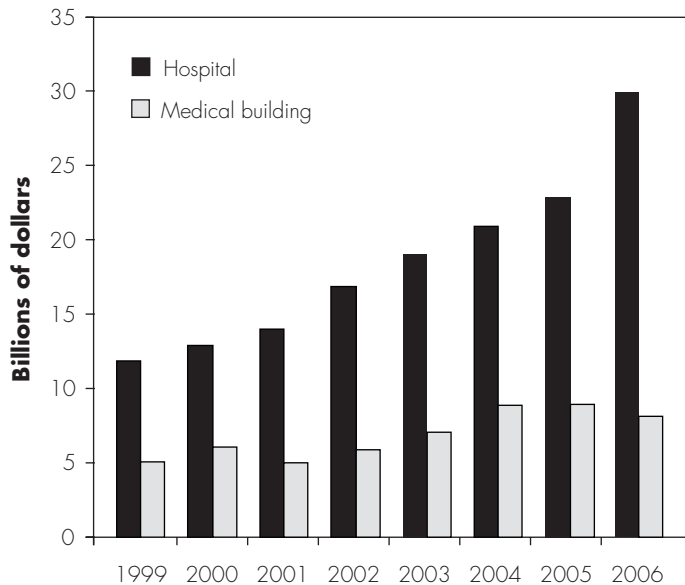
The trend in spending on hospital construction suggests that access to capital for the overall sector is good. Hospital construction has increased steadily since 1999, and it increased almost 30 percent in the last year to \$30 billion (Figure 2A-6, p. 58) (Census Bureau 2006). Some of the recent increase may be to replace obsolete facilities, to increase capacity, or, in California, to meet seismic standards.

The three major bond rating agencies report that the capital spending ratio—the ratio of capital spending to depreciation and amortization—was 1.4 or more in 2005, implying that hospitals may be going beyond merely replacing worn-out plant and equipment (FitchRatings 2006a; Moody's 2006a; S&P 2006a, 2006b). Tax-exempt municipal bond issuances for hospitals increased from the 2000 level of less than \$15 billion to more than \$34 billion in 2005 and reached about \$24 billion through October 2006 (Thomson 2006).

Overall, bond ratings in this sector have improved from the previous year. In the Standard & Poor's ratings, for example, more credits were upgraded than downgraded in the first half of 2006, continuing the trend started in 2005. The report also points out that the important trend is stability, with more than 80 percent of ratings unchanged (S&P 2006c). Similarly, Moody's reports that, although downgrades (33) exceeded upgrades (21) in the first three

**FIGURE
2A-6**

**Spending on hospital construction
continues to grow**



Note: Data for 2003 through 2005 are revised. 2006 data are estimated based on seasonally adjusted annual rate through August.

Source: Census Bureau. <http://census.gov/C30/private.xls>. October 2006.

quarters of 2006, most ratings were affirmed (213). In addition, the amount of debt upgraded (\$9.3 billion) far exceeded that of debt downgraded (\$4.8 billion) (Moody's 2006b).

Trends in the cost of capital continue to be favorable. For example, the interest rate on A-rated 30-year tax-exempt hospital bonds was lower in November 2006 than a year earlier (Cain 2006b). Interest rates on insured bonds were also lower, which one analyst believes will allow hospitals to continue to decrease their cost of capital while continuing to issue more debt through at least the first half of 2006 (FitchRatings 2006b).

This improvement occurs at the same time that hospitals have been making larger capital investments and borrowing more money. Few ratings have been lowered, implying that hospitals' operating results and the increase in the market value of investments have been sufficient to offset higher debt and preserve key measures the ratings industry uses, such as debt service coverage ratios and days cash on hand. Many of the median financial indicators, such as days cash on hand and debt service coverage, are the best ever recorded (FitchRatings 2006a).

Hospitals expect access to capital to remain good

Hospitals plan to continue to add capacity and increase capital spending, implying that they expect to have continued access to capital. A recent survey of nonprofit hospitals found the following (BoA 2006):

- Nearly 83 percent of hospitals plan to add capacity over the next two years. Some 80 percent intend to add outpatient capacity, 47 percent intend to add inpatient capacity, and 44 percent intend to add both.
- The mean forecasted increase in 2006 capital spending over the previous year is 16 percent.
- The top two capital spending priorities were diagnostic equipment (83 percent) and clinical information systems (72 percent). It is possible that these intentions may not be carried out; for example, insufficient return on investment may delay capital investment in information technology systems.

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

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

Improvements may be closing the credit gap

Some in the industry are concerned about a divergence in access to capital between "haves" and "have-nots" and fear that hospitals with weaker credit will languish. However, a combination of limited supply and increased demand has resulted in very favorable market conditions for investment grade not-for-profit borrowers, increasing access to capital for some hospitals (Cain 2006a). One agency noted that operating improvement "was dispersed across all rating categories including the lower investment-grade and below-investment-grade categories" (FitchRatings 2006a). Analysts also point out that hospitals that cannot put

money into capital spending may merge or be acquired by a stronger hospital or health system. Although mergers might affect competition within market areas, they do not necessarily imply a decline in access to hospital care for Medicare beneficiaries.

Among the have-nots may be hospitals that are not rated, because hospitals that do not expect a favorable rating might not approach the public tax-exempt market at all. However, those hospitals may have alternative sources of financing—for example, loans from commercial lenders such as banks and private placement of tax-exempt bonds. Hospitals may also lease equipment instead of using capital to purchase it outright. The leasing market for health care equipment is projected to reach \$8 billion in 2007 (HFMA 2006).

Is access to capital good for for-profit hospitals?

For-profit hospital chains have the advantage of being able to access capital through the equity markets as well as the debt market. The Cain Brothers' hospital index of share prices for seven publicly traded companies had increased in 2006 just under 2 percent through December 15 (Cain 2006b). The big story in this sector is that HCA, the largest for-profit hospital firm, announced that it is going private. A consortium of private capital firms and management is buying out the stockholders in a transaction estimated at about \$33 billion: a new record for a private buyout of a public company. Most of the cost of the buyout will be financed through debt—demonstrating access to capital—although not necessarily indicating a top-level valuation of the company.

Investors in this sector have some of the same concerns as those in the nonprofit sector about bad debt, charity care, and the ability or willingness of payers, particularly Medicaid, to continue to increase payments over the longer term. Bad debt and the delayed recognition of bad debt are causing concern in this sector, particularly for firms with facilities concentrated in areas of the country with high rates of self-pay patients. However, in the near-term Medicare PPS rates and managed care reimbursement rate increases, along with some increase in volume, are expected to contribute to growth in revenue. This growth, coupled with improving trends in labor and supply costs, is expected to lend support to the sector and partially offset problems with bad debt (S&P 2006d).

Payments and costs for 2007

In assessing payment adequacy, the Commission considers the estimated relationship between Medicare payments

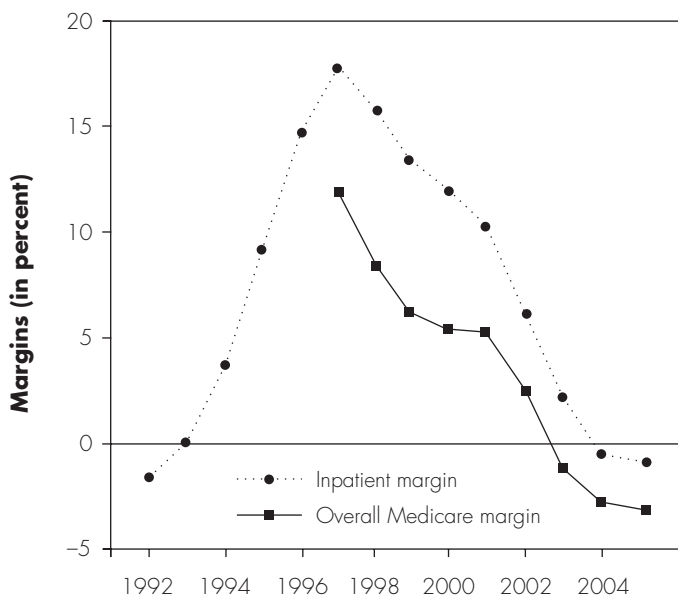
and hospitals' costs in the current year, fiscal year 2007. We assess the adequacy of Medicare payments for the hospital as a whole, and thus our indicator of the relationship between payments and costs is the overall Medicare margin.⁸ This margin includes payments and costs for the six largest services 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, particularly between inpatient and outpatient care. Only by combining data for all major services can we estimate Medicare costs without the influence of how overhead costs are allocated.

Trend in Medicare margins

The overall Medicare margin has trended downward since 1997 (Figure 2A-7), falling to -3.3 in 2005. The 0.2 percentage point decline from 2004 to 2005, however, was the smallest in the last five years (Table 2A-5, p. 60). The Medicare inpatient margin decreased by 0.4 percentage

FIGURE 2A-7

Overall Medicare and Medicare inpatient margins



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

Source: MedPAC analysis of Medicare cost report data from CMS.

point in 2005 to -0.9 percent, while the outpatient margin improved for the second year in a row, though it is still lower than the inpatient margin. The improvement on the outpatient side was primarily due to lower growth in outpatient costs, as is discussed further in the next section.

For the first time in 2005, rural hospitals' overall Medicare margin was higher (-3.0 percent) than that of urban hospitals (-3.3 percent) (Table 2A-6). This change is due to several years of increased payments to rural hospitals as well as to rural facilities with low margins dropping out to become critical access hospitals. Nonteaching hospitals, most of which are located in urban areas, had the poorest financial performance.

We estimate that the overall Medicare margin in 2007—reflecting 2008 payment policies other than updates—will be -5.4 percent.⁹ The key factor explaining the forecasted decline in margin for 2007 is preliminary evidence that the rate of growth in hospitals' unit costs will exceed the forecasted growth in the hospital market basket index. (CMS's market basket index is a measure of price inflation for the goods and services hospitals use in producing patient care.) In addition, a number of policy changes are expected to affect payments for inpatient, outpatient, and hospital-based post-acute services between 2005 and 2008, with some increasing and some decreasing payments. The text box (opposite page) details these policy changes.

Our forecast applies the same rate of cost growth to all hospitals and consequently will not capture any behavioral responses to policy changes. Unless urban and rural

**TABLE
2A-5**

Hospital Medicare margin

| Measure | 2002 | 2003 | 2004 | 2005 |
|------------------|------|-------|-------|-------|
| Overall Medicare | 2.4% | -1.4% | -3.1% | -3.3% |
| Inpatient | 6.4 | 2.0 | -0.5 | -0.9 |
| Outpatient | -8.3 | -11.6 | -10.8 | -9.4 |

Note: Data are for all hospitals covered by Medicare acute inpatient prospective payment system in 2005. 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 home health and skilled nursing facility (including swing bed), inpatient psychiatric and rehabilitation services, and graduate medical education.

Source: MedPAC analysis of Medicare cost report data from CMS.

hospitals have different rates of growth in cost, we expect the 2007 margins of these two groups to be about the same.

Cost growth has been high for inpatient services and low for outpatient services In addition to changes in payment policy, the other major factor affecting hospitals' overall Medicare margins is the change in the rate of cost growth. The weighted average of Medicare inpatient and outpatient costs—unadjusted for changes in case mix—increased by 5.3 percent in 2004 and by 5.0 percent in 2005 (Table 2A-7, p. 62). However, much of that increase was due to an increase in the complexity of patients treated (which Medicare pays for).¹⁰ Lowering the number to take

**TABLE
2A-6**

Overall Medicare margin by hospital group

| Hospital group | 2002 | 2003 | 2004 | 2005 |
|----------------|------|-------|-------|-------|
| All hospitals | 2.4% | -1.4% | -3.1% | -3.3% |
| Urban | 3.0 | -1.0 | -3.0 | -3.3 |
| Rural | -2.2 | -4.2 | -3.8 | -3.0 |
| Major teaching | 11.4 | 6.4 | 4.8 | 4.2 |
| Other teaching | 1.6 | -1.8 | -3.6 | -3.9 |
| Nonteaching | -2.1 | -5.5 | -7.2 | -6.9 |

Note: Data are for all hospitals covered by the Medicare acute inpatient prospective payment system in 2005. 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 home health and skilled nursing facility (including swing bed), inpatient psychiatric and rehabilitation services, and graduate medical education.

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

Policy changes between 2005 and 2008 increase some payments and decrease others

A number of payment policy changes, including some scheduled to be implemented in 2008, affect our projection of the 2007 margin under 2008 policy. These changes affect Medicare's payments for inpatient, outpatient, home health, skilled nursing facility (SNF), and rehabilitation services.

Inpatient payments

The acute inpatient prospective payment system (PPS) makes extra payments—known as outlier payments—for cases with unusually high costs. Changes in the administration of this program are expected to increase payments for 2007. CMS reports that outlier payments were 4.0 percent of total payments in 2005 and are projected to be 4.6 percent in 2006. Our payment projection for 2007 reflects an expectation that CMS will return the outlier share to the target 5.1 percent in 2007, thus increasing inpatient payments compared with those in 2006.

Changes in the indirect medical education adjustment paid to teaching hospitals reduce inpatient payments in 2006 and 2007 but will increase payments in 2008. Expansion of the post-acute transfer policy reduced payments in 2006, while provisions of the Deficit Reduction Act (DRA) increased payments to small rural Medicare-dependent hospitals.

Hospitals may qualify for reclassification to a different labor market for purposes of the wage index used to adjust PPS payments for geographic differences in input prices. Section 508 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) gave eligible hospitals an opportunity for one-time reclassification from mid-2004 to mid-2007. This reclassification increased inpatient and outpatient payments for some hospitals. Expiration of Section 508 will reduce aggregate inpatient and outpatient hospital payments for fiscal year 2008 and beyond.

Outpatient payments

Aggregate outpatient payments are expected to decline because of shrinking hold-harmless payments. Sole

community hospitals in rural areas had their hold-harmless payments sunset at the end of 2005. Other rural hospitals with 100 or fewer beds will continue to receive hold-harmless payments through 2008, but they will receive only 95 percent of full hold-harmless payments in 2006, 90 percent in 2007, and 85 percent in 2008.

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

Post-acute payments

The DRA froze home health payments in 2006 while previous law provided a market basket update in 2007. The 5 percent rural add-on for home health services provided to beneficiaries living outside metropolitan areas expired on April 1, 2005, but was reinstated by the DRA for the one-year period of calendar year 2006.

The Balanced Budget Act of 1997 set a market basket update for SNFs in 2006 and 2007. Elimination of certain payment add-ons reduced SNF payments, and case-mix refinements increased payments in 2006.

Phased implementation of the 75 percent rule, which limits the types of patients who can be treated in an inpatient rehabilitation setting, reduced payments to hospital-based rehabilitation units beginning in fiscal year 2004 (see Chapter 3C). The DRA delayed phasing in the 75 percent rule but rehabilitation payments will still decline in 2007. ■

**TABLE
2A-7****Medicare cost growth slowed in 2004 and 2005**

| Hospital group | Unadjusted | | | Case-mix adjusted | | |
|------------------|------------|------|------|-------------------|------|------|
| | 2003 | 2004 | 2005 | 2003 | 2004 | 2005 |
| Inpatient costs | 6.6% | 5.6% | 5.1% | 6.0% | 5.4% | 4.0% |
| Outpatient costs | 2.0 | 3.7 | 4.6 | 2.3 | 1.2 | 2.4 |
| Weighted average | 5.8 | 5.3 | 5.0 | 5.3 | 4.6 | 3.7 |

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. The weights in the weighted average are based on hospitals' inpatient and outpatient Medicare revenue.

Source: MedPAC analysis of Medicare cost report data and claims files from CMS.

reported case-mix increases into account, the weighted average cost increase was 4.6 percent in 2004 and 3.7 percent in 2005. The 3.7 percent rate of cost growth in 2005 was slightly more than the 3.3 percent operating update hospitals received from Medicare in 2005.

Looking at inpatient costs separately, unadjusted inpatient costs per discharge increased by 5.6 percent in 2004 and 5.1 percent in 2005. Case-mix-adjusted inpatient costs rose 5.4 percent in 2004 and 4.0 percent in 2005 (Table 2A-7). Medicare outpatient cost per unit of service (adjusted for case-mix change) has been relatively low, increasing by only 1.2 percent in 2004 and 2.4 percent in 2005.

At least three factors could explain why outpatient costs grew more slowly than inpatient costs. First, outpatient service volume for Medicare patients has increased at a strong rate—about 3 percent in 2005—allowing hospitals to spread fixed costs over more services. Much of this growth is due to a 1.8 percent increase in the number of services patients received each day they visited the hospital outpatient department. As patients receive more services per trip to the outpatient department, the cost per service should decline. Second, hospitals' outpatient service mix for Medicare patients is gradually shifting toward more complex and highly paid services. Research by MedPAC and CMS indicates that outpatient costs may not rise proportionately with the service-mix index (i.e., as complexity increases, the average payment per service rises faster than the average cost per service). This suggests that services of higher complexity (e.g., those involving new technology) may be more profitable. Third, hospitals may face some pressure to contain outpatient

costs due to competition with ambulatory surgery centers, physician offices, and freestanding imaging centers.

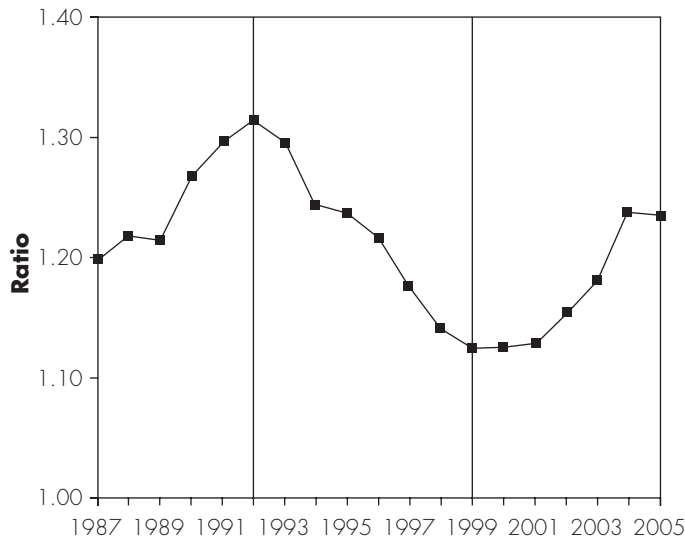
Data are available on case-mix-adjusted Medicare costs through 2005 but are not yet available for 2006. For a sample of hospitals, however, we have 2006 data on the unadjusted increase in cost per unit of service.¹¹ This measure is a weighted average of the cost growth for all services provided to all types of patients. A survey of about 600 hospitals (sponsored by CMS and MedPAC) indicates that unadjusted costs per unit of service grew by approximately 5.2 percent in the year ending June 2006—slightly higher than the rate of 4.8 percent in the prior year. In addition, a review of financial reports from six large publicly traded hospital systems shows that their unadjusted growth in cost averaged 6.4 percent per year in the nine months ending in September 2006, relative to 4.8 percent in 2005. If we average data from these two samples, costs per discharge appear on pace to grow roughly 1 percent faster in 2006 than in 2005.

One reason 2006 differs from 2005 is that capital costs (measured as depreciation plus interest expense) are increasing more rapidly. The rate of growth in capital costs rose by more than a percentage point in 2005; with the expansion in hospital construction noted earlier, further escalation is expected (Figure 2A-6, p. 58).

A second reason for higher cost growth in 2006 is that patient volume grew more slowly than hospital employment in the first half of the year; in contrast, patient volume appeared to grow faster than employment in 2005 (BLS 2006, HCA 2006, HMA 2006, MedPAC survey data). If the 2006 increase in employees per unit of service is a temporary phenomenon, then in 2007 cost growth

**FIGURE
2A-8**

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



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

Source: American Hospital Association annual survey of hospitals.

may be similar to the 3.7 percent case-mix-adjusted increase experienced in 2005. However, if the expansion in employees per unit of service persists, then cost growth in 2007 may be higher. A sustained increase in the rate of growth in costs and in the number of employees per unit of service would raise questions about whether hospitals are building excess capacity and whether they are under sufficient financial pressure to generate improvements in efficiency.

Financial pressure and cost growth In recent years, hospitals have been able to increase their costs per discharge faster than the rate at which input prices and Medicare payments have increased due to improving profits on private payer patients. The level of private payer profits has been cyclical. During the first cycle (1986 through 1992), most insurers still paid hospitals on the basis of their charges, with little price negotiation or selective contracting. With limited pressure from private payers, hospital margins on private payer business increased rapidly (Figure 2A-8). In the mid-1990s, HMOs and other private insurers began to negotiate much harder with hospitals, and most insurers switched to paying for inpatient services on the basis of DRGs or flat per diem amounts for broad types of services. The payment-to-cost

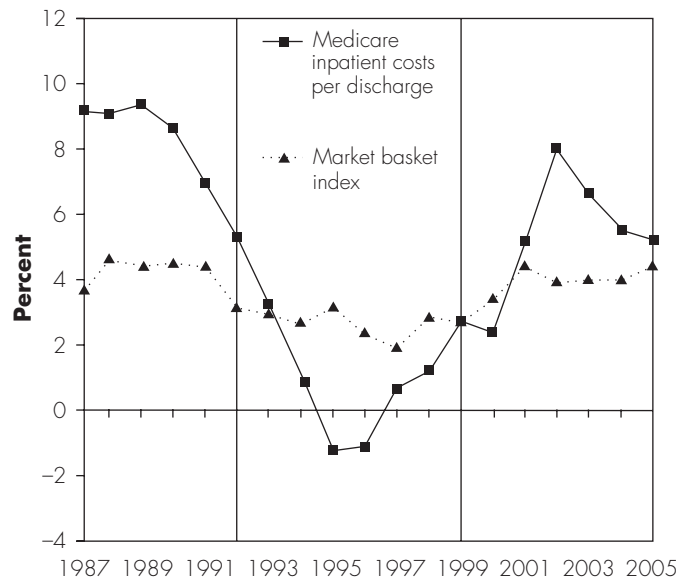
ratio for private payers declined by 17 percentage points from 1993 through 1999.

By 2000, hospitals had regained the upper hand in price negotiations due to hospital consolidations and consumer backlash against managed care. Rates for private payers rose rapidly and their payment-to-cost ratio rose by 11 percentage points from 2000 to 2004. In 2005, private payer profit margins appear to have leveled off, which suggests that either hospitals are not pushing as hard for increased payment rates (given total profit margins that are high by historical standards) or payers are starting to push back and asking for reduced rates of growth in their payments.

When we examine cost growth during the same three periods, we see that the rate of increase tended to follow trends in private payer profitability. From 2001 to 2004, increases in private payer profitability were accompanied by hospital costs rising at a rate faster than the market basket (Figure 2A-9). In 2005, we see the trend in private payer profit margins leveling off and (as discussed previously) cost growth returning to a level close to the market basket increase.

**FIGURE
2A-9**

Costs have risen faster than the market basket in recent years



Source: MedPAC analysis of Medicare cost report data from CMS and CMS's rules for the acute inpatient prospective payment system.

**TABLE
2A-8**

Hospitals with high adjusted overall Medicare margins have lower costs and have been under more financial pressure than other hospitals

| Hospital characteristic | Hospitals with consistently: | |
|--|------------------------------|--------------|
| | Low margins | High margins |
| Percent of hospitals | 18% | 18% |
| Annual change in length of stay (1997–2005) | | |
| Medicare | -2.3 | -3.1 |
| All payers | -1.1 | -1.7 |
| Average annual change in inpatient cost per case (2002–2005) | 6.3 | 5.2 |
| Standardized cost per case (2005) | | |
| Subject hospital | \$6,203 | \$4,527 |
| Hospitals within 15 miles | 5,742 | 5,103 |
| Distance to nearest hospital (in miles) | 7 | 12 |
| Non-Medicare ratio of revenues to costs (2005) | 1.16 | 0.99 |

Note: Hospitals with consistently low or high margins had adjusted overall Medicare margins (margins calculated excluding indirect medical education and disproportionate share payments over empirically justified amounts) from 2002 to 2005 that were in the top or bottom third each year. Per case costs are standardized for wages, case mix, severity, outlier cases, and teaching intensity. The non-Medicare ratio of revenues to costs includes revenues and costs associated with private pay, Medicaid, and self-pay patients as well as nonpatient revenues and costs. Median values shown.

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

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

Hospitals with consistently low Medicare margins have higher costs In past reports, we described differences between hospitals with consistently negative and positive

overall Medicare margins and found that those with consistently negative margins had smaller changes in length of stay, higher growth in costs, and higher costs per case than hospitals with consistently positive margins (MedPAC 2006, 2005b).¹² Because the IME and DSH adjustments are set well over their empirically justified levels, however, major teaching and high DSH hospitals are overrepresented in the positive margin group and underrepresented in the negative margin group (see section on the IME and DSH adjustments starting on p. 67 for further discussion of this relationship). To cancel out the impact of these adjustments on the picture of hospitals' financial performance, we removed the portion of IME and DSH payments above the empirical level this year before determining which hospitals perform consistently well or poorly under Medicare. Our analysis identifies hospitals that from 2002 to 2005 had adjusted Medicare overall margins that were consistently in either the top or bottom third of all PPS hospitals.

The low- and high-margin groups are roughly the same size, with 18 percent of hospitals in each group. Under this new approach, major teaching hospitals are proportionately distributed between the low- and high-margin groups. Proprietary hospitals are the only group underrepresented in the low-margin group of providers. In the high-margin group, proprietary and rural hospitals are overrepresented and hospitals in small urban areas (fewer than a million people) and hospitals with small teaching programs (fewer than 25 residents per 100 beds) are underrepresented.

Hospitals with consistently low adjusted Medicare margins have had smaller declines in length of stay and higher growth in costs than those with consistently high margins (Table 2A-8). From 1997 to 2005, Medicare length of stay fell an average of 2.3 percent per year in the low-margin group compared with 3.1 percent in the high-margin group. All-payer length of stay also fell less for the low-margin group, indicating that the high-margin group has been better at reducing lengths of stay. Hospitals with consistently low Medicare margins also had larger average annual increases in Medicare inpatient costs per case—6.3 percent compared with 5.2 percent for hospitals with consistently high Medicare margins.

These differences in cost growth and change in length of stay translate into big differences in Medicare costs between these two groups of providers. The median Medicare standardized cost per case in the low-margin

group was \$6,203 in 2005 compared with only \$4,527 in the high-margin group, a 37 percent difference.

We found that hospitals with consistently low margins faced more competitors and those competitors were closer. (Competitors are defined as hospitals covered by Medicare's acute inpatient PPS that are located within 15 miles.) The typical low-margin hospital had two competitors compared with one for high-margin hospitals. For the low-margin hospitals, the competitors were an average of 7 miles away compared with 12 miles for the high-margin hospitals. Standardized costs were 9 percent higher for the low-margin group than for their neighbors, suggesting that these hospitals are not competitive in their own markets. In contrast, standardized costs for the high-margin hospitals were 12 percent lower than their neighbors' costs.

One key factor in this disparate performance is that hospitals with consistently low Medicare margins are not under as much pressure to control costs. In 2005, the ratio of revenue to costs for these hospitals was 1.16 for all sources of revenue other than Medicare (Table 2A-8). Non-Medicare revenue exceeding associated costs generated more than enough extra income to cover their losses from treating Medicare patients. Most of this extra income came from private insurers paying substantially more than the cost of their patients' care.¹³ Moreover, the low-margin group has been able to increase non-Medicare revenues faster than their costs have grown, even though their rate of cost growth has been above average. Hospitals with consistently high Medicare margins, in contrast, had a revenue-to-cost ratio of only 0.99, which means they roughly broke even on their non-Medicare business, so that they needed to do well under Medicare to perform well overall. These hospitals apparently have responded to the added financial pressure by controlling their costs better than other hospitals.

Hospitals with consistently high costs contribute to lowering the overall Medicare margin. The 2005 margin would be 3 percentage points higher—about zero—if the hospitals with standardized costs in the top third every year from 2003 to 2005 were excluded from the margin calculation. The apparent lack of financial pressure on hospitals that consistently have low Medicare margins and high costs was a concern to the Commission in determining the appropriate update to Medicare's payment rates for hospitals.

How should Medicare payments change in 2008?

When we consider whether Medicare's aggregate payments are adequate, we look at the six largest hospital service lines—acute inpatient, outpatient, rehabilitation, home health, psychiatric, and skilled nursing facility (including swing beds). In this section, we provide update recommendations for services covered by Medicare's operating inpatient and outpatient PPSs.

For the acute inpatient PPS, the update in current law for fiscal year 2008 is the forecasted increase in the hospital market basket index. Beginning in 2007, current law requires CMS to reduce inpatient payments by 2.0 percentage points for hospitals that fail to provide data to CMS on specified quality indicators. About 4 percent of hospitals have not reported the necessary data. For the outpatient PPS, current law provides an update equal to the forecasted increase in the market basket for calendar year 2008.

Changes in input prices

CMS measures price inflation for the goods and services 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 2008 is 3.1 percent, but it will update the forecast twice before using it to update payments in 2008.

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 quality of care. The Commission's approach links the target for improving efficiency to the gains achieved by firms and workers who pay the taxes and premiums that fund Medicare benefits. Our target is set equal to the Bureau of Labor Statistics' estimate of the 10-year average growth rate of multifactor productivity in the general economy, which is currently 1.3 percent.

Technology

Much of hospitals' spending for new devices, drugs, and equipment has the potential to improve their productivity—that is, reduce costs with constant or improving quality—and fixed payment rates provide a

strong financial incentive for hospitals to adopt these technologies. Providers have less incentive to adopt quality-enhancing technologies that increase costs, but Medicare's inpatient and outpatient PPSs provide direct payment for certain technologies used in delivering patient care that meet certain criteria. In addition, Medicare can support the adoption of information technology (IT) through a quality incentive payment policy.

Payment system mechanisms addressing technology

Since fiscal year 2003, new technology payments have supplemented the base DRG payment rates in the acute inpatient PPS, and the MMA removed the budget-neutrality constraint for these payments in 2005. These payments provide 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 being used to treat patients. CMS approved three technologies for add-on payments in 2005, accounting for about \$125 million in payments.

CMS's criteria for approving technologies for payment emphasize that they must be new, offer substantial clinical improvement, and have a major impact on costs. These criteria play an important role in ensuring the appropriate expenditure of Medicare funds. Base payments already contain funding for technology, and small improvements to existing technologies usually do not have significant independent cost implications. In addition, there have been instances in which the clinical benefit of new technologies is later questioned (e.g., drug-eluting stents), which could provide additional justification for the new technology review process. Finally, additional payment should not be made when the technology reduces costs over time or substitutes for existing technologies of approximately equal cost.

In addition to these add-on payments, the use of new technologies (e.g., cardiac stents) often shifts patients into higher-weighted DRGs. The resulting rise in CMI raises payments (i.e., increases in case mix produce a corresponding increase in payments, all else held constant).

Medicare's outpatient PPS makes new technology add-on payments similar to those in the inpatient PPS, although these payments are budget neutral. But the outpatient PPS also creates new technology APCs, which cover completely new services for which CMS does not yet have adequate data to establish payment rates. The new

technology APCs generate a new payment for each service rendered, resulting in an increase in total Medicare payments. New technology APCs accounted for about \$200 million in outpatient payments in 2005. In addition, much of the substantial increase in outpatient service volume in recent years has been in APCs using expensive technology, such as insertion of cardiac defibrillators and pacemakers, MRIs and CAT scans, and placement of intravascular shunts (Table 2A-3, p. 56). The increases in volume and complexity resulting from these new services generate additional payments for hospitals.

Information technology considerations

While add-on payments and new technology APCs address new technologies in patient care, they do not provide direct funding for investment in IT, such as computerized physician order entry systems and electronic medical records. While such systems are expensive, IT is reflected in the historical cost base Medicare's DRG and APC payment are designed to cover, including medical records and data processing costs as well as depreciation for past purchases of computer systems and software. For the increment above what base payments will cover, productivity improvements should provide an adequate return on investment in the long run.

In the shorter term, a pay-for-performance program provides a better mechanism than the update for encouraging hospitals to invest in IT. Paying for the use of IT through a pay-for-performance program will target payments to hospitals that install quality-improving IT systems. Increasing the update, in contrast, does not provide Medicare with any tool for ensuring that hospitals spend the additional payment on IT. Because IT has the potential to improve the quality of patient care, we have recommended that the Congress direct CMS to include measures of functions supported by the use of IT in pay-for-performance measures (MedPAC 2005b). Pay for performance will help give providers the business case to adopt IT and reap rewards from payments for improvements in quality that flow from better clinical information.

As discussed earlier in the chapter, hospitals appear able to support large increases in their capital expenditures. Spending for construction alone reached \$30 billion in 2006 (Figure 2A-6, p. 58). This spending should and apparently does include investment in IT. Moody's estimates that investments in clinical and other IT account for 15 percent to 20 percent of hospitals' capital expenditures, and the share is growing (Moody's 2005). A

RAND study estimates that 20 percent of hospitals have implemented an at least partially integrated electronic medical records system for inpatient care and 9 percent have implemented a computerized physician order entry system (Fonkych and Taylor 2005).

Pay for performance

The Commission has concluded that Medicare should take the lead in developing incentives for high-quality care. To that end, our March 2005 report recommended that the Congress establish a quality incentive payment policy for hospitals under Medicare (MedPAC 2005b). A number of accepted quality measures are available—including process measures, measures of safe practices, and mortality measures. These measures would enable CMS to implement the program fairly quickly and then to enhance and expand the set of measures in future years. Recent research finds that most hospitals appear capable and willing to move forward into a pay-for-performance environment (Felt-Lisk and Laschober 2006).

Pay for performance would result in a larger share of payments going to hospitals that achieve high quality scores or improve their quality substantially from one year to the next. Funding for the pool should come from existing Medicare hospital payments. Initially, the pool of money used to support hospital pay for performance should be set at 1 percent to 2 percent of aggregate payments, with the pool of funds fully expended. Our recommended update and the pay-for-performance program would replace the provision in current law that reduces a hospital's payments by 2 percent if it fails to report required quality data to CMS.

Update recommendation

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

RECOMMENDATION 2A-1

The Congress should increase payment rates for the acute inpatient and outpatient prospective payment systems in 2008 by the projected rate of increase in the hospital market basket index, concurrent with implementation of a quality incentive payment program.

RATIONALE 2A-1

Most of the Commission's indicators of payment adequacy are positive. Access to care remains strong, as indicated

by more hospitals opening than closing and the share of hospitals offering many services rising. Volume of services is growing, the quality of care is generally increasing, and access to capital is by some measures at an all-time high. On the other hand, Medicare margins are low and recent cost trends suggest they will fall in 2007. At the same time, our analysis of hospitals with consistently high costs and low margins suggests that a fairly small minority of hospitals—fewer than a fifth—have contributed to the industry-wide Medicare margin falling below zero. Further, Medicare should put pressure on hospitals to control their costs rather than accommodate the current rate of cost growth.

Balancing these considerations, we conclude that an update of market basket is appropriate for both inpatient and outpatient services, with this increase implemented concurrently with a quality incentive payment program.¹⁴ The Commission previously recommended a 1 percent to 2 percent payment pool for a pay-for-performance program. As we discuss in the next section, we estimate that the reduction in IME payments we recommend would generate the first percentage point of funding for the pool. For a larger pool, the additional amount would be taken from the capital and operating base rates. Although pay for performance would operate separately from the update, hospitals' quality performance would then determine whether their net increase in payments in 2008 is above or below the market basket increase.

IMPLICATIONS 2A-1

Spending

- This recommendation would have no effect on federal program spending.

Beneficiary and provider

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

The indirect medical education and disproportionate share adjustments

Our analysis of payment adequacy addressed whether Medicare's aggregate payments to hospitals are sufficient to cover the costs of efficient hospitals. In this section, we consider how well Medicare's inpatient payments are distributed among hospitals, considering that 14

History of the adjustment for indirect medical education

In developing the adjustment for indirect medical education (IME), regression analysis was used to estimate the effect of resident training on teaching hospitals' costs (the so-called "empirical level"). The initial analysis suggested that inpatient operating costs increase by about 5.8 percent for every 10 percent increase in the ratio of residents to beds.

The Congressional Budget Office conducted an impact analysis before the acute inpatient prospective payment system (PPS) was implemented, which forecast that the new payment system would adversely affect most teaching hospitals. The analysis also forecast that, in aggregate, payments to teaching hospitals would fall 7 percent compared with a 7 percent increase for nonteaching hospitals. Because the negative effects seemed larger than was politically tolerable, the Assistant Secretary for Planning and Evaluation of the Department of Health and Human Services suggested doubling the IME adjustment. Before passing the PPS legislation, the Congress accepted the Secretary's proposal and doubled the adjustment to 11.6 percent (Lave 1985).¹⁵ Because total projected payments were held constant, the revenues to double the adjustment were obtained by reducing the base payment rates for all hospitals.

While it appeared that doubling the IME adjustment would narrow but not eliminate the gap in financial performance between teaching and nonteaching hospitals, that did not prove to be the case. In the first year of the PPS, teaching hospitals' inpatient margins were 5 percentage points higher than those of nonteaching hospitals, and the gap has since widened to 10 percentage points. One reason posited for teaching hospitals faring better than expected was that they substantially improved their coding of diagnosis related groups after the PPS was implemented. Before prospective payment, most hospitals had little experience with patient classification systems.

When the disproportionate share (DSH) adjustment was introduced in 1986, the IME adjustment was reduced from 11.6 percent to 8.1 percent to help pay for the new adjustment and to reflect the impact of DSH payments on the empirical level of the IME estimate. (In the original regression, some of the cost effect of low-income patients was attributed to teaching. Accounting for care to the poor separately resulted in a smaller effect for teaching.) At this point, the adjustment was still double the relationship between resident intensity and costs per case. With additional expansion of the DSH adjustment in 1988, the IME adjustment was further reduced to 7.7 percent.

percent of them are made in the form of two policy adjustments: IME and DSH payments. In addition to IME and DSH payments, Medicare has several payment programs designed to help rural hospitals. These include extra payments for rural referral, sole community, and Medicare-dependent hospitals within the acute inpatient PPS and separate cost-based payment for critical access hospitals.

The IME adjustment has always been set higher than the estimated effect of teaching on hospitals' costs per case. Based on 2004 data, we found that more than half of IME payments were above the empirical level. Similarly, the DSH adjustment has a weak relationship to the cost of treating low-income patients, although over the last decade many observers have argued that the adjustment subsidizes

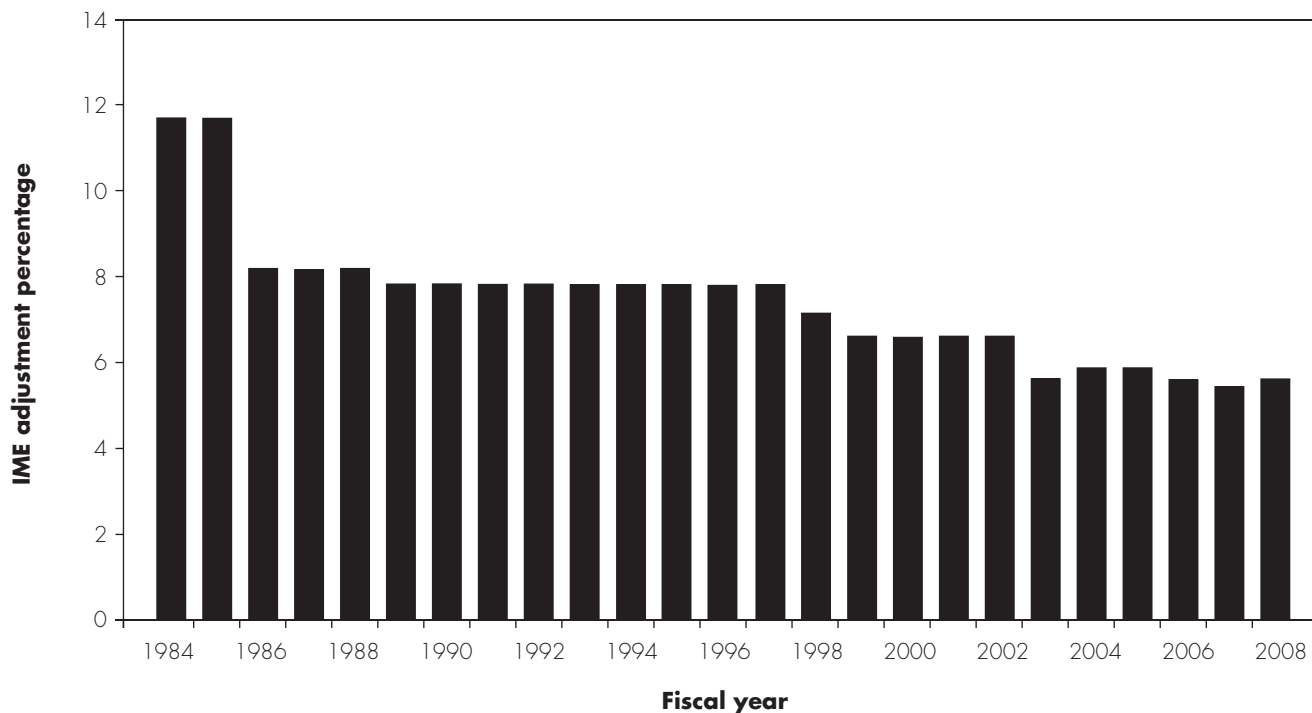
uncompensated care. We found that almost three-quarters of DSH payments were not related to the costs of treating Medicare patients. As a result of payments beyond the empirical level, the hospitals receiving IME or DSH payments—and particularly those receiving both—have much higher Medicare margins than hospitals that receive neither adjustment.

Our analysis shows that reducing the IME adjustments to the empirical level and returning the savings to the base rates would markedly reduce differences in Medicare payments. Redistributing both the IME and DSH subsidies would further level payments. In this section, we discuss options for using the IME subsidy as well as options for how DSH payments—or a more broad-based revenue source—could be used to fund a federal payment to offset

History of the adjustment for indirect medical education

**FIGURE
2A-10**

IME adjustment percentage



Note: IME (indirect medical education). The IME adjustment percentage shown is per 10 percent increment in the ratio of residents to beds.

Source: Section 1886(d) of the Social Security Act.

The IME adjustment remained at 7.7 percent for about a decade until the Balanced Budget Act of 1997 (BBA) legislated a gradual reduction to 5.5 percent in fiscal year 2001. However, subsequent legislation slowed the reduction, and the final payment rate of 5.5 percent is now scheduled for fiscal year 2008. The BBA also extended IME payments to Medicare+Choice patients

(now Medicare Advantage), phased in over five years. Some of the decrease in the level of the IME adjustment was offset by the additional payments for these Medicare managed care patients and by increases in the number of residents and declines in the number of beds (which raises the ratio of residents to beds). Figure 2A-10 shows the history of the IME adjustment. ■

hospitals' uncompensated care. As a precursor to such a payment, we recommend that CMS improve its instrument for collecting data on uncompensated care.

Adjustment for indirect medical education

Teaching hospitals—hospitals that train physicians in approved residency training programs—have always had higher Medicare inpatient costs per discharge than nonteaching hospitals. Part of the cost difference reflects

the direct costs of operating graduate medical education (GME) training programs, such as stipends for residents, salaries for teaching physicians, and related overhead expenses. But the cost difference may also reflect unmeasured differences in patients' severity of illness, inefficiencies in the use of services associated with residents' learning by doing, and greater use of emerging technologies.

When the Congress established the hospital inpatient PPS in 1983, it recognized teaching hospitals' higher costs in two ways. First, it excluded direct GME costs from the PPS rates; these costs continued to be reimbursed on a reasonable cost basis. The Congress later established a separate prospective payment for direct GME based on hospital-specific costs per resident in 1984 trended forward to account for inflation.

Second, the Congress included an IME adjustment to the hospital inpatient payment rates. The IME adjustment is a percentage add-on to the PPS rates that varies with the number of residents a hospital trains. A hospital's IME payments are therefore tied to its volume and mix of PPS cases as well as to the number of residents it trains. There are separate adjustments for operating and capital payments, and hospitals receive additional IME payments from Medicare for Medicare Advantage patients.¹⁶

The text box (p. 68) summarizes the history of the IME adjustment.

IME adjustment formula

Medicare's IME adjustment is based on a statutory formula that increases payments in fiscal year 2007 by about 5.35 percent for each 10 percent increment in teaching intensity, as measured by the ratio of residents to hospital beds:

$$\text{Adjustment percentage} = 1.32 \times [(1 + \text{number of residents/bed})^{0.405} - 1]$$

This formula applies to operating IME payments in the acute inpatient PPS as well as to IME payments for Medicare Advantage patients.¹⁷

A lower IME adjustment—set at the Commission's empirical estimate of 2.7 percent using 1999 data—is applied for additional residents that hospitals obtained through provisions in the MMA allowing a redistribution of residency training positions.¹⁸ This lower IME adjustment is applied to about 2,500 residents.

Capital payments (which comprise about a tenth of Medicare's inpatient PPS payments) receive a separate IME adjustment, set by the Secretary. The capital formula uses the ratio of residents to average daily census of patients, rather than residents to beds, to measure resident intensity. In general, the capital payment formula produces a slightly lower adjustment than the operating formula.¹⁹

Commission's past views on the IME adjustment

In MedPAC's March 2003 report, the Commission stated that it was not satisfied with the current policy because it provides payments above the empirically justified level to teaching hospitals without requiring them to account for how they use the money. The Commission stated that it would explore ways to target some or all of the IME payments above the empirically justified level to advance specific Medicare policy objectives and that this problem should be addressed promptly. Potential uses of the portion of IME payments above the empirically justified level are discussed later.

Disproportionate share adjustment

The Medicare DSH adjustment was implemented in 1986, two years after prospective payment began. The original justification for the adjustment was that poor patients are more costly to treat, so that hospitals with substantial low-income patient loads would likely experience higher costs for their Medicare patients than otherwise similar institutions. Over the last decade, however, many observers have shifted to arguing that the adjustment subsidizes uncompensated care provided to the uninsured and underinsured.

DSH payment structure and funding

DSH payments are distributed through a hospital-specific percentage add-on applied to the base DRG payment rates. Consequently, a hospital's DSH payments are tied to its volume and mix of PPS cases. The add-on for each case is determined by applying a formula to the hospital's share of low-income patients. Low-income shares are calculated as the sum of two ratios:

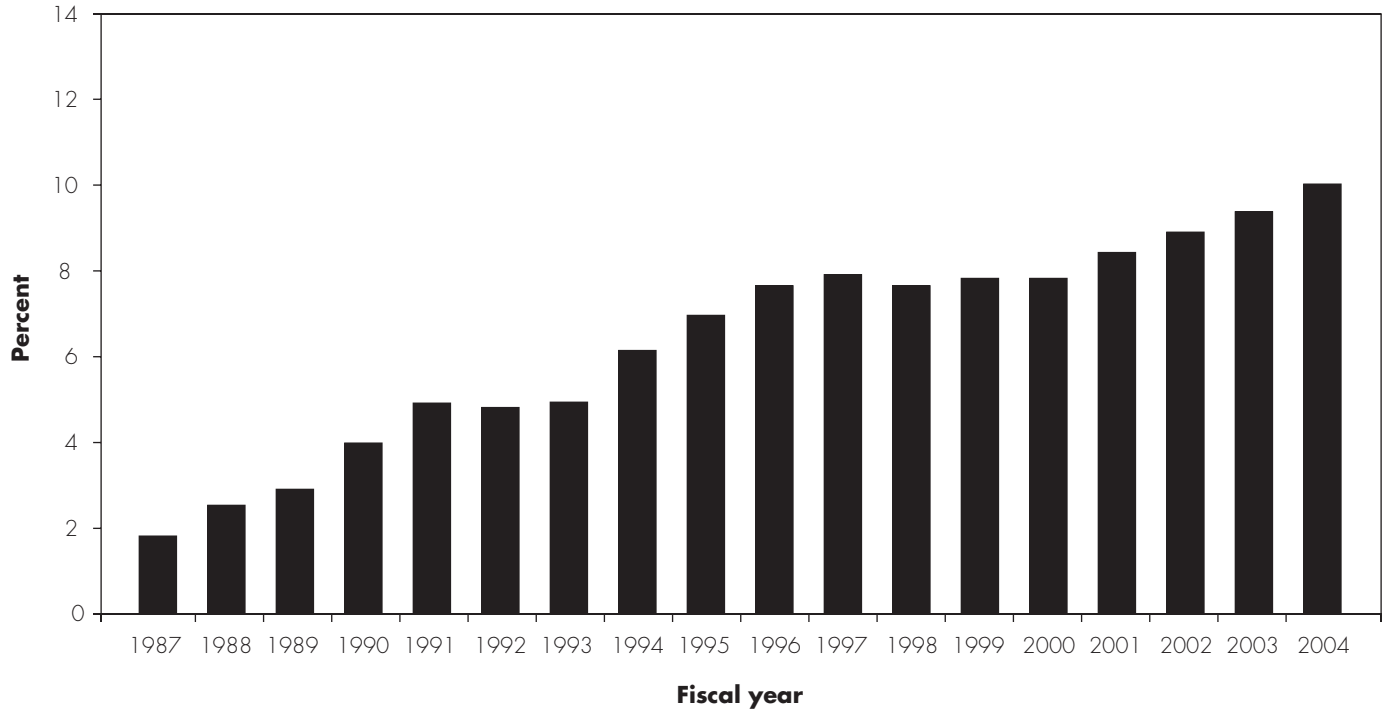
- Medicaid patient days as a share of total patient days, and
- patient days for Medicare beneficiaries who receive Supplemental Security Income (SSI) as a percentage of total Medicare patient days.

These two ratios are not equivalent because the second one uses Medicare days instead of total days in the denominator. One implication of this construction is that a hospital can have a low-income share that exceeds 100 percent.

Funding for DSH payments totaled \$7.7 billion in 2004. DSH spending grew rapidly over the last two decades

**FIGURE
2A-11**

DSH payments as a percent of base payments



Note: DSH (disproportionate share). Data through 1996 measure operating DSH payments as a percent of operating base payments. Data from 1997 through 2004 measure operating and capital DSH payments as a percent of operating and capital base payments.

Source: ProPAC June Reports to the Congress through 1996 and MedPAC analysis of Medicare cost report data from CMS from 1997 through 2004.

because the Congress expanded eligibility for DSH and liberalized the adjustment formula several times, and also because the courts expanded the count of Medicaid patient days used in calculating hospitals' low-income shares. For example, days beyond several states' length-of-stay limits and days paid for under Section 1115 waivers are now included. Between 1987 and 2004, DSH payments grew five-fold, from 1.9 percent to 9.9 percent of base DRG payments (Figure 2A-11).

DSH distribution formulas

The formulas governing the DSH adjustment for operating payments have two parts: a threshold, or minimum low-income share required to qualify for a DSH adjustment, and a payment rate that defines the percentage add-on for a given low-income share. The original distribution formulas reflected two general concepts:

- Easier qualification thresholds and higher payment rates for urban hospitals with more than 100 beds,

because an initial regression analysis found that the cost impact of treating low-income patients was concentrated among these facilities.

- A graduated payment structure (i.e., a higher payment rate for hospitals with the largest shares of low-income patients) to make up for the fact that many of the facilities with the largest low-income shares were public hospitals with relatively small shares of Medicare patients. Without the graduated payments, these facilities would not receive large DSH payments.

The Congress also established separate formulas for various bedsize groups, for rural referral centers, and for sole community hospitals. All told, DSH payments were distributed on the basis of 10 different formulas.²⁰

Subsequent legislation brought the DSH payment rates of urban and rural hospitals closer together. Today, we have separate distribution formulas for four groups of hospitals, with a cap of 12 percent applied to the DSH add-on of

**TABLE
2A-9**

Current DSH adjustment formulas for operating payments

Percentage adjustment

| Hospital qualifies if: | Formula | Cap |
|---|---|------------|
| Its low-income patient share is 15% to 20.2% | 2.5% + 0.65 times portion of share over 15% | none |
| Its low-income patient share is more than 20.2% | | |
| Urban hospitals with more than 100 beds, rural hospitals with more than 500 beds, and rural referral centers | 5.88% + 0.825 times portion of share over 20.2% | none |
| All other | 5.88% + 0.825 times portion of share over 20.2% | 12% |
| Special provision: 30% of its net patient revenue (excluding Medicare and Medicaid) is obtained from state and local government subsidies | 35% | none |

Note: DSH (disproportionate share). The percentage adjustment resulting from the formula and cap shown is made to the operating base payment rate.

Source: Section 1886(d) of the Social Security Act.

most rural hospitals and urban hospitals with fewer than 100 beds. (Table 2A-9 shows the specific distribution formulas.)

The capital DSH adjustment uses a single distribution formula where the add-ons are generally lower than under the operating formulas and the DSH payment rate increases more slowly as low-income share rises. In addition, most rural facilities and urban hospitals with fewer than 100 beds receive no capital DSH payments. The capital DSH formula was based on a regression analysis

that measured the impact of low-income share on total (operating plus capital) costs per discharge.

Spending and payment adjustments for IME and DSH hospitals

Medicare paid about \$13 billion, or 14 percent of total PPS payments, to acute care hospitals in fiscal year 2004 through the IME and DSH adjustments (Table 2A-10). Of this total, capital IME and DSH payments accounted for \$700 million and IME payments for Medicare Advantage patients accounted for about \$600 million. Teaching hospitals received an additional \$2.6 billion for the direct costs of GME programs for residents.

About 30 percent of hospitals covered by the acute inpatient PPS received an IME payment in fiscal year 2004, while 75 percent received a DSH payment (Table 2A-11). A quarter of hospitals received both IME and DSH payments, and 18 percent received neither.

IME payments go to 42 percent of urban hospitals compared with just 7 percent of rural hospitals. This difference results from the concentration of residency training programs in urban areas. In contrast, 81 percent of rural hospitals receive some DSH payments compared with 74 percent of urban hospitals. The vast majority of major teaching hospitals, 91 percent, also receive DSH payments, while DSH payments go to 74 percent of nonteaching hospitals.

**TABLE
2A-10**

Medicare payments for IME, DSH, and GME, 2004

Payment (in billions)

| Payment type | Payment (in billions) | | | |
|---------------------|------------------------------|----------------|---------------------------|--------------|
| | Operating | Capital | Medicare Advantage | Total |
| IME | \$4.5 | \$0.4 | \$0.6 | \$5.5 |
| DSH | 7.4 | 0.3 | 0.0 | 7.7 |
| Total | 11.9 | 0.7 | 0.6 | 13.2 |
| GME | 2.3 | 0.0 | 0.3 | 2.6 |

Note: IME (indirect medical education), DSH (disproportionate share), GME (graduate medical education).

Source: MedPAC analysis of Medicare cost report data from CMS.

**TABLE
2A-11****Hospitals receiving IME and DSH payments**

| Hospital group | Share of hospitals | Percent of hospitals receiving: | | | |
|----------------|--------------------|---------------------------------|-------------|-------------|-----------------|
| | | IME and DSH payments | IME payment | DSH payment | Neither payment |
| All hospitals | 100% | 25% | 30% | 75% | 18% |
| Urban | 70 | 34 | 42 | 74 | 18 |
| Rural | 30 | 6 | 7 | 81 | 18 |
| Major teaching | 8 | 91 | 100 | 91 | 0 |
| Other teaching | 23 | 78 | 100 | 78 | 0 |
| Nonteaching | 69 | 74 | 0 | 74 | 26 |

Note: IME (indirect medical education), DSH (disproportionate share).

Source: MedPAC analysis of 2004 impact file data from CMS.

Ten percent of all hospitals receive at least a 32 percent payment add-on through either or both the IME and DSH adjustments (Table 2A-12). The highest add-ons, though, go to hospitals that receive both payments. The top 10 percent of this group, representing almost 2.5 percent of all hospitals, receive a combined IME and DSH adjustment of 54 percent or more.

For major teaching hospitals, the IME adjustment is a bigger source of revenue than the DSH adjustment—16

percent compared with 10 percent (Figure 2A-12, p. 74). For other hospitals, however, the DSH adjustment is a larger source of revenue. The DSH adjustment for other teaching hospitals, for example, is twice the size of the IME adjustment.

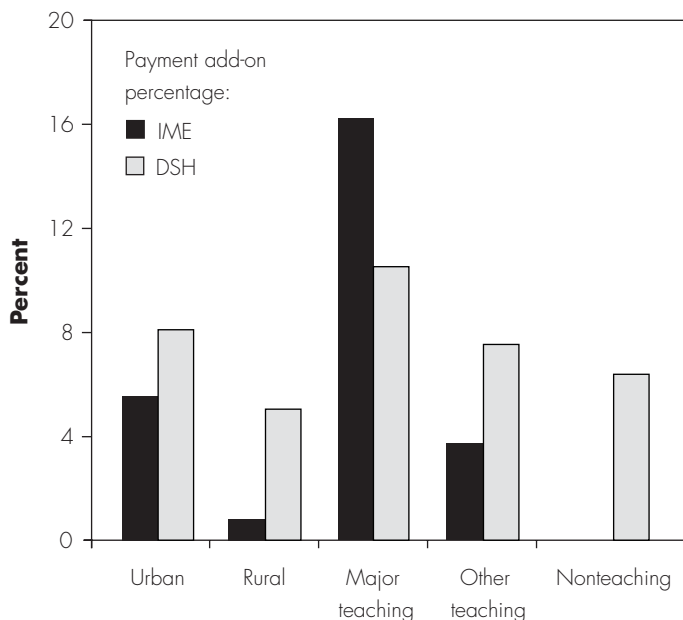
IME and DSH payments are highly concentrated: 200 teaching hospitals account for 68 percent of all IME payments, and 200 DSH hospitals account for 38 percent of all DSH payments. Of the \$13 billion in total DSH

**TABLE
2A-12****The largest adjustments go to hospitals receiving both IME and DSH payments**

| Hospital group and payment adjustment | Distribution of payment add-on percentage (percentile) | | | | |
|---------------------------------------|--|------|------|------|------|
| | 25th | 50th | 75th | 90th | 95th |
| All hospitals | | | | | |
| IME | 0% | 0% | 1% | 10% | 20% |
| DSH | 2 | 6 | 10 | 22 | 33 |
| IME and DSH | 3 | 7 | 14 | 32 | 45 |
| Hospitals receiving either IME or DSH | | | | | |
| IME | 1 | 3 | 7 | 13 | 16 |
| DSH | 5 | 7 | 10 | 18 | 27 |
| Hospitals receiving both IME and DSH | 11 | 19 | 37 | 54 | 62 |

Note: IME (indirect medical education), DSH (disproportionate share). Values shown are IME and/or DSH payments as a percent of base payments.

Source: MedPAC analysis of 2004 Medicare cost report data from CMS.

**FIGURE
2A-12****Major teaching hospitals receive the largest IME and DSH adjustments**

Note: IME (indirect medical education), DSH (disproportionate share). Nonteaching hospitals do not receive IME payments.

Source: MedPAC analysis of 2004 cost reports from CMS and payment model simulations.

and IME payments made in 2004, 45 percent goes to 200 hospitals, an average of almost \$30 million per hospital.

The distribution of hospitals receiving the largest IME and DSH add-ons (defined as those with adjustments above the 75th percentile) differs by ownership. Proprietary hospitals are overrepresented in the DSH-only group (36 percent compared with 21 percent of hospitals nationally), nonprofit hospitals are overrepresented in the IME-only group (94 percent compared with 61 percent nationally), and government hospitals are overrepresented in the group that receives both adjustments (36 percent compared with 18 percent nationally).

Medicare margins and IME and DSH payments

Receiving IME and DSH payments substantially affects hospitals' Medicare margins. Focusing on the Medicare inpatient margin, hospitals receiving neither IME nor DSH payments have the lowest margins, -14.3 percent in 2004 (Table 2A-13). Even those receiving IME payments only or DSH payments only have below-average margins. But

hospitals receiving both IME and DSH payments have margins well above average—5.6 percent—although this is inevitable given that the denominator of the margin ratio is the cost of treating Medicare patients and the numerator includes extra payments unrelated to the cost of treating Medicare patients. Major teaching hospitals (more than 90 percent of which receive both IME and DSH) have the highest margins of all, 12.5 percent.

The difference between hospitals receiving both IME and DSH adjustments and those receiving neither adjustment is smaller if measured with the overall Medicare margin than with the Medicare inpatient margin (15 percentage points rather than 20 percentage points), as is the difference between major and nonteaching hospitals (14 percentage points rather than 19 percentage points). This difference primarily reflects the fact that Medicare's PPS for hospital outpatient services does not contain an IME or a DSH adjustment.

The range of Medicare inpatient margins is quite wide in all four groups defined by IME and DSH status. Hospitals receiving both IME and DSH payments have the highest margins at each breakpoint through the 90th percentile, but, at the 95th percentile, those receiving both IME and DSH payments along with those receiving only DSH have margins of about 30 percent (Table 2A-14).

The advantage of receiving both IME and DSH payments has expanded over time. The difference in financial performance between hospitals receiving both payment adjustments and those receiving neither was about 12 percentage points in 1997 and increased gradually to about 20 percentage points in 2004 (Figure 2A-13, p. 76).

Estimating the relationship between hospital costs and teaching and care to the poor

We estimated the relationship of hospitals' Medicare costs per case to teaching and care to the poor. Our analysis is based on 2004 cost report data, and it updates and expands on an analysis we last conducted for the Commission's March 2003 report to the Congress (which used 1999 data). (See the text box, p. 81, for a summary of the methods used in the analysis.)

Findings on the IME adjustment

IME payments exceed the estimated relationship between teaching intensity and costs per case. The IME adjustment for Medicare operating payments is set at 5.35 percent in fiscal year 2007; in fiscal year 2008 and beyond, it will be

**TABLE
2A-13****Medicare margins by teaching and disproportionate share status**

| Hospital group | Share of hospitals | Share of inpatient payments | Medicare inpatient margin | Overall Medicare margin |
|---------------------|--------------------|-----------------------------|---------------------------|-------------------------|
| All hospitals | 100% | 100% | -0.3% | -3.0% |
| Major teaching | 8 | 23 | 12.5 | 6.0 |
| Other teaching | 23 | 36 | -1.6 | -3.6 |
| Nonteaching | 69 | 41 | -6.6 | -7.5 |
| Both IME and DSH | 24 | 47 | 5.6 | 1.2 |
| IME only | 6 | 10 | -4.6 | -5.4 |
| DSH only | 51 | 30 | -3.7 | -5.3 |
| Neither IME nor DSH | 19 | 12 | -14.3 | -13.4 |

Note: IME (indirect medical education), DSH (disproportionate share).

Source: MedPAC analysis of impact file and 2004 Medicare cost report data from CMS.

5.5 percent. Our analysis (which reflects implementation of MedPAC's recommendations for refining Medicare's DRGs) found that Medicare inpatient costs per case (operating and capital costs combined) increase about 2.2 percent for every 10 percent increase in the ratio of residents to hospital beds (Figure 2A-14, p. 76). Under the current DRGs, we find the cost effect slightly smaller, 2.1 percent.²¹ These estimates are lower than our prior estimate of 2.7 percent based on 1999 data.²² As shown in Figure 2A-14, the size of this subsidy—the difference between the top line representing the current payment adjustment and the bottom line representing the actual cost

relationship between teaching intensity and cost—gets larger at higher levels of resident intensity. In fiscal year 2004, more than half of IME payments were not empirically justified, accounting for about \$3 billion in Medicare spending.²³

The empirical relationship between teaching and costs per case has fallen, probably as a result of two factors. One reason is that teaching hospitals, on average, have had lower growth in costs than other hospitals. The second reason is that increases in the resident-to-bed ratio do not necessarily correspond to higher costs for patient care.

**TABLE
2A-14****Hospitals receiving DSH only or both DSH and IME payments have the highest margins****Distribution of Medicare inpatient margins (percentile)**

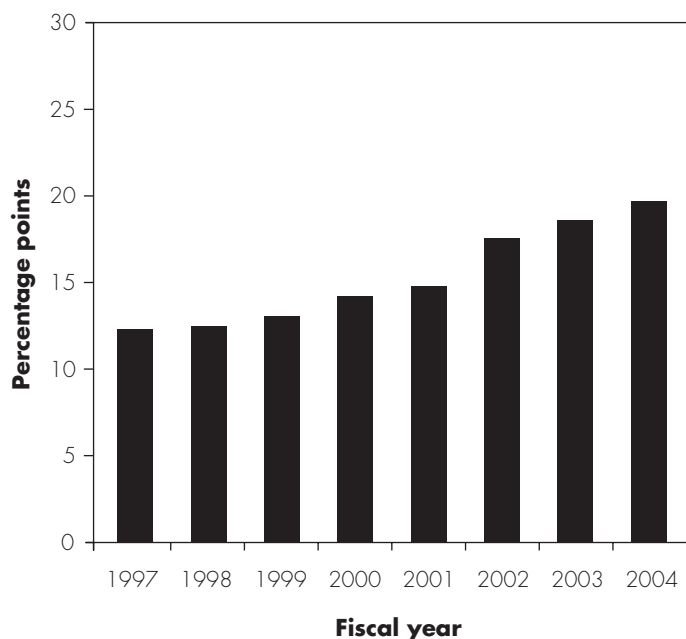
| Hospital group | 25th | 50th | 75th | 90th | 95th |
|----------------------|-------|-------|-------|-------|-------|
| Hospitals receiving: | | | | | |
| Both IME and DSH | -5.2% | 4.9% | 15.0% | 25.0% | 29.9% |
| IME only | -15.6 | -6.0 | 5.3 | 13.2 | 19.7 |
| DSH only | -13.0 | -0.4 | 11.2 | 22.5 | 30.3 |
| Neither IME nor DSH | -25.6 | -13.2 | -0.3 | 9.3 | 18.6 |

Note: IME (indirect medical education), DSH (disproportionate share). The distribution of Medicare inpatient margins in 2004 is shown.

Source: MedPAC analysis of 2004 Medicare cost report data from CMS.

FIGURE 2A-13

The difference in Medicare inpatient margin between hospitals receiving neither and both IME and DSH payments has grown



Note: IME (indirect medical education), DSH (disproportionate share).

Source: MedPAC analysis of Medicare cost report data from CMS.

For instance, the ratio can increase if hospitals decrease their number of beds without changing the number of residents trained. Over the past four years, the number of acute care beds in teaching hospitals has fallen every year. In addition, the number of residents in training has increased by more than 35 percent since the beginning of the PPS, and increases in the number of residents trained may cause little if any increase in costs per case (especially considering that resident salaries and benefit costs are paid for separately).²⁴

Relationship of standby services and hospital costs

Some policymakers have noted that teaching hospitals are often a major provider of standby services and have suggested that the IME adjustment covers some of the higher costs associated with these services. In our analysis, we added selected standby services to our regression equation for the IME adjustment to observe how the provision of these services is related to patient care costs and the empirical level of the teaching adjustment. Our analysis identifies Medicare-certified transplant centers,

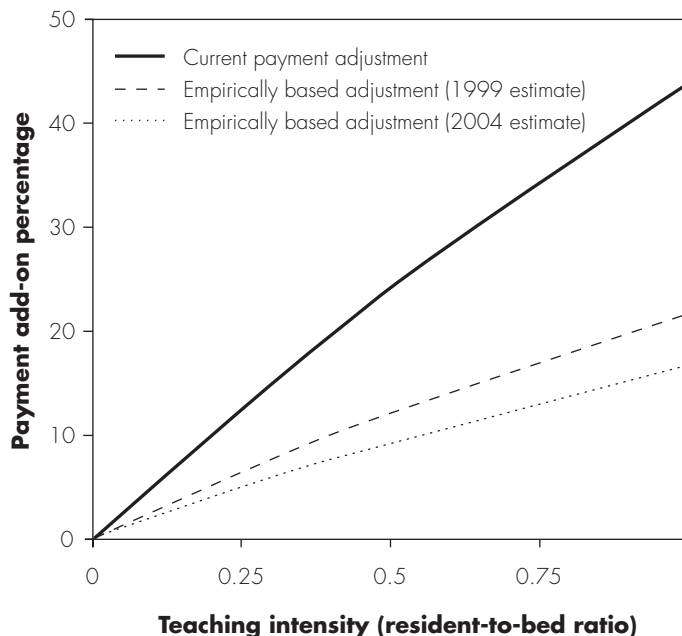
burn care centers, and trauma care centers. These are not the only services in which standby capacity is potentially important, but they are the ones where reliable measures were available. Hospitals that had these services were shown to have higher patient care costs. However, the empirical estimate for the IME adjustment drops substantially, from 2.2 percent to 1.4 percent, when these variables are included in the regression, an indication that some of what we call the empirical effect of teaching is actually the cost effect of these services.

Table 2A-15 displays how these services are distributed across teaching and nonteaching hospitals, showing a heavy concentration in teaching facilities, particularly teaching hospitals with a resident-to-bed ratio of 0.5 or more. However, not all teaching hospitals provide these services, and the services are not provided exclusively in teaching hospitals.

We also identified hospitals with large amounts of spending on research as reported on the hospital cost reports. Research costs are a nonallowable Medicare

FIGURE 2A-14

The IME adjustment is higher than empirically based estimates of the cost impact of teaching



Note: IME (indirect medical education). The empirically based adjustments are calculated using regression analysis of the impact of teaching intensity on hospitals' Medicare costs per case. The 2004 empirically based adjustment reflects MedPAC's recommendations for refining the diagnosis related groups used for Medicare inpatient payments.

Source: MedPAC analysis of Medicare cost report data from CMS.

**TABLE
2A-15**

Provision of selected standby services, by teaching intensity, 2004

| Teaching intensity (resident-to-bed ratio) | Number of hospitals | Percent of hospitals | Percent of hospitals with service | | |
|---|---------------------|----------------------|-----------------------------------|------------|--------|
| | | | Burn | Transplant | Trauma |
| 0 | 2,278 | 68.9% | 0.4% | 0.7% | 6.3% |
| 0 to 0.25 | 717 | 21.7 | 2.6 | 8.4 | 22.2 |
| 0.25 to 0.5 | 166 | 5.0 | 7.2 | 24.7 | 33.7 |
| Above 0.5 | 143 | 4.3 | 28.7 | 59.4 | 63.6 |
| All hospitals | 3,304 | 100.0 | 2.5 | 6.1 | 13.6 |

Note: Standby services are those for which extra capacity is maintained to meet wide fluctuations in nonelective demand. Most academic medical centers (the principal teaching hospital of a medical school) have a resident-to-bed ratio of 0.5 or higher.

Source: MedPAC analysis of 2004 Medicare cost report data from CMS.

expense and thus are excluded from the calculation of Medicare costs. One might expect research spending to be an indication of hospital mission, and hospitals involved in research may attract a more complex mix of patients. However, in our analysis we identified the top 25, 50, and 100 hospitals in terms of research spending and found no cost relationship.

Academic medical centers are the main teaching hospital of medical schools. Because of this relationship, a large number of medical students in addition to residents might also be involved in patient care activities in these facilities. One might expect this to lead to higher costs for the same reasons we think residents increase costs—more tests, inefficient practice, and learning by doing as part of the training process. The close ties to the medical school may also affect delivery of patient care in other ways. If we calculate separate adjustments for academic medical centers and other teaching hospitals, we find a higher cost relationship in academic medical centers. The IME coefficient is 2.6 percent in these centers compared with 1.5 percent in other teaching hospitals.

Findings on the DSH adjustment

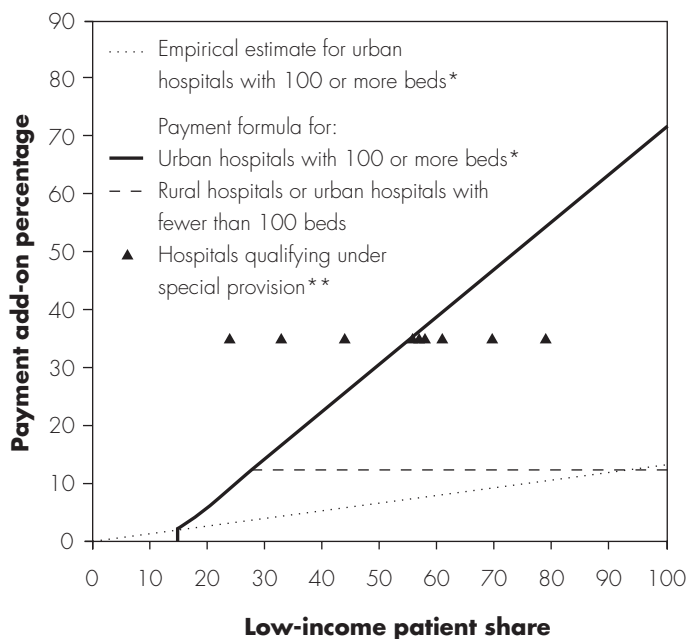
In this analysis, we identify the relationship between Medicare costs per case and the low-income patient care percentage used in the DSH formula. The original justification for the adjustment was that low-income patients are more costly to treat, so that hospitals with a substantial share of them would likely experience higher costs for Medicare patients than otherwise similar institutions.

Entering the percentage of low-income patients into the regression (along with the resident-to-bed ratio), we found that costs per case increase about 0.4 percent for each 10 percent increment in this ratio, substantially less than the current set of DSH adjustment formulas (Figure 2A-15, p. 78). Again, we measure the relationship in the presence of DRG refinement. In fiscal year 2004, about three-quarters of DSH payments were not empirically justified, accounting for about \$5.5 billion in Medicare spending.

We also looked separately at urban hospitals with more than 100 beds and all other hospitals. A stronger and much larger effect of low-income patient share is observed if the adjustment is limited to urban hospitals with more than 100 beds. In this case, costs increase about 1.4 percent for every 10 percent increment of low-income share. Using 2004 payment parameters, our estimates of the DSH effect are a little higher, at 1.8 percent.²⁵ We found no positive cost relationship with the low-income patient care percentage for other hospitals.

Hospitals with a higher share of low-income patients receive a larger subsidy from having the DSH adjustment set above the empirical relationship with costs, the difference between the top and bottom lines in Figure 2A-15 (p. 78). Since we find no positive cost relationship between care to the poor and costs per case for rural hospitals and urban hospitals with fewer than 100 beds, the subsidy for this group is their full payment, the middle dashed line in Figure 2A-15. Including low-income share in the regression also lowers the empirical level of the teaching adjustment. The empirical level for teaching drops to 1.7 percent when the variable for share of low-

FIGURE 2A-15 The DSH adjustment is almost always higher than empirically based estimates of the cost impact of care to low-income patients



Note: DSH (disproportionate share). Hospitals can have a share of low-income patients above 100 because this share is the sum of two percentages with different denominators.
 * MedPAC's analysis finds a relationship between costs per case and low-income patient share only for this group, which also includes a small number of rural referral centers and rural hospitals with 500 or more beds.
 ** Nine hospitals receive a fixed payment adjustment of 35 percent because at least 30 percent of their net revenue (excluding Medicare and Medicaid) is obtained from state and local government subsidies.

Source: MedPAC analysis of 2004 Medicare cost report data from CMS.

income patients for urban hospitals with more than 100 beds is included in the regression. This implies a strong relationship between teaching intensity and low-income share, in that part of the effect that the IME adjustment is picking up (when the variable for low-income share is not included in the regression) is the cost effect of treating low-income patients.

Relationship of uncompensated care to IME and DSH payments

To explore the relationship between hospitals' costs for uncompensated care and Medicare's DSH payments, we obtained data on uncompensated care (charity care and bad debts) compiled by the Government Accountability Office from state mandated reporting systems (GAO 2005). The database covers only five states—California, Florida, Georgia, Indiana, and Texas—but those states

contain a quarter of all PPS hospitals and include a mix of large urban, other urban, and rural areas. Every hospital in these states is required by law to report data on uncompensated care meeting the specifications of a designated state agency, although these specifications are not necessarily the same in each state. Because all hospitals are required to report, there is no sample bias, and the data are frequently (but not uniformly) audited.

Uncompensated care is highly concentrated—the top 10 percent of hospitals in terms of the share of resources they devote to furnishing uncompensated care provide 41 percent of all unpaid care (Figure 2A-16). But we found that DSH payments are poorly targeted to hospitals' shares of uncompensated care. This top group of uncompensated care providers receives only 10 percent of DSH payments. The bottom 10 percent of hospitals, in contrast, provide less than 2 percent of all uncompensated care but receive about 8 percent of DSH payments.

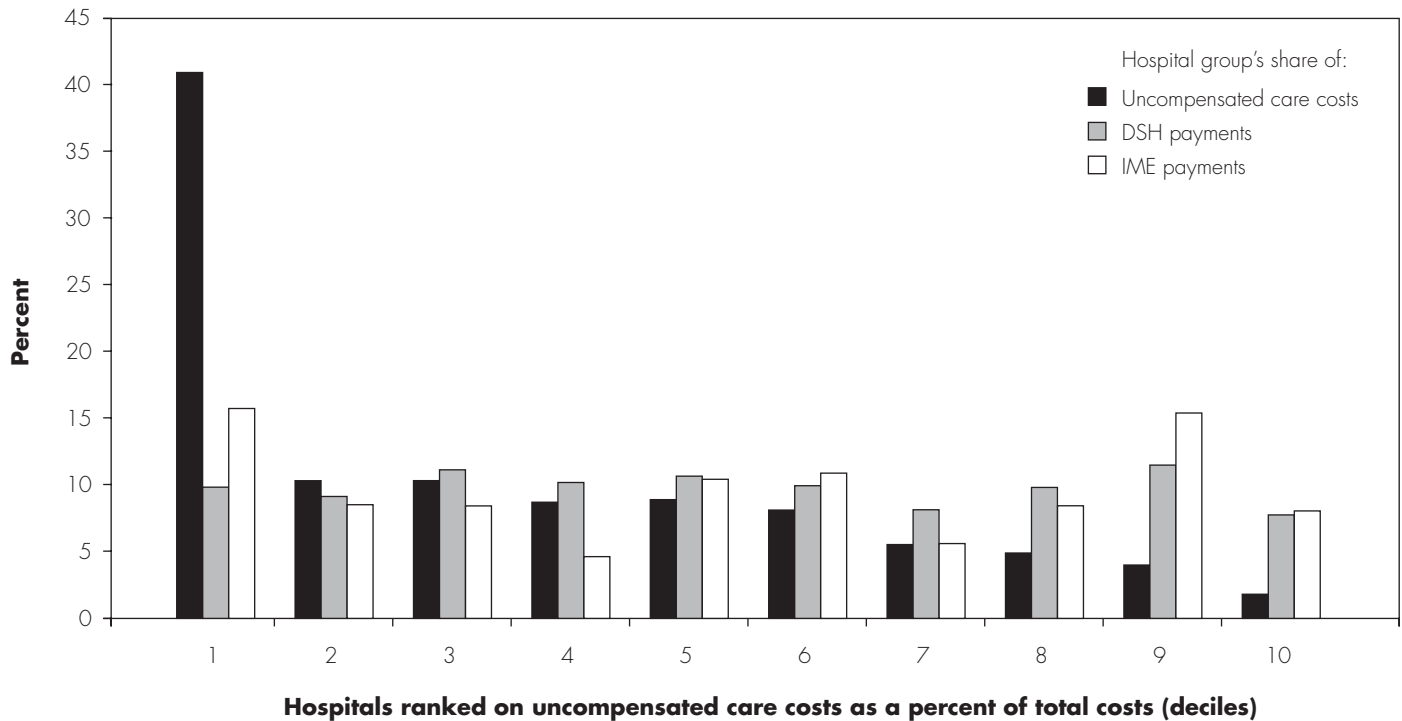
Although not designed for this purpose, the IME adjustment could help teaching hospitals that have large shares of uncompensated care. However, the relationship between IME payments and hospitals' shares of uncompensated care is also weak. The top uncompensated care group (providing more than two-fifths of the uncompensated care) receives just 15 percent of IME payments.

We identified the roughly one-fifth of hospitals that receive the largest add-on payments—defined as above the 75th percentile of DSH, IME, or both DSH and IME payments as a percent of base payments. This analysis provides more evidence that IME and DSH payments track poorly to hospitals' shares of uncompensated care.

- Hospitals receiving the largest DSH adjustments have shares of uncompensated care that are below the average for all hospitals (5.0 percent compared with the average of 6.6).
- Hospitals receiving the largest IME adjustments have even smaller shares of uncompensated care (3.9 percent).
- Hospitals receiving the largest combined IME and DSH payments have 14 percent shares of uncompensated care—well above the all-hospital figure—but this average masks a wide range of values. For example, the 75th percentile is a 20 percent share of uncompensated care while the 25th percentile is only 4 percent.

**FIGURE
2A-16**

Hospitals with the most uncompensated care do not receive the largest DSH and IME adjustments



Note: DSH (disproportionate share), IME (indirect medical education). The first group includes the 10 percent of hospitals with the highest ratio of uncompensated care costs to total costs. The last group includes the 10 percent of hospitals with the lowest such ratio.

Source: State mandated reporting systems in California, Florida, Georgia, Indiana, and Texas (2002 and 2003 data, N=848); Medicare cost report data from CMS; and state-level data compiled by the Government Accountability Office.

Thus, it appears that the hospitals most involved in teaching and in treating Medicaid and low-income Medicare patients are not, by and large, the ones that devote the most resources to treating patients who are unable to pay their bills.

MedPAC also had access to the data on uncompensated care that hospitals report on the American Hospital Association's (AHA) annual survey of hospitals. In this case, however, what hospitals include in their charity care is not regulated, and the data are not audited. These data would not be reliable or consistent enough to use as the basis for distributing payments. Furthermore, we have no way of knowing whether the roughly one-third of hospitals that do not submit a survey or that leave the charity care and bad debt fields blank differ from reporting hospitals in the amount of uncompensated care they provide.

Nonetheless, the AHA data offer the advantage of including information from hospitals nationwide, so we

used this database to duplicate our five-state analysis. We observed the same general pattern—uncompensated care heavily concentrated in the top 10 percent of hospitals and little evidence of any relationship between a hospital's share of uncompensated care and the DSH and IME payments it receives.

Key issues in evaluating the IME and DSH adjustment

In evaluating the appropriateness of the current IME and DSH adjustments, one side of the argument centers on the accuracy of payments and how well they are distributed. Under this view, the primary goal of the Medicare rate-setting process is to make the best possible estimates of the costs of Medicare services and then align payments as closely as possible to these costs. The IME and DSH adjustments have distributed large sums of money in a manner that is not strongly related to the costs of treating Medicare beneficiaries, resulting in large differences in Medicare payments among hospitals.

Although we previously found that factors over which hospitals have considerable control (particularly their average costs per case) are closely associated with having consistently negative Medicare margins (MedPAC 2006), those margins nonetheless vary by the IME and DSH payments hospitals receive. Moreover, the gap in financial performance between hospitals receiving and not receiving IME and DSH payments has widened in recent years.

Even though some would argue that the IME and DSH payments are too high, the other side of the argument begins with the fact that the Congress made a conscious decision to fund the IME adjustment at twice the estimated impact of teaching on Medicare costs out of concern that teaching hospitals would fare poorly under the PPS. As discussed earlier, the Congressional Budget Office's analysis at the time implied that doubling the IME adjustment rate budget neutrally would simply narrow the gap between the financial performance of teaching and nonteaching hospitals. In fact, teaching hospitals have always had higher Medicare margins than nonteaching facilities.

Some policymakers argue that the portion of the IME and DSH adjustments above the empirical level is appropriately used to help fund social missions, although it is difficult to account for hospitals' use of the funds. In addition to the social objectives the IME and DSH adjustments may advance, the Congress has implemented several payment mechanisms to promote the social objective of access to care in rural areas.

The debate about social benefits encompasses three questions:

- What are these benefits?
- Is Medicare the best mechanism for funding them?
- How can hospitals be held accountable for providing the benefits?

The primary social benefit teaching hospitals are expected to provide is to produce a well-trained physician workforce with skills to match the nation's need for health care services.²⁶ Other commonly cited social benefits include:

- furnishing uncompensated care;
- delivering broad-based services such as patient education and screening programs without charge or at below-cost rates;

- maintaining standby capacity (staffing, equipment, and beds) for responding to natural disasters, large-scale accidents, outbreaks of infectious disease, or terrorism;
- providing specialty services that frequently operate at a loss, such as trauma care, burn care, and transplants; and
- serving as first adopters of sophisticated, and sometimes experimental, technology.

Teaching and nonteaching hospitals provide these social benefits, but major teaching hospitals are most likely to play a substantial role in furnishing standby services and introducing sophisticated new technologies.

When it is agreed that the federal government should at least partially underwrite the cost of a social benefit, what is the best way to provide the funding? One argument is that the best funding source is general revenues allocated through the appropriations process. Because these are public goods, benefiting all patients if not the entire population, ideally society as a whole—through a broad-based revenue source—should provide the financing. In addition, some have suggested that spending large sums of money through Medicare to support vaguely defined social benefits all too often does not result in the social benefits being provided. In this vein, it is unclear how much of the IME and DSH monies have gone to supporting social benefits rather than to improving the competitive position of the hospitals receiving them. On the other hand, some are concerned that appropriations are subject to year-to-year changes while the IME and DSH adjustments are more protected within Medicare's mandatory funding. A mandatory entitlement structure, however, could mitigate some of the uncertainty of appropriations.

Impact of reducing the IME and DSH adjustments and increasing the base payment rates

Because the DSH and IME adjustments are set above their empirical levels, Medicare margins for teaching hospitals and hospitals receiving above-average DSH payments are well above those that receive neither of these adjustments. This section illustrates how Medicare payments and margins would change if the IME adjustment, DSH adjustment, or both were reduced to the empirical level or reduced by 1 percentage point, with savings returned to operating and capital base payment rates.

Methods used to estimate relation between hospitals' costs and teaching and care to the poor

We used regression analysis to estimate the effect of both teaching and care to the poor on hospitals' Medicare costs per case under the Commission's diagnosis related group (DRG) refinement proposal. We modeled our estimates using MedPAC's recommendations for DRG refinements, because they would help substantially in improving the accuracy of the payment system. Thus, our indirect medical education (IME) and disproportionate share (DSH) estimates ultimately reflect the direction in which we believe payment policy should be headed. We also examined the empirical level of these relationships under the current DRGs and note in our presentation of results where this makes a notable difference.²⁷ In most cases, it did not make a difference.

In conducting our analysis, using 2004 cost report data, we standardized hospitals' inpatient costs for cost-related payment factors (the area wage index, case mix, and outlier payments) to reflect how these factors are used in the acute inpatient prospective payment system.²⁸ The direct costs of teaching programs—resident and faculty salaries and associated overhead costs of running training programs—are excluded from the analysis because they are reimbursed separately. This method allows the variables for teaching intensity

and share of low-income patients to pick up the effect of any remaining variation in costs not accounted for by the payment system.³¹

This approach tends to produce higher estimates of the effect of teaching or care to the poor on Medicare costs than we would get if we included other factors (e.g., number of hospital beds or standby services) in the analysis. The estimated impact of teaching or treating a large share of low-income patients would be lower (and the amount of payments above the empirical level would be even higher) if we were to control for other factors like these; that is, this method results in a conservative estimate of the IME and DSH subsidies currently provided to hospitals. We do not control for these other factors because the payment system does not consider them in setting payment rates.

The calculation of the empirical level of the IME and DSH adjustments is based on policy parameters in place in 2004 and may change somewhat with future modifications to the payment system. For example, changes in the wage index—such as the 2005 addition of the occupational mix adjustment—could change the empirical level of the IME estimate somewhat. ■

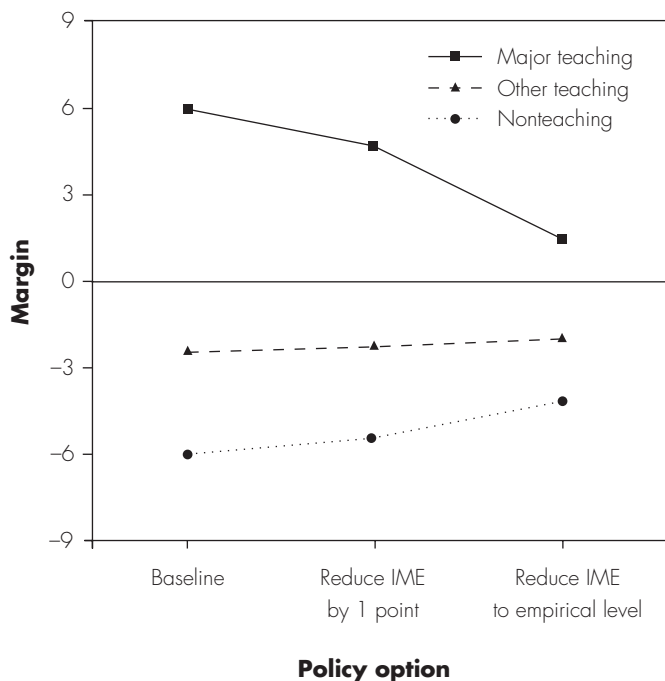
Differences in financial performance under Medicare would narrow if the IME, DSH, or IME and DSH adjustments were reduced closer to their empirical cost relationship, with the savings redistributed among all hospitals. If the IME adjustment were reduced by 1 percentage point to 4.5 percent per 10 percent increment of teaching intensity, the difference in overall Medicare margins between major teaching and nonteaching hospitals would decrease from 12 percentage points to 10 percentage points (Figure 2A-17, p. 82).²⁹ It would drop further to 5.5 percentage points if the IME adjustment were brought down to the empirically justified relationship between resident intensity and costs per case.³⁰

The impact on payments of lowering the IME adjustment is related to the size of a hospital's teaching program and the size of the reduction. Hospitals with higher resident-

to-bed ratios would see larger reductions in payments than those with lower ratios. For example, hospitals with a resident-to-bed ratio of 0.5 or more would see their Medicare inpatient payments fall on average 2.1 percent with a 1 percentage point drop in the IME adjustment compared with a 0.3 percent decrease for hospitals with a resident-to-bed ratio between 0.1 and 0.25. Smaller teaching hospitals, those with a resident-to-bed ratio below 0.08, would actually see a small increase in payments. Nonteaching hospitals would see an average increase in payments of about 0.7 percent.³² These payment changes would be almost four times as large if the IME adjustment were reduced to the empirical level. This redistribution of payments would be different if the savings from reducing the IME adjustment were used in some other way, such

**FIGURE
2A-17**

**Overall Medicare margin under
selected IME policies**



Note: IME (indirect medical education). Baseline margin is a simulated 2004 margin adjusted to reflect full implementation of Medicare Prescription Drug, Improvement, and Modernization Act of 2003 disproportionate share policies, a 5.5 percent IME adjustment, and a fixed loss threshold for outlier cases that ensures the full 5.1 percent outlier pool will be paid to hospitals. Major teaching hospitals are hospitals with 25 or more residents per 100 beds.

Source: MedPAC analysis of 2004 Medicare cost report data.

as funding pay for performance or improving residency training. (The next section further discusses these options.)

DSH subsidies are not a major factor in explaining the difference in financial performance between major teaching and nonteaching hospitals. The difference in overall Medicare margin between major teaching and nonteaching hospitals would narrow only slightly if the DSH adjustment were reduced (Figure 2A-18). Cutting it by 1 percentage point would narrow the gap in margins by 0.3 percentage point, while reducing the adjustment to the empirical level would narrow the gap by 1.5 percentage points, still leaving major teaching hospitals' margins 10.5 percentage points higher than those of nonteaching hospitals. The major factor contributing to the difference in Medicare margins between major teaching and nonteaching hospitals would continue to be IME payments above the empirical level. If both the IME and

DSH adjustments were brought to their empirical cost relationship, the gap in aggregate financial performance between major teaching and nonteaching hospitals would narrow substantially to 3.4 percentage points.

This analysis indicates that the portion of the IME and DSH adjustments above the empirical level explains a large part of the difference in aggregate financial performance between hospitals that receive the adjustments and those that do not. However, other factors, such as provider efficiency and ability to control costs, also play a significant role in the financial performance of providers and cannot be overlooked when evaluating the performance of individual providers.

IME policy options

Keeping the IME subsidy at its current level directs more than \$3 billion in extra payments to teaching hospitals. One argument that has been made for paying above the empirical cost relationship is that the payment system does not adequately reflect the higher severity of patients treated in teaching hospitals. But adjusting the DRG payment rates for severity differences is one of four refinements the Commission believes are needed to improve the payment system (MedPAC 2005a), and CMS is currently evaluating severity adjustment options for possible implementation in fiscal year 2008 (CMS 2006d).

Commission analysis of all patient refined diagnosis related groups (APR-DRGs) found that severity adjustment would increase payments to teaching hospitals by an average of 1 percent.³³ When a credible severity adjustment system is implemented, the IME adjustment should be reduced by 1 percentage point, to 4.5 percent per 10 percent increment of teaching intensity, approximately offsetting the increase in payments teaching hospitals would receive from severity adjustment.

If the IME adjustment were reduced, the payments could be redirected in one or more ways. The funds could be returned to the base rates to reduce the difference in financial performance between teaching and nonteaching hospitals under Medicare. Alternatively, they could be used to fund a pay-for-performance program for all hospitals to reward high-quality care and quality improvement. A third option would retain these funds for teaching hospitals but redirect them to reward innovations in residency training programs to better prepare the physician workforce for the 21st century. This section discusses these potential uses of IME payments above the empirical level. In the end, the Commission agreed that using the funds for pay for

performance is the best option, though we recognize the value of the other two.

Using a portion of IME payments to increase base rates

The IME adjustment was originally funded by reducing the base rates for all hospitals. While the IME adjustment could be reduced with savings returned to the treasury, hospitals' Medicare margins—particularly those of hospitals not receiving IME or DSH payments—are currently low, so that a more appropriate use of the IME funds over the empirical level may be to return them to the base rates. In addition, returning these funds to the base rates would narrow the difference in financial performance between teaching and nonteaching hospitals under Medicare. The base rates would increase about 0.8 percentage point if the IME adjustment were reduced a percentage point and 2.8 percentage points if the adjustment were reduced to the empirical level.

Using a portion of IME payments to fund a pay-for-performance program for all hospitals

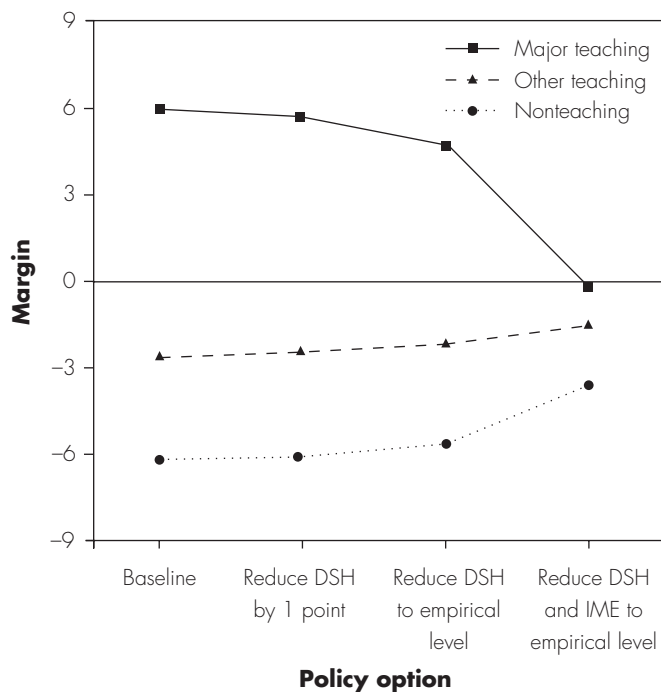
The IME funds above the empirical level also could be used to fund Medicare pay-for-performance initiatives for hospitals. Under this approach, teaching hospitals would compete with all other hospitals for the payment set-aside based on their performance on selected quality measures. Allocating the funds based on pay-for-performance criteria would ensure better accountability than current payment policy and may boost momentum in implementing such a program. We believe an appropriate set of quality measures is available, but neither CMS nor the Congress has established a systemwide pay-for-performance program. The Commission previously recommended that a pay-for-performance pool be funded with a 1 percent to 2 percent withhold on hospital payments (MedPAC 2005b). A 1 percentage point reduction in the IME adjustment could provide part of the funding for the pay-for-performance program for all hospitals without reducing payments to nonteaching hospitals. It could be combined with an amount withheld from base rates to create a larger performance pool.

Using a portion of IME payments to reward innovation in residency training

A third possible use of IME funds above the empirical level is to support initiatives in residency training designed to better prepare residents for practice in the 21st century. Such an effort would provide more accountability for how these funds are used but would retain the payments

FIGURE 2A-18

Overall Medicare margin under selected DSH and IME policies



Note: DSH (disproportionate share), IME (indirect medical education). Baseline margin is a simulated 2004 margin adjusted to reflect full implementation of Medicare Prescription Drug, Improvement, and Modernization Act of 2003 DSH policies, a 5.5 percent IME adjustment, and a fixed loss threshold for outlier cases that ensures the full 5.1 percent outlier pool will be paid to hospitals. Major teaching hospitals are hospitals with 25 or more residents per 100 beds.

Source: MedPAC analysis of 2004 Medicare cost report data.

used to support such initiatives among teaching hospitals. Restricting the funds to teaching hospitals, though, would not reduce differences in financial performance between teaching and nonteaching hospitals that have resulted from the IME adjustment being set substantially above the empirical level.

The Commission is concerned that the nation's medical schools and residency programs are not adequately training physicians to be leaders in shaping and implementing needed changes in the health care system. The system should change from one that focuses on care for acute illness at the expense of prevention, management of chronic conditions, and coordination of care across settings. As a major purchaser of health care, Medicare should reward a culture that values patient-centered care, quality improvement, and resource conservation.

Key to this transformation is having physician training programs emphasize a new set of skills and knowledge. For example, programs need to train residents to measure their performance against quality benchmarks, use patient registries and evidence-based care guidelines, work in interdisciplinary teams, manage the hand-off of patients, and initiate improvements in the process of caring for patients to reduce medication and other costly errors.

The culture and complexity of teaching hospitals make it difficult to introduce this emphasis into the curriculum. Current culture tends to value physician autonomy, which is counterproductive to fostering team-based care and using evidence-based care guidelines (Blumenthal and Ferris 2006). In addition, the diversity of teaching hospitals' missions—research, teaching, and patient care—combined with the priority placed on research has led to hospitals underinvesting in their physician faculty and in patient safety (Blumenthal and Ferris 2006, Cooke et al. 2006). As a result, many programs do not have leaders with the vision and institutional support to make curriculum changes, including reallocating limited resident time and investing in initiatives for patient safety, which will likely be felt institution-wide.

The accrediting body for residency programs, the Accreditation Council for Graduate Medical Education (ACGME), has also recognized the need for curriculum change. ACGME's stance on these issues is critical because accreditation is a requirement for facilities to be eligible for Medicare IME payment. In 2002, ACGME launched a multiphased approach toward integrating an updated list of "core competencies" into every residency program. Now, ACGME requires residents to demonstrate competency in "systems-based care," which refers to things such as partnering with others to assess, coordinate, and improve health care; assisting patients in dealing with system complexities; advocating for quality patient care; and knowing methods of controlling health care costs and allocating resources.

It is unclear how rigorously and quickly ACGME will enforce these standards. The council recognizes that competing pressures on teaching hospitals may slow the response of residency programs to the new competencies. Furthermore, ACGME values allowing innovation from the field to emerge and defining best practices rather than being too prescriptive at the outset. The risk in this approach, however, is that residency programs may respond slowly.

Policymakers may want to consider a role for Medicare in supporting reform or bolstering the efforts of ACGME. By tying the portion of the IME adjustment above the empirical level to specific programs or curriculum characteristics, as discussed later, Medicare would also be better able to ensure that the funds were used for their intended purpose.

Fund fellowships that train a new generation of physician faculty Because today's residents are taught by yesterday's residents, it can be difficult to introduce a new skill set into the practice of medicine. Medicare could redirect a portion of spending on medical education to fund post-training fellowships to better equip a cadre of teaching physicians. Over time, the supply of teaching physicians prepared to lead would grow, ideally infusing residency programs nationwide with a commitment to a new teaching paradigm. The curriculum of these fellowships could be developed nationally or by individual programs.

Reward explicit types of curriculum innovations Among the types of curriculum innovations to consider rewarding are requiring that residents continually benchmark their performance against relevant specialty society measures, integrating geriatric training for physicians involved in longitudinal care of their patients, using only experiential learning (rather than passive didactic) strategies to teach systems-based medicine, and requiring programs to have a significant role for faculty trained in process reengineering. These innovations are consistent with but not required by ACGME. The challenge of this approach is to create a greater impetus for innovation without constraining the flexibility teaching hospitals need to operate and continually reevaluate their residency programs.

RECOMMENDATION 2A-2

Concurrent with implementation of severity adjustment to Medicare's diagnosis related group payments, the Congress should reduce the indirect medical education adjustment in fiscal year 2008 by 1 percentage point to 4.5 percent per 10 percent increment in the resident-to-bed ratio. The funds obtained from reducing the indirect medical education adjustment should be used to fund a quality incentive payment system.

RATIONALE 2A-2

The IME adjustment is currently set considerably above the empirical level, which contributes to the large differences between teaching and nonteaching hospitals

in financial performance under Medicare. These funds are provided to teaching hospitals with no accountability for how they are to be used, and a better use of the funds is desired. Teaching hospitals will benefit from the implementation of severity adjustment to the DRGs, which we strongly believe is necessary to help improve the accuracy of the payment system. The Commission therefore recommends that the IME adjustment be reduced from 5.5 percent to 4.5 percent per 10 percent increment in the resident-to-bed ratio concurrent with the implementation of severity adjustments in the payment system. We also recommend that the savings from reducing the IME adjustment be used as part of the funding for a quality-incentive payment policy. The Commission recommended a pay-for-performance program for hospitals in its March 2005 report to the Congress.

IMPLICATIONS 2A-2

Spending

- This recommendation would have no impact on federal program spending.

Beneficiary and provider

- This recommendation would reduce IME payments to teaching hospitals but would redistribute payments to all hospitals (including teaching hospitals) that perform well under a quality-incentive program. There is the potential for improved quality of care for beneficiaries.

DSH policy options

For several years, policymakers have been considering options for the federal government to help hospitals with their uncompensated care. To enable a payment mechanism for offsetting uncompensated care, the Congress (in the Balanced Budget Refinement Act of 1999) directed CMS to collect data on uncompensated care from all hospitals covered by the acute inpatient PPS. CMS added a schedule for reporting uncompensated care and other forms of indigent care to the Medicare cost report beginning in 2003. This form is known as the “S-10.” However, there has been widespread recognition that the form and instructions for the S-10 have not resulted in accurate and consistent reporting of uncompensated care.

Obtaining accurate data on hospitals’ uncompensated care

CMS’s S-10 form includes a questionnaire on hospitals’ charity care practices and a form to report uncompensated care charges (the sum of charity care and bad debt charges) and associated costs. It also includes charges and costs for insurance programs covering low-income patients, including Medicaid, State Children’s Health Insurance Programs, and local indigent care programs. Finally, the form asks hospitals to report revenues that partially offset their costs for uncompensated and indigent care.

Several organizations’ examination of the S-10 form and instructions as well as the data hospitals have reported to date have revealed some general problems:

- In several fields on the form, it is unclear whether charges or revenues are requested.
- Because hospitals were not asked to categorize their uncompensated care into charity care and bad debt components, an important opportunity for quality control was lost.³⁴
- It was initially unclear whether hospitals were required to include Medicare bad debts.
- Limited guidance was provided on what hospitals can and cannot include in bad debts and charity.

Examples of needed improvements include:

- Definitions of charity care and bad debts that are consistent with longstanding guidance hospitals rely on in filing their own financial reports;
- Separate reporting of charity care and bad debts as well as Medicare and other bad debts;
- Clarification that uncompensated care should not include unpaid amounts owed for physician services (when the hospital employs physicians) and that only the unpaid obligations of individuals (not Medicaid or other insurers) can be reported as bad debts;
- Guidance on whether charity care or bad debts on noncovered services provided to Medicaid patients can be included,³⁵ and
- Clarification that charity care cannot include the contractual discounts of Medicare or Medicaid patients, courtesy discounts (e.g., those offered to

members of a religious order), or discounts given to uninsured patients without regard to their financial circumstances.

We also suggest that CMS require all hospitals covered by the acute inpatient PPS to maintain a formal policy spelling out their criteria for deciding whether patients qualify for charity care. A charity care policy typically defines eligibility on the basis of patients' (or their families') income, assets, and financial obligations for medical care. CMS's S-10 asks hospitals whether they "have a written charity care policy," and in 2003, about 20 percent of all PPS hospitals and more than 35 percent of those in outlying rural areas reported that they did not.³⁶ Without such a policy for reference, CMS would be unable to conduct a meaningful audit of the charity care hospitals report.

RECOMMENDATION 2A-3

The Secretary should improve the form and accompanying instructions for collecting data on uncompensated care in the Medicare cost report and require hospitals to report using the revised form as soon as possible.

RATIONALE 2A-3

Accurate data on hospitals' charity care and bad debts are crucial to any effort to develop a federal payment mechanism to help hospitals with their uncompensated care. CMS's current instrument for collecting uncompensated care data does not provide hospitals with sufficient guidance on what to report; consequently, the data collection effort has not been successful.

IMPLICATIONS 2A-3

Spending

- This recommendation would have no impact on federal program spending.

Beneficiary and provider

- This recommendation would have no impact on beneficiary access to care but would cause a small increase in hospitals' reporting burden for the Medicare cost report.

Additional comments

Based on input from several accounting and financial management experts, MedPAC staff have already consulted with CMS on revising the form and instructions, and we stand ready to continue working closely with CMS in the coming year. After a revised data collection

instrument is implemented, it will take about two years to obtain useful data for analysis. Critical access hospitals are not required to report their uncompensated care, but when the revised S-10 form is implemented we believe that CMS should require them to report along with hospitals covered by the acute inpatient PPS. In addition, it will be important for CMS to develop an edit that rejects cost reports that do not contain complete S-10 data and to include the S-10 in its cost report audits.

Options for a federal program to offset hospitals' uncompensated care

The uncompensated care hospitals provide can be viewed as a social good that is better funded by revenue sources other than Medicare because:

- the share of hospitals' patient loads accounted for by uncompensated care, like the share of Medicaid or SSI patients, probably has only a small effect on the cost of treating Medicare patients;
- the charity care hospitals provide goes to patients with all types of insurance as well as the uninsured, and Medicare already has a mechanism in place to reimburse hospitals for bad debts resulting from Medicare beneficiaries failing to pay their deductibles and copayments; and
- the primary benefit of a federal payment for uncompensated care would be to protect access to care for all patients by offsetting potentially large financial losses.

The concept of a separate federal program to pay for a portion of hospitals' uncompensated care has been proposed in the past. Funding could be provided through a direct appropriation, similar to the approach taken for an IME payment for children's hospitals, or through a mandatory entitlement structure to lessen the uncertainty of the appropriations process. The personal and corporate income taxes that finance most federal appropriations are less regressive than the payroll tax that funds the Part A trust fund, and the trust fund is scheduled to be exhausted by 2018. However, using general revenues would increase pressure on the federal budget.

Alternatively, the Congress could finance a payment for uncompensated care through a broad-based tax on the revenues of health care organizations such as hospitals and insurance companies or by redirecting the federal portion of Medicaid DSH payments. Several states (e.g., Virginia) have used provider taxes to fund a charity care

pool, and this approach has the advantage of spreading the funding burden among all patient groups. The states control the allocation of Medicaid DSH payments within broad federal guidelines. A number of states distribute DSH payments based on hospitals' shares of charity care along with their Medicaid shares (e.g., Wisconsin), and some use DSH monies to augment funding for a charity care pool (e.g., New York) (Wynn et al. 2002). Medicaid DSH payments totaled \$17.2 billion nationally in 2004, of which the federal government financed \$9.7 billion (CMS 2006c).

If the uncompensated care payment is organized within the Medicare program, the current DSH payments—\$7.7 billion in 2004—could provide the necessary funding. A decision would be needed on whether to use all the DSH monies to fund the uncompensated care payment or whether to use some of the funds for that purpose and some to improve the distribution of payments among all hospitals. Helping hospitals with their uncompensated care to advance access for all patients and promoting Medicare payment equity among all PPS hospitals are important goals, which must be balanced. This policy direction would represent a way for Medicare to contribute to offsetting hospitals' costs of uncompensated care; ideally, other payers would also contribute, although that is unlikely.

Once the amount of funds is established, the next question is how to distribute the payments. An uncompensated care payment could be paid in the form of a percentage add-on to the base DRG rate, as is currently done for the DSH adjustment. But this approach would not work well because hospitals with small shares of Medicare patients would have a smaller proportion of their uncompensated care costs paid than hospitals with large Medicare shares. We already have evidence that hospitals' shares of Medicare patients do not correlate with their uncompensated care loads. Public major teaching hospitals, for example, report an average share

of uncompensated care to the AHA that is three times the national average, while their Medicare share of inpatient days is a third below the national average.

A better option is to break the link to per case payment by distributing the payment based on each hospital's aggregate costs of uncompensated care. Once the funding level is established, policy would articulate the allocation of funds among hospitals. Payment for a given year could be based on the uncompensated care hospitals reported in the previous year's cost reports, or the previous year's experience could set an interim payment rate, with the final payment determined after the current year's cost reports are settled.

Although Medicare's payment for uncompensated care would be limited to a fixed amount, it would still lead to significant political pressure to increase funding. One way to address this pressure is to limit the payment to hospitals' charity care rather than to their total uncompensated care (charity care plus bad debts). The payment could be further narrowed by limiting it to charity care provided to patients whose personal or family income is below a certain threshold, such as twice the federal poverty level. Although it imposes an additional record-keeping and reporting burden on hospitals, some states have taken this approach in administering their uncompensated care pools and hospitals have been willing to provide the necessary data.

The targeting of the payment for uncompensated care might also be improved by limiting each hospital's payment to the amount of charity care exceeding a certain threshold, such as 5 percent of its total patient care expenses. If the federal government decides to pay directly for uncompensated care, one might question whether the issue of hospitals' tax exemption should be revisited. Requiring hospitals to provide a certain minimum amount of charity care before they become eligible for additional payment is one way to address this concern. ■

Endnotes

- 1 Outpatient payments are made to several classes of hospitals that are not paid under the acute inpatient prospective payment system, including psychiatric, rehabilitation, cancer, and long-term care hospitals.
- 2 This survey is cosponsored by CMS and MedPAC and is conducted under contract by the American Hospital Association and The Lewin Group.
- 3 In 2001 and 2002, a substantial portion of the measured increase in fee-for-service discharges resulted from beneficiaries' decisions to leave Medicare managed care plans and return to traditional Medicare. The Trustees estimate that increased enrollment in Medicare Advantage plans reduces growth in fee-for-service admissions after 2004 and explains the negative growth expected in 2007.
- 4 A service in our volume measure is identified by a Healthcare Common Procedure Coding System (HCPCS) code that is payable under the outpatient PPS. HCPCS definitions can change over time, which can affect annual changes in volume.
- 5 We exclude separately paid drugs because their definition has been unstable over our period of analysis. We exclude pass-through devices because the list of devices with pass-through status has changed substantially throughout our period of analysis.
- 6 The sum of the relative weights of all outpatient PPS services includes the costs of pass-through drugs. However, the sum of the relative weights does not include the cost of pass-through devices because we do not have the data necessary to accurately estimate the cost of the devices. Excluding the pass-through devices has a small decreasing effect on the service-mix index in each year.
- 7 The mortality, patient safety, and process measures we have considered in this analysis are the most comprehensive public data available to indicate changes in the quality of care provided to Medicare beneficiaries in hospitals over time and across the country. However, a recent review of available quality measures suggests that, while these data are important for providers, payers, and patients, some caveats should accompany them (Lee et al. 2004). These indicators rely on administrative data such as patients' secondary diagnoses from claims, which may be prone to changes in coding, or they rely on self-reported data that may not be adequately audited (GAO 2006). The researchers suggest that larger aggregations of data are preferable to smaller ones and that conclusions should be based on the evidence from multiple measures.
- 8 A margin is calculated as payments minus costs, divided by payments. The overall Medicare margin covers acute inpatient, outpatient, hospital-based home health and skilled nursing facility (including swing bed), inpatient psychiatric and inpatient rehabilitation services, and graduate medical education.
- 9 Our forecast is for 2007, but we considered the policy environment hospitals will be operating under in 2008 as we deliberated the appropriate update for that year. Therefore, the forecast reflects what payments would have been in 2007 if 2008 policy (other than the 2008 update) had been in effect at the time.
- 10 One possible explanation for the increase in inpatient case mix is the increase in Medicare Advantage (MA) plans and the fact that MA plans tend to have less severely ill patients than the general Medicare population. That could lead to a higher case mix among patients remaining in Medicare fee-for-service plans. As severity increases, hospital costs and Medicare payments increase to the degree that severity is measured by the case-mix index. In 2005, MedPAC recommended that CMS implement an improved severity adjuster to more accurately match Medicare payments to the level of resources needed to treat individual patients.
- 11 This measure is a weighted average of all services including inpatient, outpatient, and post-acute services provided by the hospital. Services are measured in discharge equivalents, which are calculated as number of discharges times the ratio of total charges to inpatient charges. This provides a weighted average of the increase in costs per inpatient and outpatient unit of service. However, this measure does not adjust for increasing complexity (as measured by case mix) of inpatient cases.
- 12 A hospital's financial performance can vary substantially from one year to the next due to a number of factors affecting its costs and payment rates, including the types of services offered and changes in the mix and volume of patients seen. Because of this variation, a single-year margin may not best represent an individual hospital's performance.
- 13 Non-Medicare revenues and costs also encompass Medicaid patients, uncompensated care, and non-patient care activities.
- 14 The inpatient update would apply to fiscal year 2008 and the outpatient update would apply to calendar year 2008.

- 15 Two factors contributed to the projected adverse effects on teaching hospitals. First, teaching hospitals understated their case mix in the base year, leading to an underestimate of the PPS payments they would receive. Second, the analysis used to estimate the relationship between teaching intensity and costs per case included some factors, such as number of beds, that were not a part of the new payment system, lowering the estimated IME-cost relationship.
- 16 The acute inpatient payment system has separate base payment rates for operating and capital costs—the only one of Medicare’s PPSs structured in this way—and both the IME and DSH adjustments have separate formulas for the add-ons to operating and capital payments. In addition, hospitals in large urban areas (metropolitan statistical areas over 1 million population) receive a 3 percent add-on to their capital payments separate from the IME and DSH adjustments.
- 17 The product of the 1.32 multiplier and the 0.405 exponent is often used to describe the level of the IME adjustment, which in 2007 is 5.35 percent per 10 percent increment of teaching intensity. This multiplier is what the Congress has changed when it has altered the level of the IME adjustment. In fiscal year 2008 and thereafter, the multiplier will be set at 1.35, which corresponds to an adjustment of 5.5 percent. The resident-to-bed ratio reflects the number of residents training in the hospital and the number of licensed inpatient beds a hospital is operating. The resident count used in the IME formula, however, is capped at 1996 levels, with some exceptions. The MMA allowed for a redistribution of residency positions, which resulted in lower caps for hospitals that did not use all their slots and higher caps for those that applied for an expansion. Before the BBA, any additional residents a hospital trained resulted in an increase in its IME adjustment. The 0.405 exponent factor was derived from a Congressional Budget Office analysis of 1981 cost report data on the relationship between teaching intensity and costs per case and several other factors.
- 18 MedPAC’s March 2003 report to the Congress included an analysis that showed inpatient operating costs increase about 2.7 percent for every 10 percent increase in the ratio of residents to hospital beds (2.8 percent if capital costs are included). The MMA provided for a redistribution of some residency positions that brought down the residency caps for hospitals that were below their cap and raised the cap by as much as 25 residents for hospitals that wanted to expand residency programs or were already over their cap. The multiplier for this group is 0.66, which gives the 2.7 percent adjustment for every 10 percent increment in teaching intensity.
- 19 The capital IME adjustment is based on the following formula: $e^{(0.2822 \times \text{residents/average daily census})}$.
- 20 These included a special formula that created a fixed add-on of 35 percent for any hospital that obtains 30 percent of its patient care revenue (excluding Medicare and Medicaid) from state and local government subsidies. This criterion was viewed as a proxy for hospitals with unusually large uncompensated care loads; in most years, fewer than 10 hospitals have qualified.
- 21 The empirical estimate for the IME adjustment in 2004 would have been 1.9 percent if the fixed loss threshold for outlier payments were set so that the full 5.1 percent outlier pool were paid to hospitals. In fiscal year 2004, only about two-thirds of the outlier offset was paid back to hospitals.
- 22 This earlier estimate does not reflect DRG refinements and includes only operating payments. The estimate reflecting both operating and capital costs was 2.8 percent.
- 23 The IME adjustment in fiscal year 2004 was set at 5.5 percent for the first half of the year and at 6.0 percent for the second half, resulting in an average adjustment of 5.75 percent.
- 24 Our analysis also examined the use of residents to average daily census (the capital payment adjustment measure) in place of residents per bed and found similar empirical results. Payments increase about 1.8 percent for each 10 percent increment in this measure. Total indirect teaching costs are about the same under both measures.
- 25 DRG refinements proposed last year by the Commission yield a slightly lower empirical estimate for the DSH adjustment compared with estimates based on the current DRGs. The decrease in the coefficient estimate is an indication that DRG refinements are picking up some of the higher costs that may be associated with treating low-income patients. This is consistent with findings in Maryland’s rate-setting system regarding the effect of introducing APR–DRGs into their payment system.
- 26 It is important to remember that Medicare’s GME payments, as well as its IME payments, are intended to support this social benefit.
- 27 This second set of estimates reflects policies in place in 2004. In fiscal year 2007, CMS started using cost-based weights. Our estimates do not reflect this change, but we believe the likely impact on our empirical estimates would be small.
- 28 Case mix and outlier payments reflect what would have been paid to hospitals if the Commission’s DRG refinement proposal had been in effect in 2004.

- 29 The base case margin estimate used in this analysis adjusts 2004 margins to reflect full implementation of MMA DSH policies, a 5.5 percent IME adjustment that will be in place in 2008, and an outlier fixed-loss threshold that ensures the full 5.1 percent outlier pool is paid to hospitals. The analysis does not reflect the use of cost-based weights that were implemented in 2007. It also does not reflect behavioral changes that hospitals might make in response to payment rate changes. This simulated margin is a little higher than the actual margin in 2004.
- 30 A similar narrowing is observed for inpatient margins, with a spread of 17 percent narrowing by half that amount if the adjustment were brought to its empirical level.
- 31 To obtain the empirical estimate for the effect of teaching on hospital costs, we include only the resident-to-bed ratio in the regression. For the empirical level of the DSH adjustment, we include both the share of low-income patients and the resident-to-bed ratio.
- 32 All nonteaching facilities other than those receiving hospital-specific rates under the sole community hospitals program would receive an increase.
- 33 Accounting for severity also reduces the empirical cost effect of teaching by about 1 percentage point. Our analysis of the impact of just APR-DRGs (and not the other refinements the Commission recommended) on the empirical cost effect of teaching shows that the IME adjustment falls to 1.1 percent for each 10 percent increment in teaching intensity.
- 34 GAO compared the uncompensated care hospitals reported to CMS with what they submitted to a mandated state reporting system and found that the amount several hospitals reported to CMS as uncompensated care matched the amount they had reported to their state as either charity care alone or bad debts alone.
- 35 This issue arises from the practice of some Medicaid programs to limit the number of inpatient days they will cover and under Section 1115 waivers to make some Medicaid recipients eligible only for select services such as emergency care or prenatal services.
- 36 In 2004, 17 percent of all hospitals reported that they did not have a formal charity care policy, a slight improvement over the 20 percent in 2003. But the number of hospitals filling out the survey in 2003 was too small for statistical inference.

References

- Banc of America Securities. 2006. 5th annual nonprofit hospital survey. BoA. <http://www.bofasecurities.com>. June.
- Blumenthal, D., and T. G. Ferris. 2006. Safety in the academic medical center: Transforming challenges into ingredients for improvement. *Academic Medicine* 81, no. 9 (September): 817–822.
- Boards of Trustees. Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds. 2006. *2006 annual report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplemental Medical Insurance Trust Funds*. Washington, DC: Boards of Trustees.
- Bureau of Labor Statistics (BLS). 2006. Current employment survey and employment cost index. Series ID CEU6562210003 and CIU1016220000000A. November 202006. <http://data.bls.gov/PDQ/outside.jsp?survey=ce>.
- Cain Brothers and Company. 2006a. *Industry insights*. Issue 487. New York: Cain Brothers and Company, LLC. September.
- Cain Brothers and Company. 2006b. *Industry insights*. Issue 500. New York: Cain Brothers and Company, LLC. December.
- Census Bureau. 2006. Construction spending. <http://www.census.gov/const/www/c30index.html>. October.
- Center for Studying Health System Change. 2005. *HSC issue brief: Initial findings from HSC's 2005 site visits: Stage set for growing health care cost and access problems*. Washington, DC: HSC. August.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2006a. *Medicare premiums and deductibles for 2007*. <http://www.cms.hhs.gov/apps/media/press/release.asp?Counter=1958>.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2006b. Medicare program; hospital outpatient prospective payment system and CY 2007 payment rates; CY 2007 update to the ambulatory surgical center covered procedures list; Medicare administrative contractors; and reporting hospital quality data from FY 2008 inpatient prospective payments system annual payment update program—HCAHPS survey, SCIP, and mortality. Final rule. *Federal Register* 71, no. 226 (November 24): 67959–68401.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2006c. Medicaid financial management report for FY2004. http://www.cms.hhs.gov/MedicaidBudgetExpendSystem/02_CMS64.asp.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2006d. Revision to hospital inpatient prospective payment systems. Final rule. *Federal Register* 71, no. 160 (August 18, 2006): 47871–48351.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2005. Medicare program: Changes to the hospital outpatient prospective payment system and calendar year 2006 payment rates. Final rule. *Federal Register* 70, no. 217 (November 10): 68516–68980.
- Cooke, M., D. M. Irby, W. Sullivan, et al. 2006. American medical education 100 years after the Flexner report. *New England Journal of Medicine* 355, no. 13 (September 28): 1339–1344.
- Farnham, R. 2006. Health Management Associates (HMA) CFO. Presented at the Credit Suisse Annual Health Care Conference. New York. November 16.
- Felt-Lisk, S., and M. Laschober. 2006. *Pay for performance: Are hospitals ready and willing?* Issue brief no. 4. Mathematica Policy Research, Inc. November. <http://www.mathematica-mpr.com/publications/pdfs/p4p.pdf>.
- FitchRatings. 2006a. *2006 median ratios for nonprofit hospitals and health care systems*. <http://www.fitchratings.com>. August 10.
- FitchRatings. 2006b. *2006 nonprofit hospitals and health care systems outlook*. <http://www.fitchratings.com>. January 12.
- Fonkych, K., and R Taylor. 2005. *The state and pattern of health information technology adoption*. Santa Monica, CA: RAND Health. 7–13.
- Gaskin, D., and J. Hadley. 1997. The impact of HMO penetration on the rate of hospital cost inflation, 1985–1993. *Inquiry* 34, no. 3 (Fall): 205–216.
- Government Accountability Office. 2006. *Hospital quality data: CMS needs more rigorous methods to ensure reliability of publicly released data*. GAO–06–54.
- Government Accountability Office. 2005. *Nonprofit, for-profit, and government hospitals: Uncompensated care and other community benefits*. GAO–05–743T. Washington, DC: GAO. May 26.
- HCA Inc. (HCA). 2006. Form 10-Q filed with the Securities and Exchange Commission for the period ending September 30, 2006. Nashville, TN.

- Health Management Associates (HMA). 2006. Form 10-Q files with the Securities and Exchange Commission for the period ending September 30, 2006. Naples, FL.
- Healthcare Financial Management Association. 2006. *Financing the future II Report 6: The outlook for capital access and spending*. Westchester, IL: HFMA.
- Lave, Judith R. 1985. *The Medicare adjustment for the indirect costs of medical education: Historical development and current status*. Washington, DC: Association of American Medical Colleges.
- Lee, T., G. Meyer, and T. Brennan. 2004. A middle ground on public accountability. *New England Journal of Medicine* 350, no. 23: 2409-2412.
- Medicare Payment Advisory Commission. 2006. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2005a. *Physician-owned specialty hospitals*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2005b. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2001. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Merritt, Hawkins & Associates. 2006. *Summary report: 2006 review of physician recruitment incentives*. http://www.merritthawkins.com/pdf/2006_incentive_survey.pdf.
- Moody's Investor Service. 2006a. *Fiscal year 2006 not-for-profit healthcare medians: A record year of performance for the sectors*. New York: Moody's. August.
- Moody's Investor Service. 2006b. *Moody's third quarter 2006 not-for-profit healthcare update: Downgrades outpace upgrades by 1.8-to-1*. New York: Moody's. October.
- Moody's Investor Service. 2005. *Clinical information technology spending for not-for-profit hospitals: Benefits, challenges and impact on bond ratings*. New York: Moody's. May.
- Office of the Actuary, Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2006. Medicare Part A tables for mid-session review FY 2006 President's budget-Economic. June 27.
- Standard & Poor's. 2006a. *U.S. not-for-profit 2006 health care systems medians*. New York: S&P. July 31.
- Standard & Poor's. 2006b. *U.S. not-for-profit health care 2006 stand-alone hospital medians*. New York: S&P. July 31.
- Standard & Poor's. 2006c. *U.S. not-for-profit health care sector first half 2006 rating trends are positive, stability expected despite pressures*. New York: S&P. July 31.
- Standard & Poor's. 2006d. Sub-industry review: Health care facilities. <http://outlook.standardandpoors.com/NASApp/NetAdvantage/cp/companySubIndustryReview.do?task=showSubIndReviewByTicker> accessed November.
- Thomson Financial. 2006. Private communication. Hospital municipal new issues. Data as of 1 November 2006. New York: Thomson Financial. November 3.
- Wynn, B., T. Coughlin, et al. 2002. *Analysis of the joint distribution of disproportionate share payments*. Alexandria, VA: Rand.