

SECTION
2B

**Physician services and
ambulatory surgical centers**

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

2B-1 The Congress should update payments for physician services in 2010 by 1.1 percent.

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

.....
2B-2 The Congress should establish a budget-neutral payment adjustment for primary care services billed under the physician fee schedule and furnished by primary-care-focused practitioners. Primary-care-focused practitioners are those whose specialty designation is defined as primary care and/or those whose pattern of claims meets a minimum threshold of furnishing primary care services. The Secretary would use rulemaking to establish criteria for determining a primary-care-focused practitioner.

COMMISSIONER VOTES: YES 13 • NO 2 • NOT VOTING 1 • ABSENT 1

.....
2B-3 The Congress should direct the Secretary to increase the equipment use standard for expensive imaging machines from 25 hours to 45 hours per week. This change should redistribute relative value units from expensive imaging to other physician services.

COMMISSIONER VOTES: YES 14 • NO 0 • NOT VOTING 2 • ABSENT 1

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2B-4 The Congress should increase payments for ambulatory surgical center (ASC) services in calendar year 2010 by 0.6 percent. In addition, the Congress should require ASCs to submit to the Secretary cost data and quality data that will allow for an effective evaluation of the adequacy of ASC payment rates.

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

SECTION 2B

Physician services and ambulatory surgical centers

Section summary

This chapter analyzes overall payment adequacy for physician services in fee-for-service (FFS) Medicare and examines payments for expensive imaging services in particular. We also assess payment adequacy for ambulatory surgical centers (ASCs)—facilities that typically are owned wholly or in part by physicians.

Physician update and primary care importance—Our analysis of physician services provided in FFS Medicare finds that most indicators of payment adequacy are positive and stable, suggesting that most beneficiaries can obtain physician care on a timely basis. In 2007, the volume of physician services provided per beneficiary grew almost 3 percent, continuing to raise concerns about fiscal sustainability, equity, and mispricing. The Commission recommends that for 2010, the Congress update payments for physician services by 1.1 percent. This update would require significant additional spending above current law, which calls for a 21 percent cut. Despite some recent increases in payments for primary care services, the Commission remains concerned that those services are undervalued and at significant risk of being

In this section

- Analysis of payment adequacy for physician services
- How should Medicare payments for physician services change in 2010?
- The increasing importance of primary care
- Changing payments for expensive imaging services
- Analysis of payment adequacy for ambulatory surgical centers
- How should Medicare payments for ambulatory surgical centers change in 2010?

underprovided. To underscore the urgency of this issue, the Commission repeats its previous recommendation that payments for primary care services be increased when provided by practitioners who focus on primary care (MedPAC 2008d). This fee schedule adjustment would be budget neutral.

Recommendation 2B-1

COMMISSIONER VOTES:

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

The Congress should update payments for physician services in 2010 by 1.1 percent.

Recommendation 2B-2

COMMISSIONER VOTES:

YES 13 • NO 2 • NOT VOTING 1 • ABSENT 1

The Congress should establish a budget-neutral payment adjustment for primary care services billed under the physician fee schedule and furnished by primary-care-focused practitioners. Primary-care-focused practitioners are those whose specialty designation is defined as primary care and/or those whose pattern of claims meets a minimum threshold of furnishing primary care services. The Secretary would use rulemaking to establish criteria for determining a primary-care-focused practitioner.

Results from a MedPAC-sponsored survey of beneficiaries conducted in fall 2008 indicate that beneficiary access to physicians is generally good and in several measures better than that reported by privately insured patients age 50 to 64. Most beneficiaries (76 percent) reported that they never had to wait longer than they expected for a routine care appointment or an illness- or injury-related appointment (84 percent). However, among the small share of beneficiaries (6 percent) who reported that they looked for a new primary care physician, 28 percent reported problems finding one. Beneficiary access when looking for a new specialist was better. When examining access by race, minorities were more likely to experience access problems in both the Medicare and the privately insured groups. We also conducted research in selected local areas suspected of having access problems but, in general, did not find evidence of major access problems in these areas. A data analysis of emergency department (ED) use found that ED visits for both Medicare and privately insured patients rose substantially between 1996 and 2006, but their respective shares of total ED visits remained stable over this time.

We also analyze whether physicians are accepting and treating Medicare patients. Results from the 2007 National Ambulatory Medical Care Survey show that 92 percent of office-based physicians who receive 10 percent or more of their practice revenue from Medicare were accepting new Medicare patients in 2007. Our analysis of 2006 Medicare claims data—the most recent available—shows that the number of physicians providing services to FFS Medicare beneficiaries has kept pace with growth in the total FFS beneficiary population. Also, the share of physicians and limited licensed practitioners who have participation agreements with Medicare—requiring them to accept Medicare’s assigned payment amount—was 95 percent in 2008.

In our comparison of private insurance payment rates to Medicare rates, we find that for 2007 Medicare’s payment for physician services was 80 percent of private insurer payments, averaged across all physician services and geographic areas. This rate is slightly lower than it was for 2006 (81 percent) but maintains a generally stable course over the last decade.

Service volume per beneficiary continued to grow in 2007, albeit at a slower rate than in previous years. Overall volume (reflecting both service units and intensity) grew 2.9 percent per beneficiary. Volume growth rates varied among broad categories of services—evaluation and management (2.1 percent), imaging (3.8 percent), major procedures (1.6 percent), other procedures (5.0 percent), and tests (1.8 percent)—but all were positive.

Changing payments for expensive imaging services—The Commission recognizes that there has been rapid technological progress in diagnostic imaging over the past several years, which has enabled physicians to diagnose and treat illness with greater speed and precision. However, we are concerned that the rapid volume growth of costly imaging services in recent years may signal that they are mispriced under the current fee schedule. Specifically, the practice expense (PE) relative value units (RVUs) for services such as MRI and computed tomography (CT) scans appear to be too high. Because RVUs are set in a budget-neutral manner, high RVUs for imaging procedures lead

to lower RVUs for primary care and other services. In addition, rapid volume growth of imaging can lead to an across-the-board reduction in fees for all other services under the sustainable growth rate system.

There are other reasons to be concerned about the potential mispricing of imaging services. First, imaging RVUs that are set too high could encourage providers to purchase machines and use them as frequently as possible. According to a physician quoted in a recent article, “If you have ownership of the machine ... you’re going to want to utilize the machine” (Berenson and Abelson 2008). Second, the rise in imaging has increased beneficiaries’ exposure to ionizing radiation, which is a risk factor for developing cancer. The U.S. population’s per capita dose of radiation received from diagnostic imaging increased by 600 percent from 1980 to 2006 (Mettler et al. 2008). Much of this increase was driven by rapid growth of CT and nuclear medicine studies. Although an individual’s risk of developing cancer from a single test is small, these risks are being applied to a growing number of patients.

Evidence that advanced imaging services are mispriced is apparent in the method Medicare uses to set PE RVUs for these services. With this method, CMS assumes that imaging machines are operated 25 hours per week, or 50 percent of the time that practices are open for business. Setting the equipment use factor at 25 hours per week—rather than at a higher level—has led to higher PE RVUs for these services. Higher payment rates encourage providers with low expected volume to purchase expensive imaging machines. Once providers purchase machines, they have an incentive to use them as frequently as possible. There is evidence that MRI and CT machines are used much more frequently than Medicare assumes.

Medicare should adopt a normative standard in which providers are assumed to use costly imaging machines at close to full capacity (45 hours per week, or 90 percent of the time that providers are assumed to be open). Such a normative standard would discourage providers from purchasing expensive imaging equipment unless they had sufficient volume to justify

the purchase. The Secretary should start by adopting a standard of 45 hours per week for all diagnostic imaging machines that cost at least \$1 million and should explore applying this standard to imaging equipment that costs less. This change would reduce PE RVUs for costly imaging services and increase RVUs for other physician services. The additional RVUs for other physician services would come from lower PE RVUs for expensive imaging services (i.e., a redistribution of money within the physician fee schedule), and money that would have been returned to the Part B trust fund under the outpatient cap policy of the Deficit Reduction Act of 2005.

The Congress should direct the Secretary to increase the equipment use standard for expensive imaging machines from 25 hours to 45 hours per week. This change should redistribute relative value units from expensive imaging to other physician services.

Recommendation 2B-3

COMMISSIONER VOTES:

YES 14 • NO 0 • NOT VOTING 2 • ABSENT 1

Payment adequacy in ambulatory surgical centers—In addition to their offices, many physicians furnish outpatient surgical services in ASCs and hospital outpatient departments (HOPDs). ASCs are distinct entities that exclusively furnish outpatient surgical services to patients not requiring hospitalization and for which the expected duration of service does not exceed 24 hours after admission. ASCs are a source of revenue for many physicians, as 91 percent of ASCs have at least one physician owner, so we discuss payment adequacy of ASCs alongside payment adequacy for physicians (ASC Association 2008).

ASCs offer several advantages to physicians and patients over their closest competitor—HOPDs. ASCs may offer patients lower coinsurance, more convenient locations, the ability to schedule surgery more quickly, and shorter waiting times than HOPDs. Physicians may be able to perform more surgeries per day in ASCs because they have greater control over their schedules, and because they often have customized surgical environments and specialized staffing. In addition, Medicare spending per service is lower in ASCs than in HOPDs.

We include an assessment of the adequacy of Medicare payments to ASCs in this chapter. The indicators suggest that ASC Medicare payment rates are adequate. Our analysis of payment adequacy of ASCs shows that:

- Medicare revenue increased from \$1.9 billion in 2002 to \$2.9 billion in 2007. CMS projects continued revenue growth to \$3.5 billion in 2008 and \$3.9 billion in 2009 (CMS 2008c).
- The number of ASCs grew by an average of 6.7 percent each year from 2002 through 2007.
- Volume of services per beneficiary grew by 9.8 percent per year from 2002 to 2007.
- The number of Medicare beneficiaries served in ASCs increased by 7.5 percent per year from 2002 to 2007.

There is some uncertainty about whether these measures indicate that payments are adequate in the current ASC payment system. First, payments from Medicare are only about 20 percent of total ASC revenue and factors other than Medicare payment adequacy likely contributed to the growth in the number of ASCs. Also, most of our analysis examined data from 2002 through 2007, but CMS made substantial changes to the ASC payment system in 2008, so our analysis may be limited in terms of measuring payment adequacy under the new payment system. The most significant changes include a different method for setting payment rates, allowing separate payment for certain ancillary services, and a 32 percent increase in the number of surgical procedure codes allowed to be performed and billed under the ASC payment system.

Under the revised payment system, we examined the payment rates for all procedures covered under the ASC payment system and found that 86 percent have a higher payment rate under the revised system in 2009 than under the old system in 2007. However, 20 procedures accounted for 74 percent of total ASC Medicare service volume. Nineteen of these procedures when performed in an ASC have lower payment rates in 2009 than in 2007 because their ASC

payment rates in 2007 were at or close to their HOPD payment rates, but the revised payment system lowered these procedures' ASC payment rates relative to their HOPD rates. Thus, ASCs that focus most of their Medicare business on the highest volume procedures—predominantly ophthalmology, gastroenterology, and pain management services (e.g., injections for back pain)—receive lower payment rates under the revised system. However, there is a four-year transition to the revised system. Also, CMS projects increased Medicare spending on ASCs, because the revised system has increased the number of procedures covered under the ASC payment system. Therefore, if they diversify the procedures they provide to Medicare beneficiaries, ASCs can maintain or increase their Medicare revenue.

On the basis of our analysis of ASCs, the Commission recommends that their payments be updated by 0.6 percent in calendar year 2010. In addition, ASCs do not submit cost data or quality data to the Secretary. However, cost and quality data are vital for effectively assessing payment adequacy. Therefore, the Commission recommends that ASCs be required to submit cost and quality data to the Secretary. ■

The Congress should increase payments for ambulatory surgical center (ASC) services in calendar year 2010 by 0.6 percent. In addition, the Congress should require ASCs to submit to the Secretary cost data and quality data that will allow for an effective evaluation of the adequacy of ASC payment rates.

Recommendation 2B-4

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

Background

Physician services include office visits, surgical procedures, and a broad range of other diagnostic and therapeutic services. They are furnished in all settings, including physician offices, hospitals, ambulatory surgical centers (ASCs), skilled nursing facilities, other post-acute care settings, hospices, outpatient dialysis facilities, clinical laboratories, and beneficiaries' homes. Physician services are billed to Medicare Part B. Medicare fee-for-service (FFS) payments for physician services were \$60 billion in 2007, accounting for about 14 percent of total Medicare spending (Boards of Trustees 2008). In the decade between 1997 and 2007, Medicare spending per beneficiary on physician services grew 77 percent—from \$1,033 to \$1,825 (Figure 2B-1). Growth in spending on physician services is one of several contributors to the 113 percent growth in Part B premiums and beneficiary cost sharing over this time period.

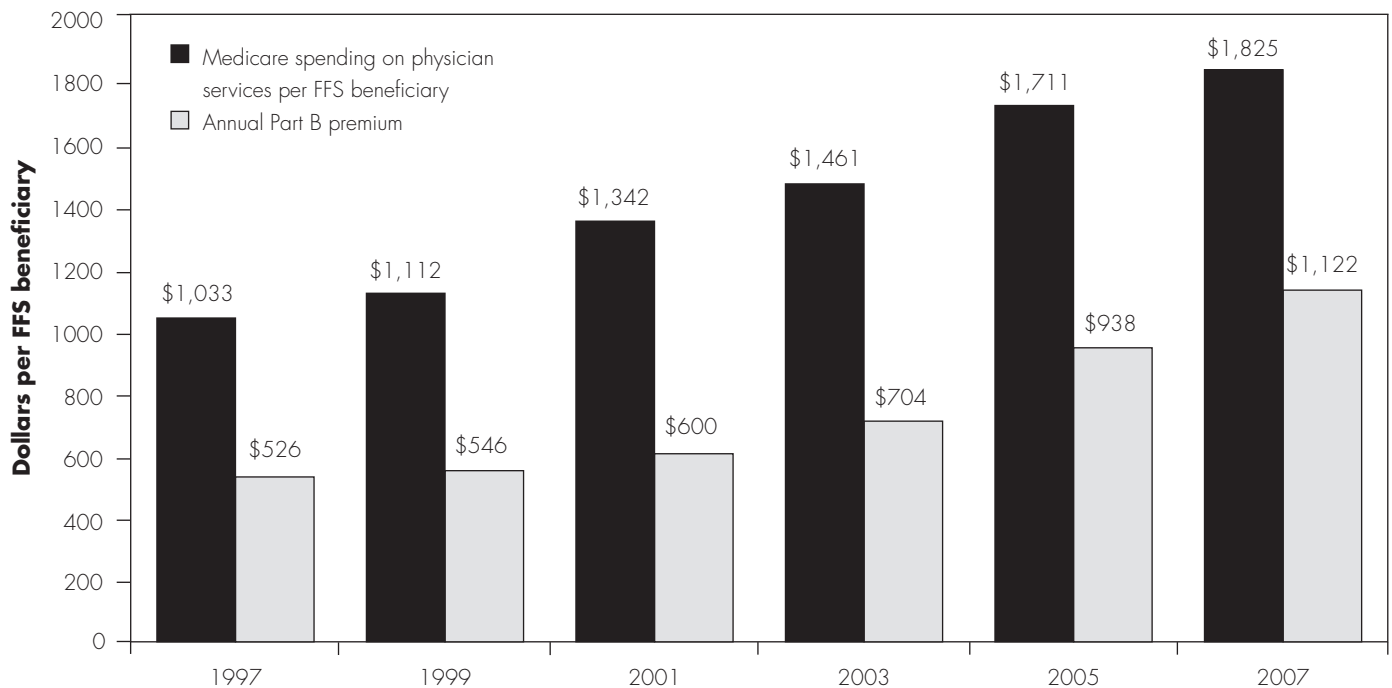
In the FFS program, Medicare pays for physician services according to a fee schedule that lists services and their associated payment rates. The fee schedule assigns

each service a set of three relative weights (physician work, practice expense (PE), and professional liability insurance) intended to reflect the typical resources needed to provide the service. These weights are adjusted for geographic differences in practice costs and multiplied by a dollar amount—the conversion factor—to determine payment amounts. In general, Medicare updates payments for physician services by increasing or decreasing the conversion factor. For further information, see MedPAC's *Payment basics: Physician services payment system* at http://www.medpac.gov/documents/MedPAC_Payment_Basics_08_Physician.pdf.

By law, the update of the physician fee schedule conversion factor is determined by a formula—the sustainable growth rate (SGR)—set forth in the Balanced Budget Act of 1997. It ties payment updates to a number of factors, including growth in input costs, growth in Medicare FFS enrollment, and growth in the volume of physician services relative to growth in the national economy and changes in law and regulation. In 2000 and 2001, the SGR called for updates of 5.5 percent and 4.8 percent, respectively. However, in 2002, fees decreased by 5.4 percent in accordance with the SGR formula.

FIGURE 2B-1

Spending per FFS beneficiary on physician services and Part B premiums have grown substantially



Note: FFS (fee-for-service). The annual Part B premium is calculated by multiplying the monthly premium amount by 12.

Source: 2007 and 2008 annual reports of the Boards of Trustees of the Medicare trust funds. Department of Health and Human Services news releases, 1996–2006.

Since then, legislative intervention has prevented further reductions in the conversion factor. In some cases, the new laws did not eliminate the negative updates but deferred them to later years. The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) established a 1.5 percent update to the conversion factor in 2004 and 2005. The Deficit Reduction Act of 2005 (DRA) avoided a cut in 2006 by essentially freezing the conversion factor.¹ The Tax Relief and Health Care Act of 2006 (TRHCA) avoided a cut in 2007, also by freezing the conversion factor. TRHCA also directed additional spending to physicians in 2007 and 2008 through the Physician Quality Reporting Initiative (PQRI), under which most physicians were eligible for a 1.5 percent bonus on all their charges allowed by the physician fee schedule if they met specified quality reporting requirements.

The Medicare, Medicaid, and SCHIP Extension Act of 2007 replaced what would have been a 10.1 percent reduction in the physician fee schedule conversion factor with a 0.5 percent increase, effective January 1 through June 30, 2008. Then, the Medicare Improvements for Patients and Providers Act of 2008 (MIPPA) maintained this payment level through the end of 2008 and increased the conversion factor by 1.1 percent in 2009. This law also increased the PQRI bonuses to 2 percent for 2009 and 2010. MIPPA also created bonus incentives for electronic prescribing. This program allows physicians who satisfy the new electronic prescribing requirement in 2009 and 2010 to receive an additional 2 percent bonus on their allowed physician fee schedule charges.² MIPPA extended the existence of the work geographic practice cost index floors—maintaining higher payments primarily in rural areas. Physicians who practice in areas designated as health professional shortage areas continue to receive a 10 percent bonus on all allowed charges.³

Notwithstanding the update adjustments and other payment enhancements enacted since 2003, the SGR mechanism remains in current law. For 2010, the Congressional Budget Office estimates that, absent a change in current law, the conversion factor update will be cut by 21 percent under the SGR formula. This deep cut essentially reflects the sum of the conversion factor updates used to override the payment cuts in previous years.

The Commission is not satisfied with the current physician payment update mechanism. The existing SGR formula does not provide incentives at the individual physician level to control volume growth, and it is inequitable across physicians. Furthermore, it has been overridden

by statute for the last six years (2004–2009), and it continues to call for substantial consecutive negative updates through at least 2016. Sustained annual reductions in physician payment rates would threaten beneficiaries' access to physician services. Our 2007 report, *Report to the Congress: Assessing Alternatives to the Sustainable Growth Rate System*, examined several alternative approaches for updating physician payments and made suggestions to improve the accuracy of Medicare's payments, create incentives for physicians to provide better quality of care, coordinate care across settings, and use resources judiciously (MedPAC 2007).

Recently, in testimony before the U.S. Senate Committee on Finance, we reiterated the need for improved coordination among and between providers and the urgent need to address the undervaluation of primary care through budget-neutral payment increases (MedPAC 2008e). Given the potential of primary care to improve the quality and efficiency of health care delivery, Medicare payment policy should actively encourage—not hinder—the provision of these services. Research has found that states with higher ratios of primary care physicians to specialists have better health outcomes and higher scores on performance measures (Baicker and Chandra 2004, Starfield et al. 2005). Moreover, areas with higher rates of specialty care per person are associated with higher spending but not improved access, quality, health outcomes, or patient satisfaction (Fisher et al. 2003a, Fisher et al. 2003b, Kravet et al. 2008, Wennberg et al. 2006).

Analysis of payment adequacy for physician services

Our analysis of payments for physician services in FFS Medicare shows that payments in the aggregate are adequate, but the Commission is concerned about access to primary care. Our assessment examines several indicators, including beneficiary access to physician care, rates of physicians participating with Medicare and taking assignment, changes in the volume of services provided, and Medicare reimbursement levels compared with those in the private sector. In the most recent years for which we have data, each indicator was positive or stable with respect to payment adequacy. We cannot look at financial performance of physicians directly because they are not required to report their costs to Medicare, as are other providers such as hospitals and home health agencies.

Access to physician services: Beneficiary indicators

Physicians are often the most important link between Medicare beneficiaries and the health care delivery system. According to our analysis of national survey data from the 2005 Medicare Current Beneficiary Survey, about 86 percent of noninstitutionalized beneficiaries report that a doctor's office or a doctor's clinic is their usual source of care (MedPAC 2008d). Beneficiary access to physicians, therefore, is an important indicator of access to health care generally as well as of Medicare payment adequacy.

One way that we evaluate beneficiary access to physician services is through an annual patient survey. By design, many survey questions rely on respondents' views, which are necessarily subjective. For example, respondents use their own judgment when determining whether they are able to schedule timely appointments. Subjective responses can be useful measures for tracking beneficiary experience and perceptions over time, but perceptions of concepts such as "timeliness" may vary among individuals and subpopulations.

Additionally, it is difficult to determine the appropriate level of access. Beneficiaries judge their access to physicians in an environment where most of them have supplemental insurance. This coverage lowers their out-of-pocket costs for physician visits, thereby diminishing the likelihood that cost will temper demand. Some economists might argue that a payment policy goal of no, or almost no, beneficiaries reporting access problems is inefficient or unattainable. Even so, monitoring for changes in access is crucial for the Medicare program. We find access measures most useful when looking for trends across years and in comparison with privately insured populations. Such analyses help us observe changes in beneficiaries' access to physicians over time and discern Medicare payment issues from overall health market circumstances. These considerations supplement our analysis of payment adequacy for physician services. However, our access measures do not necessarily inform us about the quality or content of physician-patient encounters.

MedPAC's 2008 patient survey shows that, overall, access is good, but primary care continues to be a concern

To obtain the most current access measures possible, the Commission sponsors a telephone survey each year of a nationally representative, random sample of two groups of people: Medicare beneficiaries age 65 or older and privately insured individuals age 50 to 64.⁴ In previous

years, we surveyed 2,000 people in each group, but for the 2008 survey (conducted from August through October) we increased the sample size to 3,000 in each group in an effort to increase statistical power. By surveying both groups, we can assess the extent to which access problems, such as delays in scheduling an appointment or difficulty in finding a new physician, are unique to the Medicare population. Within the Medicare population, our survey results do not distinguish Medicare FFS enrollees from those in Medicare Advantage (MA) plans because of the technical difficulty in obtaining reliable self-identification of FFS or MA enrollment from surveyed individuals. Similarly, we do not distinguish by type of private coverage among the non-Medicare population in our survey.

Results from our 2008 survey indicate that most beneficiaries have reliable access to physician services, with most reporting few or no access problems. Most beneficiaries are able to schedule timely medical appointments and find a new physician when needed, but small subsets of beneficiaries report problems in making appointments or finding a new physician, particularly in primary care. Medicare beneficiaries reported similar or better access than privately insured individuals age 50 to 64. Minorities in both groups were more likely than whites to experience access problems. The 2008 survey results are generally consistent with what we have found in previous years.

Most beneficiaries are getting timely appointments

Most Medicare beneficiaries have one or more doctor appointments in a given year. Therefore, one access indicator we examine is their ability to schedule timely appointments. In the 2008 survey, most Medicare beneficiaries (76 percent) and most privately insured individuals age 50 to 64 (69 percent) reported "never" having to wait longer than they wanted to get an appointment for routine care (Table 2B-1, p. 88). Another 17 percent of Medicare beneficiaries reported that they "sometimes" had to wait longer than they wanted for a routine appointment, compared with 24 percent of privately insured individuals. The differences between the Medicare and privately insured populations in their "never" and "sometimes" response rates were statistically significant, suggesting that Medicare beneficiaries on average were more satisfied with the timeliness of their routine care appointments.

As expected, rates of getting timely illness- and injury-related appointments were better than rates for routine care

**TABLE
2B-1****Medicare beneficiaries generally experienced similar or better access to physician care compared with privately insured individuals**

Survey question	Medicare (age 65 or older)				Private insurance (age 50-64)			
	2005	2006	2007	2008	2005	2006	2007	2008
Unwanted delay in getting an appointment:								
Among those who needed an appointment, "How often did you have to wait longer than you wanted to get a doctor's appointment?"								
For routine care								
Never	74%	75%	75%*	76%*	67%	69%	67%*	69%*
Sometimes	21	18	18*	17*	25	21	24*	24*
Usually	3	3	3	3*	5	5	4	5*
Always	2	3	3	2	3	4	3	2
For illness or injury								
Never	82	84	82*	84*	75	79	76*	79*
Sometimes	15	11	13*	12*	19	15	17*	16*
Usually	1	2	3	1	3	2	3	2
Always	1	1	2	1	2	2	3	2
Looking for a new physician: "In the past 12 months, have you tried to get a new primary care doctor?"								
Yes	7	10	9	6	9	10	10	7
No	92	89	91	93	91	90	90	93
Getting a new physician: Among those who tried to get an appointment with a new physician, "How much of a problem was it finding a primary care doctor/specialist who would treat you? Was it..."								
Primary care physician								
No problem	75	76	70*	71	75	75	82*	72
Small problem	12	10	12	10	16	15	7	13
Big problem	13	14	17	18	9	10	10	13
Specialist								
No problem	89	80	85	88*	86	83	79	83*
Small problem	6	7	6	7	7	9	11	9
Big problem	5	11	9	4*	6	7	10	7*
Not accessing a doctor for medical problems:								
"During the past 12 months, did you have any health problem or condition about which you think you should have seen a doctor or other medical person, but did not?" (Percent answering "Yes")								
	7	8	10	8*	12	11	12	12*

Note: Numbers may not sum to 100 percent due to rounding. Missing responses ("Don't Know" or "Refused") are not presented. Overall sample sizes for each group (Medicare and privately insured) were 2,000 in years 2005 to 2007 and 3,000 in 2008. Sample sizes for individual questions varied.

* Indicates a statistically significant difference between the Medicare and privately insured populations in the given year at a 95 percent confidence level.

Source: MedPAC-sponsored telephone surveys, conducted August–October 2005, 2006, 2007, and 2008.

appointments. Again, Medicare beneficiaries were less likely than privately insured individuals to report problems getting timely illness or injury appointments. Among those who scheduled an illness or injury appointment, 84 percent of Medicare beneficiaries and 79 percent of privately insured individuals said they “never” experienced a delay, while 12 percent of Medicare beneficiaries reported “sometimes” having to wait longer than they wanted, compared with 16 percent of privately insured individuals. These differences are statistically significant, suggesting that, on average, Medicare beneficiaries were less likely than privately insured individuals to encounter delays for illness and injury appointments.

Beneficiaries’ appointment access in 2008 varied by race, with minorities more likely than whites to report access problems. This difference was seen for both the Medicare and the privately insured populations. For example, white beneficiaries (77 percent) were significantly more likely than minority beneficiaries (70 percent) to report never waiting longer than they wanted for routine care appointments (Table 2B-2, p. 90). The trend was similar for illness and injury appointments. Within our sample, access problems were more frequent for minorities with private insurance compared to Medicare, but few of these differences were statistically significant. Finding disparities in access between whites and minorities is consistent with recent research conducted by the Center for Studying Health System Change (HSC). On the basis of a national physician survey, the authors found that physicians with a higher share of minorities in their practice were more likely to report difficulties obtaining referrals to specialists for their patients (Reschovsky and O’Malley 2008). Physicians attributed such problems to the fact that many of their patients were uninsured or had insurance coverage that posed access barriers rather than to an inadequate supply of qualified specialists in the area.

Relatively few Medicare and privately insured patients sought a new physician, but of those who did, some experienced access problems

Our survey also monitors the two sample groups’ need and ability to find a new physician. As in previous years, relatively few survey respondents reported that they tried to get a new primary care physician or specialist in 2008. This finding suggests that most respondents were either satisfied with their current physician or did not have a health event that made them search for a new one. Specifically, only 6 percent of Medicare beneficiaries and 7 percent of privately insured individuals reported that they looked for a new primary care physician in the

preceding year; a higher percentage (about 14 percent in each group) reported seeking a new specialist (not shown in Table 2B-1).

We found that, across income categories, Medicare beneficiaries appear equally likely to be looking for a new primary care physician (not shown in table). In contrast, among the privately insured population (age 50–64) those with lower incomes were more likely to report looking for a new primary care physician during the year. This situation may reflect more frequent job changes among lower income, privately insured individuals, which leads to changes in insurance and applicable physician networks.

Of the 6 percent of Medicare beneficiaries who looked for a new primary care physician in 2008, 28 percent reported problems finding one—10 percent characterized the problem as “small” and 18 percent reported it as “big.” Although these figures amount to less than 2 percent of the total Medicare population (28 percent of the 6 percent of beneficiaries looking for a new primary care physician), the problems these beneficiaries face can be quite distressing and are often featured in local and national media reports (Jenkins 2008, Sack 2008). Such accounts typically report similar problems for privately insured individuals, and our survey found no statistical difference between Medicare and privately insured individuals in problems finding a primary care physician.

As in previous years, we found that beneficiaries seeking a new specialist were less likely to report problems than those seeking a new primary care physician. A greater percentage of Medicare beneficiaries (88 percent) reported “no problem” finding a new specialist in 2008 compared with privately insured individuals (83 percent). Also, the rate of those with a “big problem” finding a specialist was lower for Medicare beneficiaries than for privately insured individuals. These 2008 results are consistent with the findings in the 2007 survey but contrast with the findings in the 2006 survey, underscoring some year-to-year volatility in these figures based on small sample sizes.

Although the sample shows some differences between minorities and whites in reported ease of finding a new physician, none of these differences was statistically significant in the Medicare population. Among privately insured individuals, however, we found a statistically significant difference in the share of whites (6 percent) and minorities (18 percent) who reported “big problems” finding a specialist.

**TABLE
2B-2**

Access problems are more frequent for minorities in both the Medicare and the privately insured population, 2008

Survey question	Medicare (age 65 or older)			Private insurance (age 50-64)		
	White	Minority	All	White	Minority	All
Unwanted delay in getting an appointment:						
Among those who needed an appointment, "How often did you have to wait longer than you wanted to get a doctor's appointment?"						
For routine care						
Never	77%*†	70%†	76%*	70%*	65%	69%*
Sometimes	17*	18*	17*	23*	25*	24*
Usually	3	4*	3*	4†	9*†	5*
Always	1*†	5*†	2	3*	1*	2
For illness or injury						
Never	85*†	78†	84*	79*	79	79*
Sometimes	12*	17	12*	16*	18	16*
Usually	1	2	1	2	2	2
Always	1	1	1	2	1	2
Looking for a new physician: "In the past 12 months, have you tried to get a new primary care doctor?"						
Yes	9	5	6	7	4	7
No	91	95	93	93	96	93
Getting a new physician: Among those who tried to get an appointment with a new physician, "How much of a problem was it finding a primary care doctor/specialist who would treat you? Was it..."						
Primary care physician						
No problem	71	76	71	74	62	72
Small problem	11	5	10	14	8	13
Big problem	17	19	18	11	26	13
Specialist						
No problem	89	84*	88*	85	70*	83*
Small problem	7	9	7	9	12	9
Big problem	3	7*	4*	6†	18*†	7*
Not accessing a doctor for medical problems:						
"During the past 12 months, did you have any health problem or condition about which you think you should have seen a doctor or other medical person, but did not?" (Percent answering "Yes")						
	7*†	14†	8*	12*	13	12*

Note: Numbers may not sum to 100 percent due to rounding. Missing responses ("Don't Know" or "Refused") are not presented. Overall sample sizes for each group (Medicare and privately insured) were 2,000 in years 2005 to 2007 and 3,000 in 2008. Sample sizes for individual questions varied. The "white" category includes white non-Hispanic survey respondents. The "minority" category includes black non-Hispanic, Hispanic, and other races.

* Indicates a statistically significant difference between the Medicare and privately insured populations in the given year at a 95 percent confidence level.

† Indicates a statistically significant difference by race within the same insurance coverage category in the given year at a 95 percent confidence level.

Source: MedPAC-sponsored telephone survey, conducted August-October 2008.

Reports of not getting needed physician care were more frequent for privately insured and lower income individuals

Our survey also examines rates of patients reporting that they did not see a physician when they thought they should have. In 2008, Medicare beneficiaries (8 percent) were less likely than their privately insured counterparts (12 percent) to say that they should have seen a doctor for a medical problem in the past year but did not (Table 2B-1). For those people who reported not getting care, a small share (9 percent of Medicare beneficiaries and 11 percent of privately insured individuals) listed physician availability issues (e.g., getting an appointment time or finding a doctor) as the problem (not shown in table). The other reasons they gave included cost, low perceived seriousness of the problem at the time of the illness, and procrastination.

Race and income are related to reports of not getting needed care. Among Medicare beneficiaries, minorities (14 percent) were more likely than whites (7 percent) to report not getting physician care when they thought they should have. We also found that, for both Medicare and privately insured people, those with lower incomes were more likely to report that they did not see a physician when they thought they should have (not shown in table). This finding is consistent with much published research (e.g., Strunk and Cunningham 2002). Considering the recent downturn in the U.S. economy, the frequency of cost-related access problems is likely to increase. Beneficiaries who have experienced significant drops in their savings may determine that they can no longer afford their supplemental insurance policies, which protected them from cost-sharing liabilities. As such, they may be at a greater risk for access problems related to cost.

Other national surveys show results comparable to the Commission's survey

Results from other patient surveys on access are analogous to the Commission's survey results. Specifically, HSC has conducted three large patient surveys funded by the Robert Wood Johnson Foundation over the last decade on access to health care by type of insurance. HSC's 2007 survey, the most recent of the three, found relatively good access for most Medicare beneficiaries (Table 2B-3, p. 92). The survey found that Medicare beneficiaries were significantly less likely to report not getting or delaying needed medical care than people with employer-sponsored private insurance and nongroup private insurance (Cunningham 2008). Although Medicare beneficiaries fare best, this survey finds that access has generally worsened for all insurance types over the last

decade. Exact comparisons between HSC's surveys and the Commission's surveys are difficult because of differences in questions and respondent ages. For example, HSC's survey includes people of all ages, whereas the Commission's survey is limited to people age 50 or older. Also, the HSC survey does not specifically ask about access to physician care; instead, it focuses on access to medical care, more generally.

AARP also conducted a patient survey in 2007, which found that Medicare respondents were less likely to encounter problems accessing physicians than privately insured people age 50 to 64 (Keenan 2007). For example, 68 percent of Medicare beneficiaries reported that they "never" had to wait longer than they expected for routine care, compared with 60 percent of privately insured respondents. Although this survey's sample size is smaller than both MedPAC's and HSC's surveys, its results are consistent with those larger surveys.

The AARP survey also asked about patients' satisfaction with access to physicians. Among Medicare beneficiaries, 82 percent reported that they were "extremely satisfied" or "very satisfied" compared with 78 percent of privately insured individuals. This difference in satisfaction is analogous to other previous research. Specifically, a patient survey sponsored by the Commonwealth Fund found that elderly Medicare beneficiaries were more likely than those with private insurance to report being very satisfied with the care they received (62 percent compared with 51 percent) (Davis et al. 2002). In this survey, Medicare beneficiaries were also less likely than those with private insurance to go without needed care due to costs (18 percent compared with 22 percent), and they were more likely than enrollees in employer-sponsored plans to rate their health insurance as excellent.

An even larger beneficiary survey, the Consumer Assessment of Healthcare Providers and Systems for Medicare fee-for-service (CAHPS[®]-FFS), includes two questions related to beneficiary access to physicians: one on access to specialists and the other on appointment scheduling for routine care. The CAHPS-FFS survey is conducted primarily by mail and samples about 100,000 beneficiaries, including community-dwelling, institutionalized, and disabled individuals. It asks assorted questions related to the health care services FFS beneficiaries receive. The survey showed that, in 2006, most beneficiaries (87 percent) reported "always" (61 percent) or "usually" (26 percent) being able to schedule timely appointments for routine care. Also, nearly 91

**TABLE
2B-3**

The Center for Studying Health System Change finds low rates of access problems for Medicare beneficiaries compared with other insured individuals

	1996-1997	2003	2007
Percent with unmet need			
Total	5.2%	5.2%	8.0%*†
Age 65 or over			
Enrolled in Medicare only	1.9	3.1	3.5
Enrolled in Medicare and other public or private supplemental coverage	1.3	1.6	3.2*†
Younger than age 65			
Employer-sponsored private insurance	3.7	3.6	5.6*†
Nongroup private insurance	4.2	4.6	7.2*
Medicaid and other state coverage	6.9	5.3	10.7*†
Uninsured	13.5	13.2	17.5*†
Percent who delayed care			
Total	9.8	8.4*	12.3*†
Age 65 or over			
Enrolled in Medicare only	4.0	8.0*	8.6*
Enrolled in Medicare and other public or private supplemental coverage	4.4	3.8	5.2*†
Younger than age 65			
Employer-sponsored private insurance	9.3	7.5*	11.8*†
Nongroup private insurance	10.4	10.7	15.4*†
Medicaid and other state coverage	8.7	5.7*	9.9†
Uninsured	17.1	16.1	20.0*†

Note: *Change from 1996-1997 is statistically significant at 0.05 level.
†Change from 2003 is statistically significant at 0.05 level.

Source: Center for Studying Health System Change Community Tracking Study Household Surveys, 1996-1997 and 2003; Center for Studying Health System Change Health Tracking Household Survey, 2007.

percent of beneficiaries reported that they “always” (59 percent) or “usually” (31 percent) were able to schedule an appointment with a specialist as soon as they wanted. Between 2004 and 2006, the share of beneficiaries reporting good access to physicians for routine and specialty care has remained generally high on the CAHPS-FFS survey. The share reporting some difficulty getting a timely appointment grew from 7.0 percent in 2004 to 10.6 percent in 2006.⁵

Considering the importance of tracking access to primary care, it would be useful if the CAHPS-FFS survey included a more direct question about access to primary care. Essentially, we are using access to routine care appointments as a proxy for primary care, but the Commission suggests that CMS consider asking specifically about beneficiary access to primary care providers, including primary care physicians, nurse practitioners, and physician assistants.

Research on certain local markets did not find major access problems

Although our update analysis focuses on national indicators of payment adequacy, this year we examined beneficiary access in selected market areas to gain further insight into the circumstances and issues that beneficiaries face in different areas of the country. For this work, we conducted telephone surveys and focus groups. Our local market research found some differences from area to area, but in general most beneficiaries did not have big problems accessing physician services.

For our telephone surveys, we selected five areas that had relatively poorer access, according to results from the 2006 CAHPS-FFS: Richmond, VA; Tampa, FL; Toledo, OH; Las Vegas, NV; and Tulsa, OK. Although these areas scored in the highest quartile for reporting major access problems, the rates were low—below 5 percent in all areas. In other words,

even in the worst quartiles, relatively few beneficiaries reported major access problems.

The telephone survey results, despite being targeted for poorer access, were generally quite similar to those found in the national survey. That is, the share of beneficiaries reporting that they never had problems scheduling routine care appointments ranged from 76 percent to 83 percent in these targeted areas (compared with 76 percent nationally). Among privately insured individuals, the range was from 63 percent to 74 percent in the targeted areas (compared with 69 percent nationally). Analogous patterns emerged regarding appointment scheduling for illness or injury.

CMS had a similar experience when surveying 11 markets it suspected had access problems in its Targeted Beneficiary Survey (TBS). Conducted in 2003 and 2004, the TBS found that, even in these particular markets, only a small percentage of beneficiaries had access problems resulting from physicians not taking new Medicare patients (Lake et al. 2005).

In addition to our local telephone surveys, we also conducted nine beneficiary focus groups in three markets (Richmond, VA; Albany, NY; and Albuquerque, NM). Groups ranged from 10 to 12 participants. The focus groups asked participants about their recent experiences with Medicare, including their ability to gain access to needed medical services. Generally, beneficiaries did not report problems getting access to physician services. Almost all said they had a regular physician, usually a primary care physician. Most participants reported that they could get an appointment with their regular doctor within a day or two.

We found some differences across the three focus group markets. Beneficiaries in Albany generally enjoyed the best access to physician services. Problems were most frequently reported in Albuquerque. Focus group participants there suggested that issues affecting a large statewide integrated health system and state taxes on physician revenues had created physician access problems that affected private patients as well as Medicare beneficiaries. For example, a number of participants in MA plans reported that they had trouble finding physicians in their plan's network who were accepting new patients.

Use of emergency department services by Medicare beneficiaries

We examined use of emergency department (ED) services as another indicator of patients' access to physician care.

Patients who have difficulty getting doctor appointments may instead seek care in EDs. In addition, with extended hours and no appointment necessary, EDs may be viewed as more convenient sources of care. Our analysis finds that the share of ED visits by Medicare and privately insured individuals grew at similar rates over the last decade. However, Medicare patients were more likely than privately insured patients age 45 to 64 to use EDs for conditions requiring immediate attention—an indicator of appropriate use of ED services.

According to data from the National Hospital Ambulatory Medical Care Survey (NHAMCS), there were about 119 million ED visits in 2006 (the most recent national data available). Between 1996 and 2006, ED use increased by 32 percent (Table 2B-4, p. 94). During this time, ED use increased for all patients with insurance (Medicare, Medicaid, and private insurance) as well as for those who were uninsured. In addition, the share of ED visits for those with and without insurance remained relatively stable between 1996 and 2006. For example, Medicare patients accounted for 16 percent of all ED visits in 1996 and for 17 percent of all visits in 2006. The uninsured accounted for 18 percent of all visits in 1996 and for 19 percent of all visits in 2006.

Our findings are fairly consistent with other researchers' conclusions. Roberts and colleagues (2008) reported that, between 1993 and 2003, ED visits for patients aged 65 to 74 years increased by 34 percent. In comparison, we find that ED visits for all Medicare patients increased by 43 percent between 1996 and 2006 (Table 2B-4). Our analysis also shows that the uninsured do not account for the majority of ED use. Other researchers have reached this conclusion. According to data from the nationally representative Community Tracking Study Household Survey, the proportion of ED visits by uninsured patients remained around 15 percent from 1996 through 2004 (Weber et al. 2008, Weber et al. 2005). After adjusting for patients' demographic characteristics and other variables, Weber and colleagues (2005) found that uninsured patients were no more likely than privately insured patients to have an ED visit.

In our analysis of the NHAMCS data, we found that ED use for Medicare patients was more likely due to medical conditions requiring more immediate attention than for privately insured patients. In 2006, 72 percent of all ED visits for Medicare patients were classified as either immediate—requiring care within 15 minutes of arrival—or urgent—requiring care within an hour of

**TABLE
2B-4**

Emergency department visits grew between 1996 and 2006

Type of coverage	Number of emergency department visits (in thousands)		Share of total emergency department visits*		Number of emergency department visits per 100 persons	
	1996	2006	1996	2006	1996	2006
Medicare	14,462	20,670	16%	17%	41	51
Private insurance	34,398	47,291	38	40	18	23
Medicaid	19,884	30,349	22	25	63	79
Uninsured	16,285	22,763	18	19	39	48
Total	90,347	119,190	106	110	34	40

Note: Uninsured category includes those visits for which the source of payment was either self-pay or no charge.
*Emergency department visits by patients with worker's compensation, other coverage, and unknown source are included in the total. More than one source of payment can be reported for an emergency department visit. Thus, total does not sum to 100 percent.

Source: MedPAC analysis of the 1996 and 2006 National Hospital Ambulatory Medical Care Survey and data from the Census Bureau.

arrival. Nineteen percent of visits by Medicare patients were classified as semiurgent—requiring care within 1 to 2 hours of arrival, and 9 percent of visits were classified as nonurgent—requiring care within 2 to 24 hours of arrival.⁶ By comparison, 64 percent of visits by privately insured patients (age 45 to 64) were classified as either immediate or urgent, 23 percent of visits were classified as semiurgent, and 12 percent of visits were classified as nonurgent.

We see several similarities between Medicare and privately insured patients age 45 to 64 regarding ED use. For example, the two groups had similar concentrations of visits during regular office hours (weekdays from 8 a.m. to 5 p.m.). In 2006, 40 percent of Medicare ED visits occurred during this time. By comparison, 37 percent of privately insured ED visits occurred during these hours. Both Medicare and privately insured patients waited similar times in the ED before seeing a physician. In 2006, both groups waited an average of about 53 minutes to see a physician, and the waiting time was directly related to the urgency of the visit.

For both insurance groups, data from 2006 suggest that, on average, white patients did not wait as long as nonwhite patients to see a physician.⁷ On average, white Medicare patients waited 50 minutes to see a physician, and nonwhite Medicare patients waited 65 minutes. By comparison, in the privately insured group, white patients waited an average of 49 minutes to see a physician, and nonwhite privately insured patients waited 69 minutes.

In the future, the Commission may explore several related issues. For example, we would like to examine the frequency and reasons for using ED services for patients who report having a usual source of care versus those who do not have a usual source of care. Also, we will further investigate the differences in the use of ED services and wait times between white and nonwhite Medicare patients. Another important issue is the practice of boarding patients, in which patients are held in the ED—often in beds in the hallways—until an inpatient bed becomes available. According to the Institute of Medicine (IOM), it is not uncommon for patients in some EDs to be boarded for 48 hours or more (IOM 2006). The IOM and other researchers have raised concerns about the quality of care for patients who are boarded in the ED.

Access to physician services: Physician indicators

For our payment adequacy analysis, we also consider physician survey information and other physician indicators, such as trends in physician supply. These pieces of information lag one or more years behind the results from our beneficiary access survey, but they still provide useful information about the direction and magnitude of changes in physicians' willingness and availability to treat Medicare patients. Survey data and indicators from other sources found that most physicians accepted all or most new Medicare beneficiaries. Our analysis of 2006 Medicare claims data shows that the number of physicians providing services to FFS Medicare beneficiaries has kept pace with growth in the total beneficiary population.

Physician surveys report high rates of Medicare patient acceptance

The most recent results available from the National Ambulatory Medical Care Survey (NAMCS)—a national survey of office-based physicians in clinical practice, conducted annually by the National Center for Health Statistics—also show that a large majority of physicians accept some or all new Medicare patients.

For 2007, the NAMCS found that, among physicians with at least 10 percent of their practice revenue coming from Medicare, 92 percent accepted at least some new Medicare patients (Cherry 2009). The NAMCS also found that a greater percentage of physicians accepted new Medicare patients than privately insured patients in capitated and noncapitated health plans. Importantly, the acceptance rates for Medicare patients have remained relatively steady—in the low 90 percent range—over the last several years. With this data set, we also examined Medicare acceptance rates for physicians in primary care and found that (among physicians with at least 10 percent of their practice revenue coming from Medicare) 88 percent of primary care physicians and about 94 percent of physicians in all other specialties accepted at least some new Medicare patients in 2007.⁸

The Commission sponsored a large survey of physicians in 2006, and its results showed a mostly positive but somewhat mixed picture of physician willingness to accept new Medicare FFS patients (MedPAC 2007, Schoenman et al. 2006).⁹ Most physicians (97 percent) were accepting at least some new Medicare FFS patients, with a smaller share (80 percent) accepting all or most. Acceptance of new Medicare FFS patients compared favorably with Medicaid and HMO patients but was a little lower than for private non-HMO patients. More physicians were concerned about reimbursement for Medicare FFS patients than for private non-HMO patients. Many physicians reported recent changes to their practice to increase revenue. Increasing service volume, for example, may be an important factor, as most physicians report that their own productivity is a “very important” determinant of their individual compensation—to a greater extent than quality and patient satisfaction.

Number of physicians billing Medicare has kept pace with enrollment growth

Our analysis of Medicare FFS claims data shows that the number of physicians providing services to Medicare beneficiaries has kept pace with growth in the beneficiary population through 2006. We are unable to determine the

number of physicians billing Medicare in 2007 because of data difficulties stemming from the conversion to new provider identifier numbers, which occurred in 2007 to comply with the Health Insurance Portability and Accountability Act.

From 2001 to 2006, the number of physicians who billed Medicare grew faster than Medicare Part B enrollment. During this time, Part B beneficiary enrollment grew 6.9 percent compared with an 8.7 percent growth in the number of physicians with 15 or more Medicare patients.¹⁰ The number of physicians with 200 or more Medicare patients grew even faster, at 12.9 percent, indicating that the ratio of physicians per 1,000 beneficiaries grew more rapidly for physicians with larger Medicare caseloads. This growth reflects increases in the share of physicians seeing more Medicare patients.

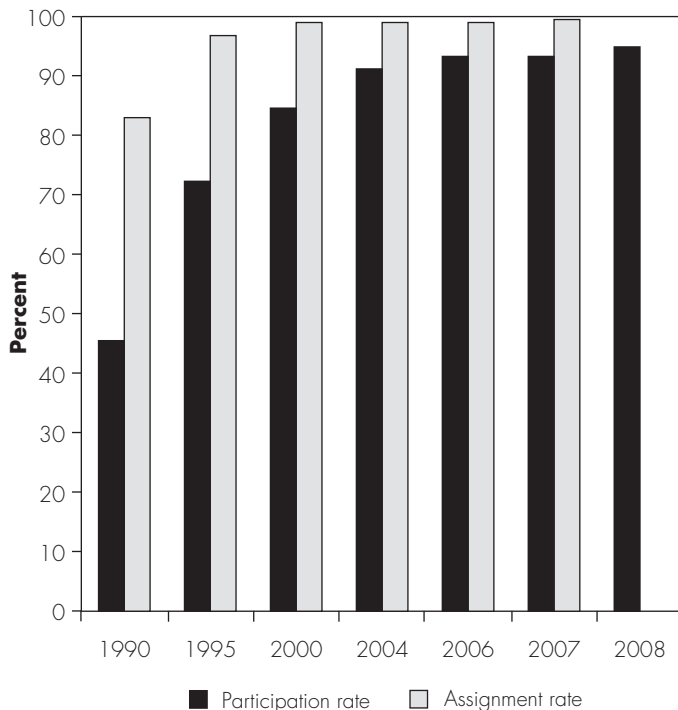
Although, in the aggregate, supply appears sufficient, the share of U.S. medical school graduates entering family practice and primary care residency training programs has declined in the last decade (MedPAC 2008d). In recent years, international medical graduates have filled this gap, but the trend may not adequately meet growing demand in future years. Also, the proportion of third-year internal medicine residents becoming generalists is falling because a growing share choose to subspecialize or become hospitalists after residency (Bodenheimer 2006, MedPAC 2008d). Therefore, although the Government Accountability Office (GAO) found that the number of physician residents in primary care training programs increased 6 percent over the last decade, it is important to understand that many of these residents do not remain in primary care practice (GAO 2008). The Commission is concerned about the undervaluation of primary care services and in a later section of this chapter we reiterate our 2008 recommendation for a payment increase for primary care services provided by practitioners who focus on primary care.

Claims assignment and physician participation rates have been stable at high levels

To supplement our data on the supply of physicians treating Medicare patients and beneficiaries’ reported access to physician care, we examine assignment rates (the share of allowed charges for which physicians accept assignment) and physician participation rates (the share of physicians and limited licensed practitioners who have Medicare participation agreements). Our analysis of Medicare claims data shows that 99.5 percent of allowed charges for physician services were assigned in 2007 (Figure 2B-2, p. 96); that is, for almost all allowed services

**FIGURE
2B-2**

Participation and assignment rates have grown to high levels, 1990-2008



Note: Participation rate is the percentage of physicians and limited licensed practitioners who have Medicare participation agreements. Assignment rate is the percentage of allowed charges paid on assignment. The assignment rate for 2008 is not shown; it requires calculations from claims not yet available.

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

that year, physicians agreed to accept the Medicare fee schedule amount as payment in full for the service. The assignment rate has held steady at more than 99 percent since 2000.

The high rate of assigned charges reflects the fact that most physicians and limited licensed practitioners who bill Medicare agree to participate in Medicare—95 percent in 2008, which is 1 percentage point higher than in 2007. Participating physicians agree to accept assignment on all allowed claims in exchange for a 5 percent higher payment on allowed charges. Participating physicians also receive nonmonetary benefits, such as being able to receive payments directly from Medicare (less the beneficiary cost-sharing portion) rather than having to collect the total amount from the beneficiary. This

arrangement is a major convenience for many physicians. Participating physicians also have their name and contact information listed on Medicare’s website and they have the ability to electronically verify a patient’s Medicare eligibility and supplemental insurance (medigap) status. Medicare’s physician participation agreement does not require them to take Medicare patients. While 97 percent of allowed charges in 2007 were for services provided by participating physicians, another 2.5 percent were for services provided by nonparticipating physicians who decided to accept assignment. Only 0.5 percent of allowed charges were for services provided by nonparticipating physicians who also did not accept assignment.

We also note that in the American Medical Association’s (AMA’s) recently released National Health Insurer Report Card, Medicare performed better than private insurers on most claims processing measures (AMA 2008). These measures included indicators for timeliness, transparency, and accuracy of claims processing.¹¹

Ratio of Medicare to private insurer physician fees has remained relatively stable

Another measure of Medicare payment adequacy examines the trend in Medicare’s physician fees relative to private insurer fees. In the early to mid-1990s, Medicare payment rates averaged about two-thirds of commercial payment rates for physician services, but since 1999 Medicare rates consistently have been in the range of 80 percent of commercial rates. We base this analysis on a data set of paid claims for two large national private insurers and Medicare claims.¹² In addition to physician fee comparisons, the analysis estimates average annual fees based on private enrollment trends for different types of plans, including HMOs, preferred provider organizations, point-of-service plans, high-deductible health plans, and traditional indemnity insurance.

Averaged across all physician services and geographic areas, Medicare’s payment for physician services in 2007 was 80.3 percent of extrapolated private insurer payments (Figure 2B-3).¹³ This rate is slightly lower than it was for 2006 (81.3 percent), but it marks a generally stable range over the last decade. Looking specifically at evaluation and management (E&M) services, Medicare’s payment rates are closer to private payers’ rates—about 88 percent on average in 2007. Note that Medicare payment rates for the broad category of imaging services declined due to a provision in the Deficit Reduction Act of 2005 that capped fee schedule imaging rates at the outpatient prospective payment system (PPS) rates and due to changes in

calculating practice expense. If our Medicare-to-private analysis excluded imaging services, the 2007 ratio would have been about 2 percentage points higher.

Research published by HSC, although based on somewhat dated information, has compared access rates by geographic area, with particular attention to the difference between Medicare and private insurer fees in each area (Trude and Ginsburg 2005). This research found that, despite differences in Medicare and commercial payment rates across markets, the proportion of Medicare beneficiaries reporting problems with access to care in markets with the widest payment rate gaps did not vary significantly from the proportion reporting problems in markets with more comparable payment rates. In addition, privately insured people age 50 to 64 did not appear to gain better access to care relative to Medicare beneficiaries in markets with higher commercial payment rates. These findings suggest that developments in local health systems and markets may strongly influence access for both Medicare beneficiaries and the privately insured. Indeed, these conditions may affect beneficiary access as much as or more than Medicare payment levels.

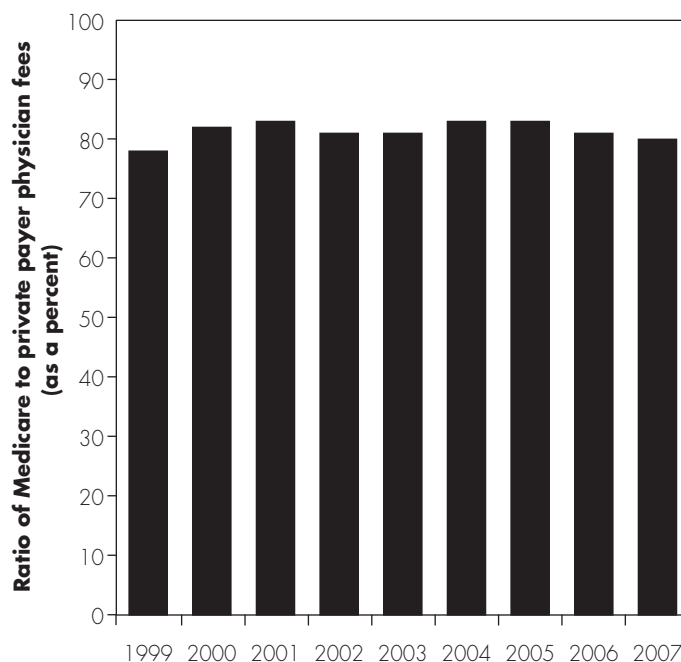
Most ambulatory care quality measures remained stable or improved in 2006

Using a set of indicators—the Medicare Ambulatory Care Indicators for the Elderly—we measure the provision of necessary care and rates of potentially avoidable hospitalizations over time. Comparing 2006 with 2004, our analysis shows mostly small improvements and stability in these measures. Specifically, among 38 measures, 21 showed improvement and 11 were stable. For several conditions, declines in potentially avoidable hospitalizations occurred concurrently with increases in the use of clinically necessary services for the same condition. For example, for diabetes we found decreases in the rate of diabetes-related hospitalizations over the same time period when we found increases in the use of diagnostic testing and follow-up. Therefore, we see improvements in outcome measures (lower rates of short-term and long-term complications) concurrent with improvements in process measures (higher rates of necessary care, such as lipid and hemoglobin testing).

We were unable to update our analysis of ambulatory care quality with 2007 claims but plan to do so in another report. Further details on the 2006 findings, summarized above, can be found in our March 2008 report (MedPAC 2008c).

FIGURE 2B-3

Ratio of Medicare to private payer physician fees is stable



Source: Direct Research, LLC, for MedPAC for 1999–2004 data. MedPAC analysis for 2005–2007 data.

Volume growth does not reveal access problems but highlights sustainability, pricing, and equity concerns

Interpreting increases and decreases in service volume growth as an indicator of payment adequacy is complex. For example, decreases in volume could signify price inadequacy if physicians were reluctant to offer such services based on their Medicare payment. However, we have found that volume decreases are more likely to be due to other factors, such as general practice pattern changes. Under the same reasoning, increases in volume may signal overpricing if physicians favor certain services because they are exceedingly profitable; again, other factors—including practice pattern changes, population changes, disease prevalence, technology, and beneficiaries' preferences—can also explain volume increases. In addition, there is evidence that the volume of services sometimes increases when payment rates decline (Codespote et al. 1998). The possibility of such a response—known as a behavioral or volume offset—makes it particularly difficult to interpret volume increases by themselves as an indicator of payment adequacy.

Volume growth gives rise to other concerns expressed by the Commission and others about the future of Medicare. Specifically, these concerns are: the fiscal sustainability of the Medicare program, the inequity of a payment system that allows some physicians—often those in procedural specialties—to generate volume and revenue more readily than others, and the mispricing of services in the physician fee schedule. We briefly review each of these issues after the following claims analysis of volume growth.

Claims analysis shows continuing per beneficiary volume growth

In 2007, the volume of physician services used per Medicare beneficiary continued to grow in the aggregate. For this analysis, we used claims data for 2002 through 2007 and calculated per beneficiary growth in the units of service furnished by physicians and other professionals billing under Medicare’s physician fee schedule. We then weighted the units of service by each service’s relative value units (RVUs) from the physician fee schedule. The result is a measure of growth that accounts for changes in both the number of services and the complexity, or intensity, of those services. We thus distinguish growth in volume from growth in units of service: Volume growth includes an adjustment for change in intensity, whereas unit-of-service growth does not. Compared with analyzing growth in spending, measuring growth in volume removes the effects of price changes.

Across all services, volume per beneficiary grew 2.9 percent in 2007 (Table 2B-5). For each broad category of service—E&M, imaging, major procedures, other procedures (nonmajor), and tests—growth rates varied but were all positive. Services in the “other procedures” category grew the most: From 2006 to 2007, they increased 5.0 percent. Imaging was next, at 3.8 percent, followed by E&M (2.1 percent), tests (1.8 percent), and major procedures (1.6 percent).

In contrast to the volume growth for all broad service categories, some of the more specific categories saw decreases.¹⁴ In the case of coronary angioplasty, for example, the decrease coincides with publication of two studies showing no better outcomes for patients receiving percutaneous coronary intervention—services included in the coronary angioplasty service category—compared with medical therapy (Boden et al. 2007, Hochman et al. 2006). The continued volume decrease in coronary artery bypass grafts likely represents substitution of less invasive services for this procedure. In the case of MRI studies of the brain, the change in volume includes two observations:

a decrease in the intensity of those services but an increase in the number of services per beneficiary. The decrease in intensity—a decrease in the average RVUs per service for the category—occurred because of a shift in utilization from studies done with contrast material to studies done without contrast material.

Other specific service categories saw increases in volume per beneficiary, with some of the increases raising questions about necessity. Services in the “Advanced—computed tomography (CT): other” category are one example. These services grew at an average annual rate of 13.8 percent from 2002 to 2006 and by another 6.7 percent from 2006 to 2007. This growth has accompanied “dramatic” increases in CT availability, raising questions about the costs and benefits of the expansion (Baker et al. 2008). Outpatient rehabilitation is another type of service that has seen rapid growth in volume. From 2002 to 2006, the volume of these services per beneficiary grew an average 11.2 percent per year. From 2006 to 2007, growth was stronger still, at 15.0 percent. To control spending for these services, limits—known as the “therapy caps”—are in place (MedPAC 2008b). Much of the growth in 2007 occurred in services eligible for an exception to the caps. The “orthopedic—other” category is a third example of services with rapid volume growth. Service volume went up by an average of 7.1 percent from 2002 to 2006 and by 6.4 percent from 2006 to 2007. While this category includes a somewhat heterogeneous mix of services, much of the growth here is in spine surgery, a type of procedure that has prompted questions about effectiveness (Abelson 2008).

The 2007 data also show distinct shifts in volume growth among categories of services. Growth in volume per beneficiary has been modest for E&M services and major procedures (Figure 2B-4, p. 100). From 2002 to 2007, E&M grew 15.9 percent and major procedures grew 14.6 percent. By contrast, cumulative volume grew more for other procedures (33.9 percent), tests (37.7 percent), and imaging (44.4 percent). In turn, with higher growth rates for some services and lower growth rates for others, the distribution of volume across the service categories has shifted (Figure 2B-5, p. 101). That is, as a proportion of total volume, E&M fell from 45.7 percent to 42.3 percent between 2002 and 2007. By contrast, imaging’s share of total volume for those years rose from 13.7 percent to 16.0 percent.

Issues raised by volume growth

The continued growth in the volume of physician services is a reminder of concerns expressed by the Commission, the Congressional Budget Office, the Government

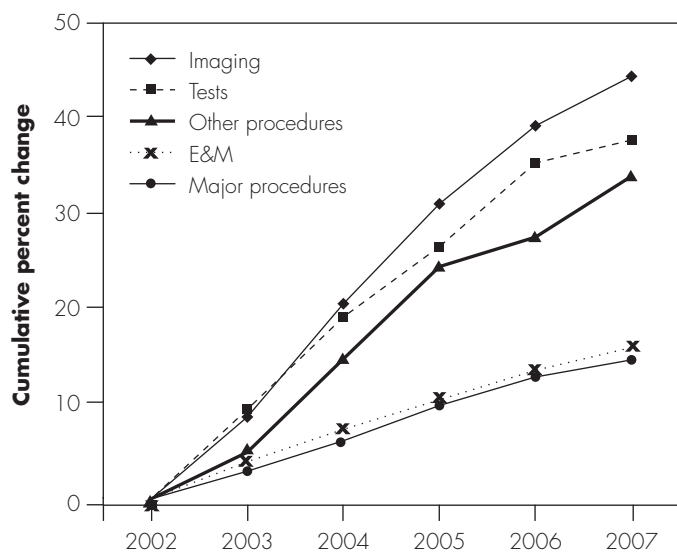
**TABLE
2B-5**

Use of physician services per fee-for-service beneficiary continues to increase

Type of service	Change in units of service per beneficiary		Change in volume per beneficiary*		Percent of total volume*
	Average annual 2002-2006	2006-2007	Average annual 2002-2006	2006-2007	
All services	3.3%	2.1%	4.6%	2.9%	100.0%
Evaluation and management	1.1	0.9	2.8	2.1	42.3
Office visit—established patient	1.3	1.1	2.8	2.4	18.3
Hospital visit—subsequent	1.0	0.2	2.4	1.3	8.5
Consultation	0.1	0.6	2.8	1.3	5.6
Emergency room visit	0.9	0.8	3.4	2.7	2.9
Hospital visit—initial	0.1	-0.3	0.6	0.2	2.0
Nursing home visit	1.7	3.0	5.0	4.8	1.9
Office visit—new patient	0.3	0.9	0.7	1.3	1.7
Imaging	4.7	2.0	8.6	3.8	16.0
Advanced—CT: other	11.1	5.4	13.8	6.7	2.3
Echography—heart	6.0	2.5	7.3	3.8	2.1
Standard—nuclear medicine	6.2	-1.6	8.9	0.1	2.0
Advanced—MRI: other	12.6	2.6	13.5	2.5	1.8
Standard—musculoskeletal	3.4	1.5	3.5	1.6	1.1
Advanced—MRI: brain	6.6	0.8	7.2	-2.3	1.0
Echography—other	10.1	7.3	11.0	7.4	0.8
Imaging/procedure—other	10.9	10.4	12.1	16.6	0.7
Standard—breast	9.4	4.7	3.5	3.0	0.6
Standard—chest	0.4	0.1	-0.3	4.2	0.6
Echography—carotid arteries	5.0	1.8	8.5	4.2	0.6
Advanced—CT: head	6.3	5.1	8.0	5.6	0.5
Major procedures	1.9	1.3	2.8	1.6	8.8
Cardiovascular—other	0.2	-5.3	2.4	-5.1	1.9
Orthopedic—other	6.6	5.9	7.1	6.4	1.2
Knee replacement	8.2	1.7	9.3	2.6	0.7
Coronary artery bypass graft	-7.8	-9.0	-8.3	-8.5	0.5
Coronary angioplasty	2.9	-11.5	2.9	-11.9	0.4
Explore, decompress, or excise disc	5.5	2.9	5.7	4.8	0.4
Hip replacement	2.3	1.7	3.4	3.0	0.4
Hip fracture repair	-0.9	-0.1	0.5	1.3	0.3
Pacemaker insertion	4.5	3.7	5.1	-0.3	0.3
Other procedures	5.6	6.0	6.1	5.0	21.3
Skin—minor and ambulatory	3.1	1.0	3.6	4.7	3.6
Outpatient rehabilitation	11.9	14.1	11.2	15.0	2.6
Radiation therapy	1.6	4.6	8.6	10.8	2.4
Minor procedures—other	11.8	1.1	8.9	2.4	2.1
Cataract removal/lens insertion	1.0	-1.1	1.3	-0.7	1.6
Minor procedures—musculoskeletal	8.3	3.1	10.8	3.2	1.4
Colonoscopy	2.1	1.1	2.0	1.1	1.0
Eye—other	7.7	16.5	5.8	9.0	0.9
Cystoscopy	2.4	0.5	5.7	1.6	0.5
Upper gastrointestinal endoscopy	2.6	0.5	2.5	0.9	0.5
Tests	4.0	-0.7	7.0	1.8	5.0
Other tests	6.8	-1.7	11.7	0.6	2.2
Electrocardiogram	1.7	-1.4	1.3	0.1	0.6
Cardiovascular stress tests	5.3	0.5	6.2	1.9	0.6
Electrocardiogram monitoring	3.6	2.2	2.0	2.1	0.2

Note: CT (computed tomography). To put service use in each year on a common scale, we used the relative weights for 2007. For billing codes not used in 2007, we imputed relative weights based on the average change in weights for each type of service. Some low-volume categories and services are not shown but are included in the "all services" calculation. One such category includes all positron emission tomography services that would otherwise appear in disparate other categories.
*Volume is measured as units of service multiplied by each service's relative weight (relative value units) from the physician fee schedule.

Source: MedPAC analysis of claims data for 100 percent of Medicare beneficiaries.

**FIGURE
2B-4****Growth in the volume of physician services per beneficiary, 2002–2007**

Note: E&M (evaluation and management).

Source: MedPAC analysis of claims data for 100 percent of Medicare beneficiaries.

Accountability Office, and others about the Medicare program and about physician services in particular.

- **Sustainability.** According to projections from the Boards of Trustees of the Medicare Trust Funds, the share of the nation's gross domestic product committed to Medicare is projected to grow to unprecedented levels. This growth will squeeze other priorities in the federal budget and could require taxpayers and beneficiaries to contribute greater amounts toward the Medicare program. Moreover, under intermediate cost assumptions, the Part A trust fund will exceed income by 2010 and will be exhausted in 2019 (Boards of Trustees 2008).¹⁵ While spending on physician services originates from the Part B trust fund, physician payment policy has an impact on Part A spending, as physicians are the key links to the health care delivery system.

Given these concerns about sustainability, a significant policy question is whether the growth in the volume of physician services represents necessary services. According to research from Dartmouth's Center for Evaluative Clinical Services on the wide variation in Medicare spending and rates of service use, some portion of the volume of services may be for care

that is not appropriate (Fisher et al. 2003a, Fisher et al. 2003b). Consequently, taxpayers are subsidizing Medicare's growing expenditures, some of which may be attributed to inappropriate care. Beneficiaries, too, bear a greater financial burden. To illustrate, the Part B premium went up during the past five years—from 2005 through 2009—by 44.7 percent, substantially above the 19.5 percent increase in the Social Security cost-of-living adjustments during those years.

Other questions about the volume of physician services have come from physicians. For instance, Welch (2004) describes how testing for cancer in people with no symptoms—rather than the unambiguous good it is often thought to be—can be harmful if it leads to false-positive results, anxiety, and a cascade of further testing and even unnecessary treatment. In another example, some cardiologists have voiced concerns about the rapid spread of CT angiography (Berenson and Abelson 2008, Redberg and Walsh 2008). The technology is diffusing rapidly despite relatively high radiation exposure for patients. Meanwhile, there is no evidence base showing improved patient outcomes. In such cases, physicians are asking whether their colleagues sometimes order tests, perform procedures, or otherwise furnish services in a manner that is too aggressive.

- **Equity.** The physician fee schedule—based on a FFS payment system—creates two mechanisms for payment inequity among physicians. First, it rewards physicians who increase the volume of services they provide regardless of the benefit of the service. Under the SGR system, volume growth in one service leads to an across-the-board reduction in fees for all services and all providers, not just those responsible for the volume growth. This problem affects specialties that have less opportunity to increase the volume of services they provide. For instance, compared with practitioners who furnish imaging, tests, or some procedure-based services, primary care practitioners focused on E&M services have less opportunity to increase the number of services they furnish. The main component of E&M services is face-to-face time spent with patients, making it difficult to fit more visits into a day's schedule.

Second, the fee schedule establishes considerable differences in physician compensation per hour. That is, for a given hour of a physician's time, differences in payment do not appear to be consistent with the

difficulty of furnishing the service. For example, physician compensation per hour for a type of advanced imaging—CT of parts of the body other than the head—averages 147 percent of the compensation rate for office visits by established patients.¹⁶

Among tests, interpretation of an electrocardiogram is compensated at an average rate that is fully 82 percent of the office visit average. Such differences raise concerns not just about equity but also about mispricing.

- Mispricing.** In previous work, the Commission made recommendations on improving the process through which CMS reviews the fee schedule’s relative values for accuracy (MedPAC 2006a). For example, the Commission recognized that many procedures had never been reexamined to determine whether the average time to perform them had decreased as a result of advances in technology, technique, and other factors. When such efficiency gains are achieved, the work value for the affected services should decline accordingly, and—through application of budget-neutrality requirements—the values for all other services would increase (assuming all else equal). But because of the problems with the review process, categories of services without new procedures—such as primary care—become undervalued over time and thus risk being underprovided.

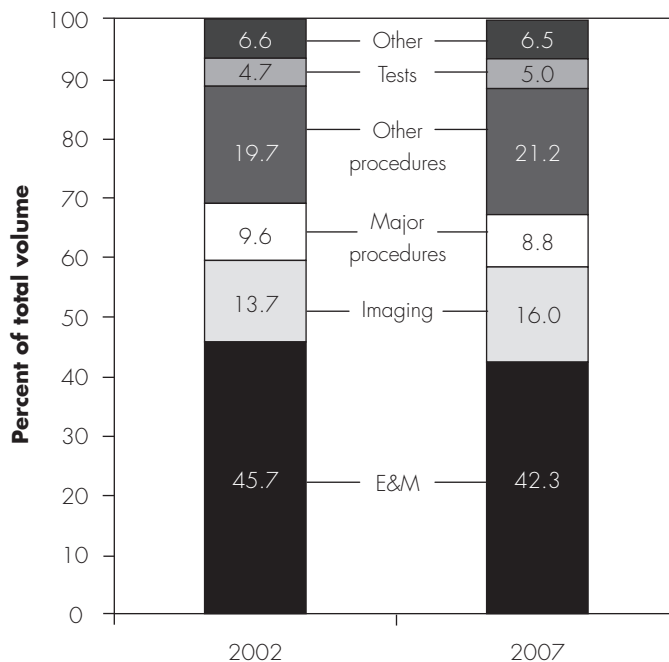
Separately, we are concerned that, in valuing practice expense (PE) for the fee schedule, CMS is making unnecessarily high assumptions about the cost of operating expensive pieces of equipment, such as CT scanners. We discuss ways to improve payments for expensive imaging services in a later section of this chapter.

CMS has begun a resource use measurement and reporting program

In its March 2008 report, the Commission recommended that the Congress require the Secretary to establish a process for measuring and reporting physician resource use on a confidential basis for two years. Since then, the Congress enacted MIPPA, which (under Section 131) requires the Secretary of Health and Human Services to establish a physician feedback program using claims data to provide physicians with confidential feedback reports that measure the resources they used in providing care to Medicare beneficiaries. CMS has already begun work on a program it refers to as the Physician Resource Use Measurement and Reporting Program that will comply with MIPPA’s confidential physician feedback requirement.

FIGURE 2B-5

Physician services volume has shifted toward imaging, tests, and other procedures and away from major procedures and E&M



Note: E&M (evaluation and management). Volume is units of service multiplied by relative value units from the physician fee schedule. Volume for both years is measured on a common scale, with relative value units for 2007.

Source: MedPAC analysis of claims data for 100 percent of Medicare beneficiaries.

Importance of physician education and outreach

Fundamentally, Medicare’s program to measure physician resource use and provide reports should be designed to encourage efficiency (defined by resource use and quality) and discourage inefficiency. The program is more likely to achieve these goals if the reports are designed to encourage thoughtful reflection and discussion among physicians about how their practice patterns drive resource use. To this end, as part of the reporting program, MIPPA requires the Secretary to conduct education and outreach activities for physicians. We learned from site visits with plans and physicians involved with resource use measurement programs that education and outreach—essential aspects of physician reporting programs—are often overlooked. To maximize its investment in measuring physician resource use, Medicare must pair it with education and outreach. Given CMS’s limited resources and numerous responsibilities, these new efforts will be challenging.

CMS should partner with other entities—including physician organizations, specialty societies, and medical boards—to support physicians in interpreting resource use reports and using them to improve practice patterns. Once Medicare’s physician measurement and reporting program is implemented and refined based on experience, over time it can be extended for other uses, such as public reporting and payment policies.

How should Medicare payments for physician services change in 2010?

Our payment adequacy analysis shows that beneficiaries’ overall access to physician services is good but that a small share of beneficiaries—particularly those looking for new primary care physicians—experience difficulties. Although the rate of volume growth in per beneficiary service use slowed in 2007, it continues to increase each year. We remain concerned about the impact of this continual growth on Medicare spending and ultimately the sustainability of the Medicare program overall. Geographic variation in the use of supply-sensitive services raises questions about the value of this volume growth. Also, volume growth in certain procedures and undervaluing of primary care services lead to inequities in the fee schedule.

In addition to analyzing overall payment adequacy, we also consider changes in input costs for physician services projected for the coming year and a productivity adjustment. For 2010, CMS forecasts that input prices for physician services will increase by 2.4 percent. This forecast includes an estimated 2.8 percent increase in physician work compensation (physicians’ wages and benefits) and PE cost increases of 1.9 percent. For these forecast estimates, we use information that CMS collects from various data sets and surveys. CMS calculates a weighted average of these input price changes from survey data collected by the AMA in 2000.

These forecasted increases are averaged across all physicians. Some physicians may see higher input costs. For example, physicians who purchase equipment to enable them to prescribe electronically may incur higher input costs in the year of the purchase. MIPPA established some financial incentives—involving new Medicare dollars—for physicians to invest in electronic prescribing equipment, however. For 2009 and 2010, physicians are eligible for an additional 2 percent bonus on all their

allowed charges from the physician fee schedule if they satisfy electronic prescribing requirements; for 2011 and 2012, the bonus is 1.0 percent; and for 2013, it is 0.5 percent. MIPPA requires that physicians who do not use electronic prescribing receive a payment reduction on their Medicare fees, starting in 2012.

In its update recommendation, the Commission takes into account three factors that summon the need to maintain cost pressures. First, the Commission strongly promotes the policy principle that Medicare’s payment systems should encourage efficiency in the provision of Medicare services. Competitive markets demand continual efficiency improvements from the workers and firms who pay the taxes used to finance Medicare. Maintaining cost pressure is a key to achieving efficiency improvements. Another consideration that calls for constraint is the impact on beneficiaries’ out-of-pocket spending liability. Updates for physician services carry with them increases to beneficiaries’ cost-sharing and premium amounts. Third, the Medicare program faces harrowing fiscal sustainability problems, which require committed efforts to slow the growth in Medicare spending.

RECOMMENDATION 2B-1

The Congress should update payments for physician services in 2010 by 1.1 percent.

RATIONALE 2B-1

Our analysis of the most recently available data finds that, overall, Medicare payments for physician services are adequate. Access, supply, and volume measures suggest that most Medicare beneficiaries are able to obtain physician services with few or no problems. In our 2008 patient survey, Medicare beneficiaries (age 65 or older) were more likely to report better access to physicians than privately insured individuals (age 50 to 64). However, the Commission is concerned about beneficiary access to primary care services and practitioners and reaffirms its previous (June 2008) recommendation on this topic in the next section of this chapter. Moreover, the large reduction in fees (21 percent) for 2010 required under current law could reduce overall access to physician services for Medicare beneficiaries. Thus, we recommend that the Congress change current law to update the physician fee schedule conversion factor for 2010 by a modest amount—1.1 percent—the same as the Congress legislated for 2009.

IMPLICATIONS 2B-1

Implications are discussed with Recommendation 2B-3.

The increasing importance of primary care

The Commission considers access to high-quality primary care essential for a well-functioning health care delivery system; yet the undervaluation of primary care is currently threatening its existence. In fact, research suggests that reducing reliance on specialty care may improve the efficiency and quality of health care delivery. States with higher ratios of primary care physicians to specialists have better health outcomes and higher scores on performance measures (Baicker and Chandra 2004, Starfield et al. 2005). Moreover, areas with higher rates of specialty care per person are associated with higher spending but not improved access, quality, health outcomes, or patient satisfaction (Fisher et al. 2003a, Fisher et al. 2003b, Kravet et al. 2008, Wennberg et al. 2006). Cross-national comparisons have demonstrated that nations with greater dependence on primary care have lower rates of premature deaths and deaths from treatable conditions, even after accounting for differences in demographics and gross domestic product (Starfield and Shi 2002).

Given the importance of primary care, the Commission is concerned about ensuring beneficiary access to primary care services and practitioners. The share of U.S. medical school graduates entering primary care residency programs has declined over the last decade. In recent years, international medical graduates have filled this gap, but the trend may not adequately meet growing demand in future years. Also, the proportion of third-year internal medicine residents becoming generalists is falling because a growing share choose to subspecialize or become hospitalists after residency (Bodenheimer 2006, MedPAC 2008d). Therefore, although the Government Accountability Office found that the number of physician residents in primary care training programs increased 6 percent over the last decade, it is important to understand that many of these residents do not remain in primary care practice (GAO 2008).

Although many factors influence the choices medical students and residents make about their career specialty, the undervaluation of primary care services is a likely barrier for many practitioners in selecting a focus for their practice. While several policy changes have shifted some Medicare spending toward primary care services, the Commission considers these shifts to be insufficient and reaffirms the need for a further fee-schedule adjustment for primary care, as recommended in our June 2008 report.

Some recent policy changes increase payments for primary care services

Recent changes in the physician fee schedule affect payments for primary care services and could help address some of the Commission's concerns. In particular, payments have increased for many E&M services—including most office and home visits and visits to patients in certain nonacute facility settings (e.g., skilled nursing facilities). Primary care physicians derive much of their Medicare payments from these services.¹⁷ While other practitioners may bill for these services, they do so less frequently.

CMS has implemented two increases—one affecting work RVUs and the other affecting PE RVUs—in payments for primary care services.

- The 2007 five-year review of the fee schedule's relative values for physician work resulted in payment increases for most primary care services. For some services, the increases in relative values for physician work were large (30 percent or more). For other primary care services, however, relative values for physician work did not change. Comparing the relative values used in 2006 with those for 2009, the increase in work relative values for primary care services averaged 25.9 percent.¹⁸ To make the results of the 5-year review budget neutral, an adjustment (–6.4 percent) is applied to the fee schedule's conversion factor.
- For 2007, CMS changed its method for determining the fee schedule's relative values for PE to improve the method's accuracy.¹⁹ This change, too, had the effect of increasing the fee schedule's payment rates for primary care. For primary care services, the effect was smaller than the five-year review of physician work. Comparing PE relative values for primary care in 2006—the year before the change in the PE method—and in 2009, the average increase was 5.9 percent.

Comparing payment rates in 2006 with payment rates in 2009, we calculate that these two changes in policy—and including the effects of the budget-neutrality adjustment for the five-year review of physician work—have increased payment rates for primary care by a total of 10.6 percent. This total includes a weighted average of the changes in the physician work and PE relative values. That average is 16.2 percent. The total also includes the –4.8 percent difference between the conversion factor for 2006 and the conversion factor for 2009 (adjusted for budget neutrality, as described above).

In addition to these changes in the physician fee schedule, the process for review of the fee schedule's relative values has improved—in response to Commission recommendations (MedPAC 2006a)—in a way that could result in higher payments for primary care. Briefly, our recommendations addressed:

- establishing a standing panel of experts to help identify overvalued services and to review recommendations from the AMA/Specialty Society Relative Value Scale Update Committee (RUC),
- analyzing claims and other data to identify services that may be misvalued, and
- establishing a process to ensure that all services are reviewed periodically.

Since we made these recommendations, CMS and the RUC have taken several steps to improve the review process. While not adopting the Commission's recommendation about establishing a standing panel of experts separate from the RUC, the review of potentially misvalued services is no longer limited to a review that occurs once every five years. Instead, CMS and the RUC are now engaged in an ongoing review to look for services that may be misvalued. Further, to screen services and identify ones that may be misvalued, claims data are analyzed to flag services with certain characteristics—such as high-volume growth and changes in site of service—that may be signs they are misvalued.²⁰

Medical home programs could also support primary care for Medicare beneficiaries. The Commission recommended that Medicare establish a medical home pilot program to test whether beneficiaries in medical home programs—that meet stringent criteria—receive higher quality, more coordinated care without incurring higher Medicare spending (MedPAC 2008d). Many qualifying medical homes would be geriatric practices, primary care practices, or multispecialty practices. Single-specialty practices that focus on care for certain chronic conditions, such as endocrinology for people with diabetes, could also qualify.

CMS is scheduled to begin a medical home demonstration in 2010. Although somewhat smaller in scope than the Commission's recommended pilot program, CMS's demonstration also focuses on medical practices that treat chronic conditions. Under CMS's demonstration, per member per month payments to medical homes will vary from \$27 to \$100, depending on whether a medical home offers basic or more advanced services and depending on

individual patients' health status. The demonstration is scheduled to end in 2012; an evaluation report is expected in 2013.

Further increases to payments for primary care are needed

Despite these payment increases, the Commission sees urgency in the need to ensure access to primary care services and practitioners. As shown previously, beneficiaries seeking a new primary care physician report more problems doing so than those seeking a new specialist. Further, the specialty choices of medical students and residents could exacerbate this concern. Meanwhile, the undervaluation of primary care continues. It could be reduced somewhat if the Commission's recommendation on changing payments for expensive imaging services—presented later in this chapter—is adopted. One implication of the recommendation is that it will redistribute fee schedule payments from imaging services to other services, including primary care. Nonetheless, the Commission wants to reiterate the importance of adequately valuing primary care to ensure its access for Medicare beneficiaries.²¹

To promote the use of primary care and redistribute payments toward services furnished by primary care physicians, the Commission recommends that—within the physician fee schedule—the Congress establish by statute a payment adjustment for primary care. This recommendation was included in our June 2008 report and is repeated in this report to emphasize its importance. The recommended adjustment would raise payments for selected primary care services furnished by physicians, advanced practice nurses, and physician assistants with practices focused on primary care. Services we defined as primary care are a subset of E&M services: office and home visits and visits to patients in certain nonacute facility settings (skilled nursing, intermediate care, long-term care, nursing home, boarding home, domiciliary, and custodial care).

The fee schedule adjustment would also signal a major change in the purpose of the physician fee schedule. Currently, it is intended only to account for differences in resource costs among services. By contrast, using the fee schedule as a vehicle for promoting primary care would be a very different role for the payment system. Instead of just accounting for current resource costs, a payment system that includes a fee schedule adjustment for primary care could look ahead to resources the nation needs to achieve a reformed delivery system.

Details on its recommendation are presented in the Commission's June 2008 report (MedPAC 2008d). Briefly:

- The adjustment would target practitioners who focus on primary care services. As an example, CMS could define such practitioners as those who mostly furnish primary care services instead of other services, such as procedures, imaging, and tests.
- To make the adjustment budget neutral, it would be funded by a reduction in the conversion factor for other services. Thus, the adjustment would lead to lower payment rates for non-primary-care services furnished by practitioners who do not focus on primary care. Even for practitioners receiving the adjustment, payment rates would go down for the services they furnish that are not office visits, home visits, or visits to patients in certain nonacute facility settings.²²
- The adjustment would require a decision about its level. Because there is no one formula or analytical approach to making the decision, judgment is required. In making that judgment, there are two precedents to consider regarding fee schedule adjustments. Currently, a 10 percent bonus is paid for services furnished in a health professional shortage area. Through 2007, there was a 5 percent adjustment for services furnished in areas defined in the statute as physician scarcity areas.

RECOMMENDATION 2B-2

The Congress should establish a budget-neutral payment adjustment for primary care services billed under the physician fee schedule and furnished by primary-care-focused practitioners. Primary-care-focused practitioners are those whose specialty designation is defined as primary care and/or those whose pattern of claims meets a minimum threshold of furnishing primary care services. The Secretary would use rulemaking to establish criteria for determining a primary-care-focused practitioner.

RATIONALE 2B-2

A fee schedule adjustment for primary care would help overcome the undervaluation of primary care services and help ensure beneficiaries' access to primary care services and practitioners. Because primary care is essential for a well-functioning health care delivery system, the Commission considers it important to increase its value in Medicare. If commercial insurers, Medicaid programs,

and other payers use Medicare's physician fee schedule as a basis for their payment rates, the fee schedule adjustment could promote primary care throughout the health care system.

IMPLICATIONS 2B-2

Spending

- As a budget-neutral policy, the fee schedule adjustment would not affect federal benefit spending relative to current law.

Beneficiary and provider

- For beneficiaries, the adjustment could improve access to primary care services.
- For physicians and other providers, the adjustment would have redistributive effects depending on the services they furnish.

Changing payments for expensive imaging services

As described earlier, the distribution of payments for physician services is distorted by incentives in the fee schedule that encourage the overuse of some physician services and the underuse of others. The Commission recognizes that there has been rapid technological progress in diagnostic imaging, which has enabled physicians to diagnose and treat illness with greater speed and precision. However, we are concerned that rapid volume growth of costly imaging services over the past several years may signal that they are mispriced.²³ We believe there is evidence that the PE RVUs for services such as MRI and CT scans are too high. Because RVUs are set in a budget-neutral manner, high RVUs for imaging procedures lead to lower RVUs for primary care and other services. In addition, rapid volume growth of imaging can lead to an across-the-board reduction in fees for all other services under the SGR system.

There are other reasons to be concerned about the potential mispricing of imaging services. First, imaging RVUs that are set too high could encourage providers to purchase machines and use them as frequently as possible. According to a physician quoted in a recent article, "If you have ownership of the machine ... you're going to want to utilize the machine" (Berenson and Abelson 2008). Second, the rise in imaging has increased beneficiaries' exposure to ionizing radiation, which is a risk factor for developing cancer. According to preliminary findings

How the physician fee schedule pays for imaging services

Most of the payment for the technical component (TC) of an imaging study consists of the practice expense (PE) relative value unit (RVU), which is divided into direct costs (nonphysician clinical staff, medical equipment, and medical supplies) and indirect costs (administrative staff, office rent, and other expenses). In contrast, most of the payment for the professional component consists of the work RVU. The TC is generally larger than the professional component. For example, when a provider bills for both the technical and professional components of MRI of the brain, with and without contrast (CPT code 70553), the TC accounts for 88 percent of the total payment and the professional

component accounts for 12 percent (based on national average payment amounts).

In 2007, CMS made major changes to the method for calculating PE RVUs. When Medicare fully implements these changes in 2010, PE RVUs will decrease by 8 percent for major procedures and by 9 percent for imaging services, while they will increase by 7 percent for evaluation and management services and by 3 percent for other (nonmajor) procedures and tests (MedPAC 2007). Even with the aggregate drop in PE RVUs for imaging services by 2010, the RVUs of certain imaging services may still be overstated. ■

from a scientific committee, the U.S. population's per capita dose of radiation received from diagnostic imaging increased by 600 percent from 1980 to 2006 (Mettler et al. 2008). Much of this increase was driven by rapid growth of CT and nuclear medicine studies. Although an individual's risk of developing cancer from a single test is small, these risks are being applied to a growing number of patients. Between 1.5 percent and 2 percent of cancers in the U.S. may be attributable to radiation from CT studies (Brenner and Hall 2007).

In the following sections, we examine volume growth of imaging services, explain why prices for certain services appear to be inaccurate, and recommend that CMS use a normative standard to estimate the per service cost of expensive imaging machines.

Volume of imaging services has grown rapidly in recent years

While the volume of all physician services grew by 23.4 percent per beneficiary between 2002 and 2007, the volume of imaging services paid under the physician fee schedule grew by 44.4 percent per beneficiary (Figure 2B-4, p. 100). Although the growth of imaging services slowed to 3.8 percent between 2006 and 2007, it remained higher than growth in total physician services (2.9 percent) (Table 2B-5 p. 99). From 2002 to 2007, the cumulative volume of certain advanced imaging services per beneficiary rose even faster than the average across all imaging tests: CT studies (excluding head scans)

increased by 78.8 percent and MRI studies (excluding brain scans) grew by 70.1 percent. More than one-third of imaging spending in 2006 was for CT and MRI studies, which reflects both rapid growth and higher payment rates for those services (MedPAC 2008a). Positron emission tomography (PET) procedures have also experienced strong growth: Between 2006 and 2007, the number of PET scans performed in physician offices and freestanding centers increased by 14 percent.²⁴ At least some of this growth was probably driven by Medicare's coverage expansions for PET over the last several years (CMS 2005a, CMS 2003).

Estimating the cost of expensive imaging equipment

Medicare pays providers separately for performing an imaging study (the technical component (TC)) and for interpreting the results and writing a report (the professional component) (see the text box for more information on how the physician fee schedule pays for imaging services). The cost of medical equipment is a significant portion of the PE RVU for the TC of expensive imaging studies, such as MRI and CT scans. For example, the equipment accounts for nearly 90 percent of the total direct cost of the TC of MRI of the brain, with and without contrast (Current Procedural Terminology (CPT) code 70553). By comparison, equipment costs account for only about half of total direct costs of the TC of a chest X-ray (CPT code 71020).

CMS's estimates of how long it takes to perform expensive imaging services may merit review

CMS bases its estimate of the number of minutes imaging equipment is used for a service on the amount of time it takes a radiology technician to perform the study.²⁵ These time estimates were recommended by a practice expense committee established by the American Medical Association/Specialty Society Relative Value Scale Update Committee (RUC).²⁶ This committee developed the time estimates for most MRI and computed tomography (CT) services in 2002 or 2003. Recent advances in CT technology—such as the development of 64-channel CT scanners—have made it possible to scan patients faster (Hamon et al. 2007, Mitka 2006).²⁷ Similarly, the introduction of more powerful 3 Tesla MRI machines has reportedly reduced imaging time and increased patient throughput (Clarke and Rahal 2004, Hinesly 2006).²⁸ Even providers who are using older imaging machines could be performing more

studies in less time as they become more familiar with the procedures and equipment.³⁰ The time estimates used by CMS for MRI and CT studies may not reflect reductions in scanning time, which could result in CMS overstating equipment and clinical staff costs. CMS could request that the RUC review the time estimates for these services to ensure that they are accurate.

CMS announced in 2008 that it had sent a list of about 100 codes that experienced rapid volume growth to the RUC for review (CMS 2008c). This list included 13 CT codes and 1 MRI code, of a total of about 130 CT and MRI codes in the fee schedule.³¹ The time estimates for other CT and MRI codes might also merit review to ensure their accuracy. In addition, the Commission previously suggested that CMS regularly review and update the purchase prices of expensive equipment and supplies (MedPAC 2006b). ■

To calculate the per service cost of medical equipment, CMS multiplies the number of minutes the equipment is used for that service by its cost per minute (see the text box for a discussion of how CMS estimates the number of minutes it takes to perform imaging services). To derive a machine's cost per minute, CMS uses a formula to spread the machine's purchase price over the number of minutes it is projected to be used during its useful life, taking into account the cost of capital, maintenance costs, and other factors (CMS 1997, MedPAC 2006b). To calculate the amount of time equipment is expected to be used per year, CMS multiplies the number of hours that providers are open for business by the percent of time the equipment is operated. CMS assumes that all providers are open 50 hours per week, on average, and that all medical equipment (including imaging equipment) is operated 50 percent of the time that practices are open, or 25 hours per week.²⁹ In this chapter, we refer to the assumption of 25 hours per week as the "equipment use factor."

When CMS implemented resource-based PE RVUs in 1999, it used an equipment use factor of 25 hours per week because the agency was unable to obtain valid information on how frequently various equipment was used across procedures (CMS 1997). Thus, the equipment use factor is

not based on empirical evidence. However, if machines are used more frequently, their fixed costs are spread across more units of service, resulting in a lower cost per service. In this instance, such equipment would be overvalued by CMS. Conversely, the cost of a machine used less than 25 hours per week is spread across fewer units of service, resulting in a higher cost per service. Such equipment would be undervalued. The estimated cost of equipment is very sensitive to changes in the equipment use factor. For example, increasing the use factor from 25 hours per week to 45 hours per week would reduce the estimated cost per minute of equipment by 44 percent.

Problems with Medicare's equipment use factor for expensive imaging machines

CMS's decision to set the equipment use factor at 25 hours per week instead of a higher level has led to higher PE RVUs for imaging services. Higher payment rates encourage providers with low expected volume to purchase expensive imaging machines because they can cover the fixed cost of the machines even if they are operated at less than full capacity. The Commission is concerned about the diffusion of costly imaging machines because more machines are associated with higher

**TABLE
2B-6****NORC's survey indicates that imaging providers are using CT and MRI machines more than CMS assumes**

Type of provider	Hours used per week		
	NORC survey		CMS's current assumption
	Mean	Median	
CT providers	42	40	25
MRI providers	52	46	25

Note: CT (computed tomography). The survey's sample included 133 physician offices and freestanding imaging centers in Boston, MA; Miami, FL; Greenville, SC; Minneapolis, MN; Phoenix, AZ; and Orange County, CA.

Source: NORC 2006, CMS 1997.

overall volume. In a recent article, Baker and colleagues estimated that each additional MRI scanner in a market is associated with 733 additional MRI studies among Medicare beneficiaries, and each additional CT machine is associated with 2,224 additional CT scans (Baker et al. 2008). The article also estimates that the number of MRI scanners in the U.S. more than doubled between 1995 and 2004 and the number of CT scanners increased by more than 50 percent.

A survey developed by the AMA and the specialty societies (the Physician Practice Information Survey) is asking practices how frequently they use certain high-cost equipment, including MRI and CT machines (Richardson et al. 2007). The goal of these questions is to collect data that could be used to update Medicare's equipment use factor. This survey is still in the field, and we do not know if there will be a sufficient number of responses to these questions or if the responses will be representative.

In 2006, the Commission sponsored a survey by NORC of imaging providers in six markets, which found that MRI and CT machines are used much more than the 25 hours per week that CMS assumes (Table 2B-6). According to data from this survey, MRI scanners are used 52 hours per week, on average (median of 46 hours), and CT machines are operated 42 hours per week, on average (median of 40 hours) (NORC 2006).³² Although the survey results are not nationally representative, they are representative of imaging providers in the six markets included in the survey. We also analyzed data from a 2007 survey of CT providers by IMV, a market research firm (IMV Medical Information Division 2008). IMV data are widely used in the industry and have also appeared in published studies

(Baker et al. 2008, Baker and Atlas 2004). Using IMV's data on 803 nonhospital CT providers (imaging centers, clinics, and physician offices), we calculated that the average provider uses its CT scanner 50 hours per week, which is twice the number CMS assumes.³³ The IMV survey also found that nonhospital providers increased the average number of procedures per CT machine by 31 percent from 2003 to 2007, which indicates that providers either used their machines more hours per day or performed more scans per hour (IMV Medical Information Division 2008).³⁴

Revising the equipment use factor

CMS acknowledges that its current equipment use factor—which was not based on empirical data—is not accurate for all types of equipment but says that it lacks sufficient evidence to justify an alternative rate (CMS 2006). The RUC has recommended that CMS consider adopting a higher use factor for all equipment, while offering specialty societies an opportunity to provide data supporting a lower factor for specific equipment (Rich 2007).

The Commission's preferred approach is for Medicare to set a normative standard for expensive imaging equipment that is based on a level of use that Medicare wants to encourage. In other words, Medicare should adopt a standard that would discourage providers from purchasing

**TABLE
2B-7****CMS's estimated purchase prices for selected diagnostic imaging equipment, 2008**

Type of equipment	Purchase price
PET-CT room	\$2,136,000
MR room	1,605,000
PET room	1,329,000
CT room	1,284,000
Gamma camera system, single-dual head	565,000
Vascular ultrasound room	466,000
General ultrasound room	370,000
Fluoroscopy table	282,000
Echocardiography	248,000
Basic radiology room	128,000

Note: PET (positron emission tomography), CT (computed tomography), MR (magnetic resonance). An imaging room includes the cost of the imaging machine, power injector, and monitoring system (CMS 2005b). A gamma camera system is used for nuclear medicine procedures. Prices have been rounded to the nearest thousand.

Source: CMS, direct practice expense input file for 2008.

expensive machines unless they could use them at full capacity. Because imaging machines will likely have some down time due to maintenance or patient cancellations, a use factor of 45 hours per week is a reasonable normative standard. The 2006 NORC survey found that several imaging providers operate their CT and MRI machines more than 45 hours per week, demonstrating that this level of use is achievable (MedPAC 2006b). On the basis of CMS’s assumption that practices are open 50 hours per week, an equipment use factor of 45 hours would imply that equipment is used 90 percent of the time that providers are open.

If Medicare were to adopt a standard of 45 hours per week for costly imaging machines, an important question would be how to define “costly.” As Table 2B-7 shows, diagnostic imaging equipment has a wide range of estimated purchase prices. CMS assumes that several types of machines cost at least \$1 million: PET-CT, MRI, PET, and CT. Other commonly used equipment costs between \$100,000 and \$1 million, such as a gamma camera system (used for nuclear medicine procedures) and general ultrasound. The Commission believes that CMS should adopt a standard of 45 hours per week for all diagnostic imaging machines that cost at least \$1 million and that the agency should explore applying this standard to imaging equipment that costs less. We recognize that this change would require a change in statute because the Balanced Budget Act of 1997 requires CMS to use “actual data” on equipment use to calculate PE RVUs (Public Law 105–33, Section 4505).

Impact of increasing the equipment use factor for expensive imaging machines

A normative standard of 45 hours per week for the use of expensive imaging equipment would reduce PE RVUs for services that use such equipment, thereby discouraging low-volume providers from purchasing these machines.

In addition, increasing the equipment use factor would increase PE payments for other physician services. The additional RVUs for other physician services would come from:

- lower PE RVUs for expensive imaging services (i.e., a redistribution of money within the physician fee schedule), and
- money that would have been returned to the Part B trust fund under the outpatient cap policy of the Deficit Reduction Act of 2005 (DRA).

TABLE 2B-8

Increasing the equipment use factor for imaging from 25 hours to 45 hours per week would redistribute practice expense RVUs from imaging to other physician services

Type of service	Increase use factor for:	
	MRI and CT machines	MRI, CT, and gamma camera systems
Evaluation and management	1.1%	1.5%
Imaging	-7.9*	-9.7*
Major procedures	1.0	1.4
Other procedures	2.6	3.0
Tests	3.8	4.6

Note: RVU (relative value unit), CT (computed tomography). This model assumes that reduced RVUs for imaging services would be redistributed to other services and does not account for the effect of the outpatient cap on imaging payments adopted by the Deficit Reduction Act of 2005. The baseline in the model uses the practice expense RVUs that fully reflect the changes that CMS made to the practice expense method for 2007 (CMS is phasing in these changes between 2007 and 2010).
* The impact on imaging payments would be significantly smaller than shown here because of the interaction with the outpatient cap policy.

Source: NORC 2008.

The size of the redistribution from imaging to other physician services would depend on the types of imaging equipment to which a higher equipment use factor would apply. For illustrative purposes, we contracted with NORC to model the impact on PE RVUs of increasing the equipment use factor from 25 hours to 45 hours per week for different kinds of machines.³⁵ This model assumes that reduced RVUs for imaging services would be redistributed to other physician services.³⁶ It does not account for the effect of a provision of the DRA, which capped physician fee schedule rates for the TC of imaging services at the level of hospital outpatient PPS rates. This provision reduces the fee schedule amounts for many imaging services—particularly advanced imaging such as CT and MRI studies—and returns the savings to the Medicare Part B trust fund (i.e., it is not budget neutral).³⁷

Without considering the effects of the DRA’s outpatient cap, increasing the equipment use factor to 45 hours per week for MRI and CT scanners would reduce PE RVUs for imaging services by 7.9 percent, on average (Table 2B-8). Because of the outpatient cap, the actual reductions to imaging payments that would result from a higher equipment use rate would be significantly smaller. As a result of lower PE RVUs for imaging, PE RVUs for tests,

other procedures, E&M services, and major procedures would increase. Based on 2005 volume and the 2008 conversion factor, almost \$900 million per year would be redistributed from imaging to other services.

Hospitals offer access to MRI and CT services in most rural areas

Policymakers may be concerned about the impact of reducing payment rates for expensive imaging services on access to care, particularly in rural areas. However, it is important to note that the change recommended in this section would apply to physician fee schedule rates but not hospital outpatient rates. Most rural hospitals offer access to MRI and CT services. According to our analysis of data from the American Hospital Association's 2006 AHA annual survey of hospitals, 95 percent of rural hospitals provide CT services in their community (either directly or through an affiliated provider) and 79 percent of rural hospitals provide MRI services in their community (AHA 2007). Therefore, if rural areas do not have physician offices or freestanding centers with MRI and CT machines, most of these communities have access to such services through a hospital.

RECOMMENDATION 2B-3

The Congress should direct the Secretary to increase the equipment use standard for expensive imaging machines from 25 hours to 45 hours per week. This change should redistribute relative value units from expensive imaging to other physician services.

RATIONALE 2B-3

The Commission is concerned that the rapid volume growth of costly imaging services in recent years may signal that they are mispriced. Medicare currently assumes that costly imaging machines, such as MRI and CT scanners, are used 25 hours per week (50 percent of the time that providers are assumed to be open for business). Setting the equipment use factor at 25 hours per week—rather than at a higher level—has led to higher PE RVUs for these services. Higher payment rates encourage providers with low expected volume to purchase expensive imaging machines. Once providers purchase machines, they have an incentive to use them as frequently as possible. Indeed, there is evidence that MRI and CT machines are used much more frequently than Medicare assumes. Medicare should adopt a normative standard in which providers are assumed to use expensive imaging machines at close to full capacity (45 hours per week, or 90 percent of the time that providers are assumed to be open). Such a normative standard—which would

require a change in statute—would discourage providers from purchasing expensive imaging equipment unless they had sufficient volume to justify the purchase. The Secretary should start by adopting a standard of 45 hours per week for all diagnostic imaging machines that cost at least \$1 million and should explore applying this standard to imaging equipment that costs less.

IMPLICATIONS 2B-1 AND 2B-3

Spending

- Our estimates indicate that these recommendations would increase federal program spending by more than \$2 billion in the first year and by more than \$10 billion over five years, relative to current law. Enactment of any positive update for 2010 would increase spending relative to current law, because current law calls for substantial negative updates from 2010 through at least 2016 under the current SGR system.

Beneficiary and provider

- These recommendations would not affect providers' willingness or ability to serve Medicare beneficiaries.
- Relative to current law, these recommendations would increase beneficiary liabilities—namely, the monthly Part B premium and per service coinsurance amounts.
- Under Recommendation 2B-3, PE payments would be redistributed from expensive imaging services to other physician services.

Future work on imaging services

The Commission recognizes that Medicare's payment policy is not the only factor that could be driving inappropriate use of imaging services. Other factors could include:

- lack of familiarity with or adherence to clinical guidelines for the appropriate use of imaging services by some physicians,
- incentives in the FFS payment system to generate more volume, and
- financial incentives for physicians who own imaging equipment to order additional tests.

We plan to explore these areas in future work. For example, we may examine policy options to encourage the use of imaging that is consistent with clinical guidelines developed by specialty societies. We may also explore expanding the unit of payment to cover multiple discrete services, which could promote greater efficiency.

Analysis of payment adequacy for ambulatory surgical centers

Having an ownership stake in an ambulatory surgical center (ASC) is a source of revenue for many physicians, as 91 percent of ASCs have at least one physician owner (ASC Association 2008). For this reason, we discuss Medicare's payment adequacy for ASCs in the chapter on payment adequacy for physician services.

An ASC is a distinct entity that exclusively furnishes outpatient surgical services to patients not requiring hospitalization and for which the expected duration of services would not exceed 24 hours after admission. Almost all ASCs are freestanding facilities. In addition to ASCs, beneficiaries can receive surgical services in inpatient and outpatient hospital settings and sometimes in physician offices.

Since 1982, Medicare has made payments for surgical procedures provided in ASCs. When performing surgical procedures in ASCs, physicians receive separate payments for their professional services under the Medicare physician fee schedule.

To receive payments from Medicare, ASCs must meet Medicare's conditions of coverage for ASCs, which specify minimum standards for: administration of anesthesia, quality evaluation, operating and recovery rooms, medical staff, nursing services, and other areas.

Medicare uses a fee schedule to pay for a bundle of facility services provided by ASCs, such as nursing, recovery care, anesthetics, and supplies. This payment system has undergone substantial changes in recent years (see text box, pp. 112–115). The most significant changes occurred in 2008, which saw a substantial increase in the number of surgical procedures covered under the ASC payment system, allowance of certain ancillary services to be paid separately, and large changes in payment rates for many procedures. To help ASCs adjust to the changes in payment rates, CMS is phasing in the new payment rates over four years.

In general, under the revised payment system ASCs receive payment for surgical procedures defined by billing codes in the range 10000 through 69999. However, in the interest of safety CMS does not pay for services it deems as posing significant risk to the patient if provided in an ASC or if the surgical procedure is expected to require an overnight stay.

About 3,400 surgical procedures are covered under the ASC payment system. For most covered surgical procedures, CMS uses the procedure's relative weight from the hospital outpatient PPS as the basis for the payment rate, reflecting a previous Commission recommendation (MedPAC 2004). For most covered surgical procedures, the payment rate is the product of its relative weight and a conversion factor set at \$41.39 in 2009. An important exception is procedures that are performed predominantly in physician offices and that were first covered under the ASC payment system in 2008. Payment for these "office-based" procedures is the lesser of the amount derived from the outpatient PPS relative weights or the nonfacility practice expense amount indicated on the physician fee schedule. CMS set this limit on the rate for office-based procedures to prevent migration of these services from physician offices to ASCs for financial reasons. Most procedures (90 percent) have their payment rates based on the outpatient PPS relative weights.

Also, the ASC payment system now generally reflects the hospital outpatient PPS in terms of which ancillary services are paid separately and which are packaged with the associated surgical procedure. Specifically, starting in 2008 ASCs receive separate payment for these ancillary services:

- radiology services that are integral to a covered surgical procedure if separate payment is made for the radiology service in the outpatient PPS,
- brachytherapy sources implanted during a surgical procedure,
- all pass-through and non-pass-through drugs that are paid separately under the outpatient PPS when provided as part of a covered surgical procedure, and
- devices with pass-through status under the outpatient PPS.

In the following sections, we consider the adequacy of payments for ASCs, focusing our analysis on ASCs' revenue from Medicare, beneficiaries' access to care, ASCs' access to capital, and the effects the changes to the ASC payment system that began in 2008 have had on ASC payment rates. As we cover these topics, we caution that the effect of Medicare payments on the financial health of ASCs is limited because Medicare spending accounts for about 20 percent of ASCs' overall revenue (Deutsche Bank 2008a, MGMA 2006).³⁸

Recent changes to the ASC payment system

In 2008, CMS made substantial changes to the payment system it uses to reimburse ambulatory surgical centers (ASCs). In this text box, we discuss the details of the ASC payment system before and after the changes made in 2008.

ASC payment system before 2008

Before 2008, the payment system for ASCs assigned procedures into one of nine payment categories on the basis of how much CMS estimated it would cost ASCs to furnish the procedure. Before 2007, all services in the same category had the same payment rate. In 2007, CMS satisfied a requirement in the Deficit Reduction Act of 2005 by setting payment rates for each procedure to the lesser of the standard ASC rate for the procedure's payment category or the standard payment rate for the procedure under the outpatient prospective payment system (PPS). Only 275 of the 2,571 procedures covered under the ASC payment system and 7 percent of the service volume in 2007 were subject to this cap.

Although the payment rates for each service are uniform across all ASCs, CMS adjusts the actual payments ASCs receive from Medicare for geographic differences in labor costs. Before 2008, CMS used hospital wage indexes from the inpatient PPS to adjust 34.45 percent of each service's payment rate for geographic variations in labor costs. The remaining 65.55 percent of the payment rate was not adjusted.

Most of the ASC payment categories before 2008 included at least 100 procedures, which were often clinically unrelated. The use of such broad groups made it likely that payment rates for many procedures did not accurately match the cost of furnishing them. Consequently, it is likely that many procedures were underpaid or overpaid. These payment inaccuracies may have manifested themselves in ASC service volume that historically has been concentrated in a relatively small number of procedure codes. In 2007, for example, 20 procedure codes accounted for 74 percent of total ASC service volume for Medicare beneficiaries. The Commission has sought to alleviate the overpayments and underpayments and in 2004

recommended that the ASC payment system be aligned with the outpatient PPS (MedPAC 2004).

Before 2008, services eligible for payment under the Medicare ASC payment system had to meet the following criteria:

- They must be a surgical procedure.
- They must meet two site-of-service volume standards:
 - They must be commonly performed in hospital inpatient settings but could also be safely performed in outpatient facilities.
 - They could not be commonly performed in physician offices because procedures provided in physician offices were assumed not to require the more elaborate facilities of an ASC.
- They must not exceed 90 minutes of surgical time or 4 hours of recovery time; anesthesia for the procedure could not last longer than 90 minutes.
- They could not result in one or more of the following:
 - excessive blood loss,
 - major or prolonged invasion of body cavities,
 - generally emergent or life-threatening nature.

Changes made to the ASC payment system in 2008

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) required the Secretary to implement a revised payment system for services furnished in ASCs. This revised payment system had to be in use not before January 1, 2006, and not later than January 1, 2008. CMS satisfied this legal requirement by launching a revised payment system on January 1, 2008.

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Recent changes to the ASC payment system (cont.)

The MMA also directed the Government Accountability Office (GAO) to conduct a study comparing the relative costs of procedures performed in ASCs with the relative costs of procedures performed in hospital outpatient departments (HOPDs). Findings from this study include (GAO 2006):

- The relative costs of services hospitals furnish under the system CMS uses to reimburse hospitals for most outpatient services—the outpatient PPS—accurately reflect the relative costs of procedures performed in ASCs. For example, if a service costs twice as much as another service in an HOPD, the more costly service will also cost about twice as much as the cheaper service in an ASC.
- The cost of performing a procedure in an ASC is lower than the cost of providing the same procedure in an HOPD.
- Among ASCs, the share of total operating costs attributable to labor costs has a mean of 50 percent.

In this study, GAO analyzed costs from 290 ASCs. For each procedure covered under the ASC payment system, GAO estimated the cost for each time an ASC provided the procedure. GAO determined the median cost for each procedure. In addition, GAO obtained from CMS the median HOPD cost from each of the ambulatory payment classification (APC) groups in the outpatient PPS, which are the payment groups CMS uses to classify HOPD services on the basis of clinical and cost similarity.

GAO determined the ratio of the median cost of each ASC service to the median cost of the APC to which it would be classified. GAO found that the median of these ratios is 0.84, which indicates that ASC costs are, in general, lower than HOPD costs. We caution that this estimate of the ratio of ASC costs to HOPD costs is not precise. A precise estimate can be obtained only by comparing all the costs ASCs incur in furnishing their services to all the costs HOPDs incur in furnishing the same services.

Reflecting in part the results of GAO's study, the revised payment system that CMS began using on January 1, 2008, included a number of substantive changes:

- The services eligible for separate payment under the ASC payment system increased substantially in number and in scope.
- The relative payment amounts for most services are based on the relative payment amounts in the outpatient PPS. However, in some instances the payment amounts are limited by the payment amounts from the Medicare physician fee schedule.
- The share of a service's payment rate adjusted for geographic variation in labor costs increased from 34.45 percent to 50 percent.

Substantial increase in the number of services eligible for payment under the revised ASC payment system

CMS increased the number of services eligible for separate payment under the revised ASC payment system through two mechanisms. First, CMS revised the criteria a surgical procedure must meet to be eligible for payment under the ASC payment system, which added more than 800 procedure codes to the list of covered services. This revision reflects a previous Commission recommendation (MedPAC 2004). Second, CMS expanded the types of service for which an ASC can receive separate payment to include radiology services, brachytherapy sources, some drugs, and some implantable devices. Previously, these items had either been packaged into the payment for surgical procedures or paid under a different Medicare fee schedule.

In general, CMS has decided that any surgical procedure represented by a Current Procedural Terminology code in the range 10000 through 69999 can be eligible for payment under the ASC payment system. This list includes procedures predominantly performed in physician offices (office-based procedures), which had been excluded under the old

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Recent changes to the ASC payment system (cont.)

ASC payment system. However, in the interest of patient safety, CMS excludes surgical procedures that have one or more of the following characteristics:

- generally result in extensive blood loss,
- require major or prolonged invasion of body cavities,
- directly involve major blood vessels,
- are emergent or life-threatening in nature,
- commonly require systemic or thrombolytic therapy,
- are designated as requiring inpatient care,
- involve the patient generally requiring active medical monitoring and an overnight stay.

In addition to the surgical procedures, CMS used the outpatient PPS as a guide and chose to pay separately for these services:

- radiology services when they are integral to a covered surgical procedure,
- brachytherapy sources implanted during a surgical procedure covered under the ASC system,
- all drugs that are paid separately under the outpatient PPS when provided in association with a surgical procedure covered under the ASC system, and
- devices with pass-through status in the outpatient PPS that are implanted during a surgical procedure covered under the ASC system.

Relative payment amounts largely based on outpatient PPS

The method CMS uses to set payment rates for surgical procedures is based largely on the outpatient PPS. Each surgical procedure has a relative weight that indicates the relative costliness of furnishing the procedure. The relative weight for most surgical procedures is based on its relative weight from the outpatient PPS, with

two exceptions: office-based procedures and device-intensive procedures—procedures in which the cost of an implantable device is at least 50 percent of the outpatient PPS cost of the entire procedure. For office-based procedures, CMS bases the relative weight on the lesser of the outpatient PPS relative weight or the nonfacility practice expense relative value units from the Medicare physician fee schedule.

For a device-intensive procedure, CMS divides the procedure's payment rate from the outpatient PPS into two parts—the service portion and the device portion. The device portion is set equal to the device cost included in the outpatient PPS payment rate. The service portion is the nondevice amount of the remaining outpatient PPS payment rate. The service portion is adjusted by a ratio of the ASC conversion factor and the outpatient PPS conversion factor. The two portions are summed and a relative weight is determined by dividing that sum by the ASC conversion factor. CMS distinguishes between the service portion and the device portion because the agency believes that the cost of providing a service is lower in an ASC than in an HOPD, but the cost of obtaining a device is about the same for an ASC as it is for an HOPD.

CMS creates a payment rate for each ASC procedure as a product of its relative weight and a conversion factor. Each year, CMS sets the conversion factor so that total program payments under the revised payment system equal total program payments for 2007. For 2009, the conversion factor is \$41.39. In addition, relative weights in the outpatient PPS usually change each year by a small amount, and CMS adjusts them so that projected program spending does not change. However, the mix of services in ASCs differs from that in the outpatient PPS. Therefore, using the actual relative weights from the outpatient PPS can cause ASC spending to be above or below the 2007 level. To maintain spending at 2007 levels, CMS adjusts each relative weight by the same factor. The adjustment factor in 2009 is 0.975.

This method for setting payment rates is a significant change from the method CMS used before 2008. It

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Recent changes to the ASC payment system (cont.)

has resulted in very large changes in payment rates for some procedures. From 2007 to 2008, payment rates decreased by 84 percent for some procedures and increased by 606 percent for others. To allow ASCs time to adjust to these new payment rates, CMS is phasing in the new rates over four years, and the revised system will be fully phased in by 2011.

CMS uses a number of methods to set payments for the nonsurgical services that have separate payments under the revised ASC payment system:

- Payment rates for radiology services are equal to the lesser of the amount calculated according to the standard method for the revised payment system or the nonfacility practice expense amount from the physician fee schedule.
- Payment rates for brachytherapy sources are set equal to the payment rates from the outpatient PPS or to contractor prices if there are no outpatient PPS rates available.

- Payment rates for separately paid drugs are equal to the payment rates from the outpatient PPS.
- Payment rates for implantable devices that are separately paid (pass-through devices) are paid equal to contractor-priced rates.

CMS increased the proportion of each payment rate that is adjusted for geographic differences in labor costs

On the basis of results from the GAO study, CMS increased the proportion of each payment rate that is adjusted for geographic variation in labor costs from 34.45 percent to 50 percent. This adjustment applies to all surgical procedures and radiology services. But it excludes brachytherapy sources, separately paid drugs, and implantable devices because they are commodities whose costs are largely invariant to geography. ■

Are ASC payments adequate?

The Commission uses cost data to analyze the adequacy of Medicare payments in many areas such as hospitals and skilled nursing facilities, but we lack recent data on the cost of ASC services. In the absence of ASC cost data, we used three factors to assess the adequacy of payments: changes in industry revenue from the Medicare program, changes in beneficiaries' access to care—measured by changes in the supply of facilities and changes in the volume of services—and an assessment of ASCs' access to capital.

We use data from 2002 through 2007 to evaluate payment adequacy. Our results show strong growth in Medicare payments to ASCs, access to care, and ASCs' access to capital, suggesting that payment rates were at least adequate through 2007.

However, ASC payment rates have not had a positive update since 2003, and current law does not allow a positive update until 2010. In addition, Medicare made substantial changes in 2008 to the ASC payment system.

These changes affect how Medicare sets payment rates for ASC procedures and substantially expanded the number of procedures covered under the ASC payment system. The lack of a positive update since 2003 and changes to the payment system in 2008 have the potential to affect the future financial circumstances of ASCs. Also, the substantial changes in 2008 caused some uncertainty about whether our measures of payment adequacy indicate whether payments are adequate under the current system.

In this section, we present the results of our analysis of the adequacy of ASC payment rates and recent changes to the ASC payment system

Medicare spending on ASC services

In 2007, ASCs received about \$2.9 billion in payments from Medicare and beneficiary cost sharing (Table 2B-9, p. 116). Spending per beneficiary increased by an average of 8.4 percent per year from 2002 through 2007. The spending increase in 2007 slowed to 2.9 percent because of a provision in the DRA. For each procedure, the 2007 payment rate was set at the lesser of its 2006 ASC rate or

**TABLE
2B-9****Medicare payments and number of facilities have grown
for Medicare-certified ASCs, 2002-2007**

	2002	2003	2004	2005	2006	2007
Medicare payments (billions of dollars)	\$1.9	\$2.2	\$2.5	\$2.7	\$2.8	\$2.9
Number of centers	3,597	3,887	4,136	4,506	4,707	4,964
New centers	309	365	315	467	261	267
Exiting centers	83	75	66	97	60	10
Net percent growth in number of centers from previous year	6.7%	8.1%	6.4%	8.9%	4.5%	5.5%

Note: ASC (ambulatory surgical center). Medicare payments include program spending and beneficiary cost sharing for ASC facility services.

Source: MedPAC analysis of Provider of Services files from CMS, 2000-2007. Payment data are from CMS, Office of the Actuary.

the 2007 payment rate for the procedure in the outpatient PPS. We estimate that the DRA provision reduced the growth in Medicare spending for ASCs in 2007 from 5.1 percent per beneficiary to 2.9 percent. CMS projects Medicare spending to grow at a strong rate under the revised payment system the agency implemented in 2008, increasing by 20 percent to \$3.5 billion in 2008 and by an additional 11 percent to \$3.9 billion in 2009 (CMS 2008a). The projected strong growth in 2008 and 2009 is due in part to a substantial increase in the number of surgical procedures covered under the ASC payment system.

Beneficiaries' access to care

Data analysis strongly suggests that beneficiaries' access to ASC services has been increasing. The number of Medicare-certified facilities and volume of services provided to Medicare beneficiaries suggest growing access to ASCs. This growth may be beneficial to patients and providers because provision of care in ASCs instead of HOPDs can offer them convenience and efficiency. For patients, ASCs offer more convenient locations, shorter waiting times, and easier scheduling; for physicians, they offer more control over their work environment by developing customized surgical environments and hiring specialized staff. In addition, beneficiaries generally face lower coinsurance in ASCs than in HOPDs. Therefore, as long as this growth in ASCs does not represent some degree of overprovision of surgical services in ASCs, the Commission recognizes the benefits they offer.

Change in supply of ASCs The number of Medicare-certified ASCs has increased substantially over the last several years. In 2007, there were 4,964 ASCs. From 2002 through 2007, an average of 331 new Medicare-certified

facilities entered the market per year, while an average of 65 closed or merged with other facilities (Table 2B-9). The number of Medicare-certified ASCs grew from 2002 through 2007 at an annual rate of 6.7 percent, although the increase was slightly slower from 2006 to 2007, 5.5 percent. Our estimates indicate that the number of Medicare-certified ASCs increased by 3.3 percent to 5,130 facilities in the third quarter of 2008, which translates to an annual growth rate of 4.4 percent.

Despite this strong aggregate growth, ASCs tend to be concentrated in specific states. As of 2007, more than 39 percent of ASCs were concentrated in five states that accounted for 28 percent of beneficiaries—California, Florida, Maryland, Texas, and Georgia. In contrast, Arkansas and Rhode Island had fewer than 10 ASCs and Vermont had none.³⁹ Beneficiaries who do not have access to an ASC may receive ambulatory surgical services in HOPDs and, in some cases, in physician offices.

Rapid growth in the number of Medicare-certified ASCs may indicate that Medicare's payment rates have been at least adequate, despite the fact that there has not been a positive update to ASC payment rates since 2003. However, Medicare payments, according to recent industry surveys, account for about 20 percent of all ASC revenue (Deutsche Bank 2008a, MGMA 2006). In addition, other factors have likely influenced the rapid growth in the number of Medicare-certified ASCs:

- Changes in clinical practice and health care technology have expanded the provision of surgical procedures in ambulatory settings.
- Medicare began covering colonoscopy for colorectal cancer screening in 1998.

**TABLE
2B-10**

Most Medicare-certified ASCs are urban and for profit

ASC type	2002	2007
Urban	87%	88%
Rural	13	12
For profit	95	96
Nonprofit	5	4

Note: ASC (ambulatory surgical center).

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

- ASCs may offer patients more convenient locations, the ability to schedule surgery more quickly, and shorter waiting times than HOPDs.
- For most procedures covered under the ASC payment system, beneficiaries' coinsurance is lower in ASCs than in HOPDs.⁴⁰
- Physicians may find it more convenient and efficient to perform procedures in ASCs because they often have customized surgical environments and specialized staffing.
- Physicians who invest in ASCs can increase their practice revenue by receiving ASC facility payments. The federal anti-self-referral law (also known as the Stark Law) does not apply to surgical services provided in ASCs, making it possible for physicians to own and provide care in these facilities.
- Because physicians can perform more procedures in ASCs than in HOPDs over the same period of time, they can earn more professional fees.

The lack of a positive update to ASC payment rates since 2003 has had no effect on whether ASCs locate in urban or rural areas and whether they are for profit or nonprofit. Most Medicare-certified ASCs are for profit and are located in urban areas (Table 2B-10).

Changes in the volume of services The volume of services per FFS beneficiary in Medicare-certified ASCs has grown rapidly in recent years. From 2002 to 2007, the number of services per FFS beneficiary increased by 59 percent (9.8 percent per year). This increase was largely driven by growth in the number of beneficiaries served, which increased by 7.5 percent per year from 2002 to 2007 (Table 2B-11). This growth occurred even though there were no increases in ASC payment rates from 2004 through 2006 and there were actual decreases from 2006 to 2007 in the rates for some services as CMS implemented the DRA policy that set ASC payment rates to the lesser of their 2006 levels or the amount that would be paid under the outpatient PPS.

The growth in service volume provided in ASCs may reflect, in part, migration of services from HOPDs to ASCs. To evaluate this hypothesis, we compared growth in volume of services in ASCs with the growth of ASC-covered services provided in HOPDs. We found that growth in service volume for surgeries has been much higher in ASCs. The number of surgical services per FFS beneficiary provided in HOPDs grew at an annual rate of 1.3 percent from 2002 to 2007, while these services increased by 9.8 percent per year in ASCs (Table 2B-11). However, the number of all services (not just surgical services) per beneficiary in HOPDs has grown at a high rate of 3.5 percent per year from 2002 through 2007.

While the more rapid growth of ambulatory surgical services in ASCs compared with HOPDs indicates some

**TABLE
2B-11**

Volume of surgical services grew faster in ASCs than in HOPDs, 2002-2007

Average annual percent change, 2002-2007

Measure	ASCs	HOPD surgical services	HOPD all services
Number of services per FFS beneficiary	9.8%	1.3%	3.5%
Number of beneficiaries served	7.5	-0.5	-0.1
Services per beneficiary served	2.5	2.2	4.1

Note: ASC (ambulatory surgical center), HOPD (hospital outpatient department), FFS (fee-for-service). To ensure comparability, we analyzed the volume of the same set of ambulatory surgical services in each setting by selecting only those services that are payable by Medicare when provided in an ASC.

Source: MedPAC analysis of 5 percent standard analytic claims files for ASCs.

migration of these services from HOPDs to ASCs, other factors can contribute to this difference. In addition to migrating to ASCs, HOPD services may be migrating to physician offices; also, physicians who own ASCs may have an incentive to perform more surgical services than they would if they could provide outpatient surgical services only in HOPDs.

It is quite possible that the more rapid growth of surgical procedures in ASCs relative to HOPDs helps hold down overall Medicare spending because, starting in 2008, payment rates are lower in ASCs than in HOPDs for the same services. (In 2007, ASC rates could be below or equal to HOPD rates; before 2007, ASC rates could be above, below, or equal to HOPD rates). However, two factors must be considered before making a definitive conclusion. First, most ASCs have some degree of physician ownership. As mentioned above, having an ownership stake may give physicians an incentive to perform more surgical services than they would if they could provide outpatient surgical services only in an HOPD. To the extent physicians act on this incentive, it actually could increase Medicare spending. Second, growth in ASCs expands the overall capacity for outpatient surgery, which may lead to a higher overall volume of surgery. Although there are differences between ASCs and specialty hospitals, these effects would be similar to the Commission's analysis of physician-owned specialty hospitals, which found that entrance of cardiac hospitals into a market is associated with a greater increase in service volume than would be expected (MedPAC 2006c).

ASCs' access to capital

Owners of ASCs require capital to establish new facilities and upgrade existing facilities. Earlier, we mentioned that the number of Medicare-certified ASCs has grown at a strong rate. This strong growth is the best indicator available that access to capital has been at least adequate for ASCs (Table 2B-9, p. 116).

Data on the financial performance of ASCs is further evidence of their access to capital. From 2007 to 2008, earnings per share of stock increased by more than 10 percent for the two publicly traded ASC chains (Deutsche Bank 2008b). Moreover, the average operating margin for ASCs located in Pennsylvania steadily increased each year from 16 percent in 2002 to 25 percent in 2007 (Pennsylvania Health Care Cost Containment Council 2008). The earnings produced by these ASCs are a source of capital they can use to establish new facilities or upgrade existing ones.⁴¹ We caution, however, that the

publicly traded ASC chains represent only 6 percent of all Medicare-certified ASCs and ASCs in Pennsylvania represent only 4 percent, so their earnings growth may not be indicative of the ASC industry.

We also note that the downturn in credit markets that started in the latter part of 2008 has likely decreased ASCs' access to capital—as it has for other businesses. However, because the dramatic changes in the credit markets are unrelated to changes in Medicare payments, changes in access to capital in 2008 may not be a good indicator of Medicare payment adequacy.

Effects of changes to the ASC payment system on ASC payment rates

Throughout our period of analysis—2002 through 2009—ASC payment rates for the procedures covered under the ASC payment system have, on average, been lower than their corresponding payment rates in the outpatient PPS, which is the system that reimburses most hospitals for Medicare services furnished in HOPDs. Lower payment rates for ASCs are appropriate because, according to prior Commission analysis, ASCs likely incur lower costs than HOPDs because HOPDs must meet additional regulatory requirements and treat patients who are more medically complex (MedPAC 2004, MedPAC 2003). Unlike ASCs, hospitals are subject to the Emergency Medical Treatment and Active Labor Act, which requires outpatient departments to stabilize and transfer patients who believe they are experiencing a medical emergency, regardless of their ability to pay. In addition, patients treated in HOPDs are, on average, more medically complex than patients treated in ASCs, and these more complex patients are likely more costly (MedPAC 2003, RAND 2006). A comparison of ASC costs and HOPD costs by the Government Accountability Office confirmed that ASC costs are, on average, lower than HOPD costs (GAO 2006). However, it is not clear how much lower ASC payment rates should be relative to HOPD rates because we lack adequate cost data from ASCs to make that determination.

Before 2008, the ASC payment system assigned procedures into one of nine payment categories on the basis of how much CMS estimated it would cost ASCs to furnish the procedure. All procedures in the same payment category had the same payment rate. The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) required the Secretary to implement a revised ASC payment system. In 2008, CMS satisfied this requirement by converting the old nine-category

payment system to a system patterned after the outpatient PPS. That is, the ASC payment system now has the same payment categories as the outpatient PPS, and the relative weights for most surgical procedures are based on their relative weights in the outpatient PPS (see text box, pp. 112–115). A procedure's relative weight indicates the cost of providing the procedure relative to all other procedures. CMS creates a payment rate for each procedure as the product of its relative weight and a conversion factor. The revised payment system also increased by 32 percent the number of procedures covered by the ASC payment system. However, the payment rates for 41 percent of these new procedures are capped at the nonfacility PE amount from the physician fee schedule.

Using ASCs' service use volume for Medicare from 2007, we estimate that when CMS implemented the revised payment system in 2008, ASC payment rates on average were 63 percent of the payment rates in the outpatient PPS.⁴² As required by the MMA, CMS set the ASC rates at this level so that the revised payment system is budget neutral relative to the old system. That is, total Medicare payments to ASCs do not change as a result of the revised system.

Again using ASCs' service use volume for Medicare from 2007, we estimate that 2009 ASC payment rates as a percentage of outpatient PPS payment rates declined to 59 percent. This decline occurred for two reasons. First, the relative weights for most ASC procedures are based on their relative weights in the outpatient PPS. The relative weights in the outpatient PPS usually change each year by a small amount and are adjusted so that projected program spending does not change over time (excluding changes in input prices). However, the mix of services in ASCs is different from that in the outpatient PPS. Because of this different service mix, CMS makes a separate adjustment to the relative weights in the ASC system to maintain projected program spending at a constant level (budget neutrality). To maintain budget neutrality in 2009, CMS reduced the relative weight for each procedure by 2.5 percent.

The second reason for the decline in ASC rates relative to outpatient PPS rates from 2008 to 2009 is that there was no update to the payment rates for ASCs (by law), while the payment rates in the outpatient PPS received a positive update.

A salient issue for many ASCs is that payment rates for the highest volume procedures have declined under the revised payment system. The highest volume procedures

are a significant share of total ASC volume in Medicare. For example, 20 procedures account for 74 percent of Medicare service volume. The decline in ASC payment rates for the highest volume procedures is an especially strong concern for ASCs that focus most of their services on three specialties: ophthalmology, gastroenterology, and pain management services such as injections to treat back pain. Services in these categories are among the most frequently provided ASC procedures and ASCs providing these services often specialize in them.

In contrast to the high-volume procedures, 86 percent of all procedures covered in the ASC payment system in 2007 have higher rates under the revised system, which suggests that ASCs may be able to maintain their Medicare revenue by diversifying their procedure mix and offering more procedures that have increasing payment rates. Also, as noted earlier, the revised ASC payment system has increased ASCs' options for earning revenue by increasing the number of surgical procedures covered under the ASC payment system by 32 percent (from 2,571 in 2007 to 3,403 in 2008).

Early indications suggest that the revised payment system is not detrimental and may be beneficial to ASCs' long-term future:

- The number of ASCs continued to increase into 2008.
- A survey of ASCs conducted for a market analyst report indicates that they view the reimbursements under the revised payment system as slightly positive (Deutsche Bank 2008a).⁴³
- Market analysts indicate that the earnings per share for the two publicly traded ASC chains increased by more than 10 percent in 2008 (Deutsche Bank 2008b).

How should Medicare payments for ambulatory surgical centers change in 2010?

Our payment adequacy analysis indicates that the supply of Medicare-certified ASCs has increased, beneficiaries' use of ASCs has increased, and access to capital has been strong. However, our information for assessing payment adequacy is limited in two ways. First, unlike other facilities, ASCs do not submit cost or quality data to the Secretary. Those data are vital for a thorough evaluation of the adequacy of ASC payments. Second, our data on

ASCs' Medicare volume run through 2007, but the ASC payment system is undergoing a transition to the revised payment system beginning in 2008.

Update recommendation

The Commission's recommendation is that for 2010 the Congress should increase the conversion factor in the ASC payment system by a moderate rate of 0.6 percent. The Commission arrived at this update to balance several goals:

- keep providers under financial pressure to hold costs down,
- hold down the burden on workers and firms who pay the taxes to finance Medicare,
- maintain the sustainability of the Medicare program by holding down spending in the ASC sector,
- maintain beneficiaries' access to ASC services and providers' willingness and ability to furnish those services, and
- maintain beneficiaries' coinsurance for services provided in ASCs below the coinsurance in HOPDs.

We are concerned about the recent history of the ASC payment system. ASCs have not had a positive update to their Medicare payment rates since 2003. Moreover, they are in the midst of a long-term transition to new payment rates that CMS implemented in 2008. These new payment rates are lower for the most frequently provided procedures but higher for a large majority of all procedures covered under the ASC payment system. The extent of the changes to the payment rates and the fact that they were recently implemented bring some uncertainty about their adequacy. However, early indications suggest that the restructured payment system is not detrimental and may be beneficial to ASCs' long-term future:

- The number of ASCs has continued to increase into 2008.
- A survey of ASCs indicates that they view the reimbursements under the revised payment system as slightly positive (Deutsche Bank 2008a).
- Market analysts indicate that the earnings per share for the two publicly traded ASC chains increased by more than 10 percent in 2008.
- A large increase in the number of covered procedures creates opportunities to expand Medicare business.

The Commission also recommends that ASCs be required to submit cost and quality data to the Secretary as soon as feasible. The Commission recommended the submission of cost data in a previous report (MedPAC 2004). Also, CMS has considered requiring that ASCs submit quality data. However, CMS has decided to postpone collection of quality data to an undetermined date to allow ASCs time to adjust to the revised payment system and to allow time for CMS to identify the most appropriate quality measures (CMS 2008b).

A possible issue regarding the submission of cost data is that ASCs typically are relatively small facilities and may have limited resources for supplying cost data. However, ASCs are businesses, and businesses typically keep a record of their costs for tax filing purposes. Moreover, other small providers submit cost data to CMS, including home health agencies and hospices. Therefore, we do not believe that resource costs involved in the submission of cost data by ASCs is an insurmountable obstacle. Nevertheless, the scale of ASCs' cost reporting should be more limited than that for larger facilities such as hospitals. At the same time, the cost data should include enough information so that analysts are able to fully assess the adequacy of ASC payment rates and to develop a market basket index for ASCs that could be used to determine appropriate updates to the ASC payment rates. Possible mechanisms for collecting cost data include annual cost reports that are more streamlined than hospital cost reports and annual surveys of a random sample of ASCs.

Finally, ASCs offer advantages over HOPDs that we must keep in mind. Medicare costs per service are lower in ASCs, and beneficiaries generally have lower coinsurance in ASCs than in HOPDs for each procedure covered under the ASC payment system. Also, ASCs offer efficiencies to patients and physicians that are not available in HOPDs. For patients, ASCs offer more convenient locations, shorter waiting times, and easier scheduling; for physicians, they offer customized surgical environments and specialized staffing. It is vital that ASCs be paid adequately to ensure that beneficiaries continue to have access to this option.

RECOMMENDATION 2B-4

The Congress should increase payments for ambulatory surgical center (ASC) services in calendar year 2010 by 0.6 percent. In addition, the Congress should require ASCs to submit to the Secretary cost data and quality data that will allow for an effective evaluation of the adequacy of ASC payment rates.

A number of factors indicate that payments to ASCs have been at least adequate. The Commission has found robust growth in the number of Medicare-certified ASCs, number of operating rooms, volume of services to Medicare beneficiaries, and number of beneficiaries receiving care in ASCs. In addition, the growth in the number of ASCs indicates that they have had at least adequate access to capital. We caution, however, that we lack cost and quality data, which are necessary to fully assess payment adequacy. Moreover, the growth in these measures of payment adequacy is likely also due to other factors such as technological advances that have expanded the provision of surgical procedures in ambulatory settings and the convenience that ASCs offer to physicians and patients over HOPDs.

On the basis of the results we have that reflect the adequacy of payments and the information we have about the effects of the revised payment system, we recommend an update for 2010 equal to 0.6 percent. We believe an update of 0.6 percent will maintain beneficiaries' access to ASC services and that providers will be willing and able to furnish those services. We also believe that it is vital for ASCs to submit cost and quality data. Having ASCs submit cost data would benefit the Medicare program because it would allow analysts to get a more complete assessment of the extent to which ASC payment rates should be adjusted to cover the costs of an efficient provider. Having ASCs submit quality data also would benefit the Medicare program because that would allow payments to be made on the basis of the quality of care. For these reasons, we believe ASCs should be required to submit cost and quality data to the Secretary.

Spending

- CMS has stated that it has discretion over which update factor to use for ASC payment rates. The agency has decided to increase ASC payment rates in 2010 by the consumer price index for all urban consumers (CPI-U) (CMS 2007). The most recently published measure of the CPI-U is 1.9 percent, but we recommend that the payment rates be increased by 0.6 percent (Global Insight 2008). Therefore, our estimates indicate that the update recommendation for 2010 would decrease federal program spending by \$50 to \$250 million in the first year and by less than \$1 billion over five years, relative to current law. The Commission also has concerns about how well the CPI-U measures input price changes for ASCs and may examine alternatives to the CPI-U in the future.

Beneficiary and provider

- Because of the growth in the number of Medicare-certified ASCs and the number of beneficiaries treated in ASCs, we do not anticipate that this recommendation will diminish beneficiaries' access to ASC services or providers' willingness or ability to provide those services.
- ASCs will incur some administrative costs to submit cost and quality data.
- Beneficiaries will continue to have lower cost sharing for a given service in ASCs than in HOPDs. ■

Endnotes

- 1 Technical refinements to the fee schedule resulted in an overall update of 0.2 percent in 2006.
- 2 MIPPA phases down this electronic prescribing bonus to 0.5 percent in 2013. Starting in 2012, MIPPA requires payment reductions to physicians who do not use this technology. Some hardship exceptions will be allowed.
- 3 MMA established an additional 5 percent bonus for physician scarcity areas, but this provision expired in 2008.
- 4 We do not survey Medicare beneficiaries younger than age 65 because of difficulty obtaining an adequate sample size.
- 5 We are unable to compare access to specialists in previous years because the wording of the survey question changed in 2006.
- 6 ED visits were classified based on the definition used by the HSC (Cunningham and May 2003).
- 7 Because the basic sampling unit of the NHAMCS is the patient visit, survey data cannot be analyzed at the hospital level. In addition, this data source does not provide information about the capacity of EDs. Thus, we were unable to determine whether waiting times for whites and nonwhites varied within the same hospital and whether demand for services varied among EDs.
- 8 For this analysis, we excluded certain types of specialties that do not typically serve most Medicare beneficiaries, such as all pediatric specialties, obstetrics, and medical genetics. Physicians with specialties of anesthesiology, radiology, and pathology are excluded by the NAMCS sampling frame, which focuses on office-based physicians.
- 9 More information on the results of the Commission's 2006 survey of physicians is available in Chapter 2B of our March 2007 report.
- 10 We conservatively categorized physicians who saw fewer than 15 patients under the assumption that they did not regularly serve FFS beneficiaries and provided services to beneficiaries for only a short time during the year or only on an emergency or temporary basis while covering for colleagues.
- 11 Performance was measured for 2007 through the first few months of 2008.
- 12 The method used for the comparison involves calculating a price index for each type of private plan (HMO, point of service, preferred provider organization (PPO), and indemnity). Each price index is a weighted average of service-level price comparisons between Medicare and private payment rates, using Medicare's volume in each service as the weight. The plan-specific estimates are then weighted based on the Kaiser Family Foundation and Health Research and Educational Trust yearly estimates of private enrollment in each type of plan for 2007 (Kaiser Family Foundation HRET 2008). To address enrollment in high-deductible health plans (HDHPs), we classified them as PPOs for enrollment distribution and payment rate purposes, because health plan industry sources indicate that 90 percent of HDHP enrollees are offered these options off a PPO "platform."
- 13 Our analysis relies on data from two national insurers, but—like all insurers—they face different market conditions in different areas. In a particular area, for example, there may be one dominant insurer that is better able to negotiate lower prices with providers, while other insurers have to pay higher rates. Although the data we use for our analysis from the two national insurers have a wide and diverse geographic distribution, we may not be able to fully capture the variation in private payment rates in different areas that results from local competitive circumstances.
- 14 The service categories we use are those in CMS's Berenson-Eggers Type of Service (BETOS) system. Changes in volume for some of these categories are difficult to interpret. For instance, the category "cardiovascular-other" consists of a variety of cardiovascular procedures not otherwise assigned. From 2006 to 2007, the volume of some of these services went up while the volume of others went down. Overall, however, we could discern no consistent pattern for the category. The Commission has a contract with the Urban Institute to assist us with advice to CMS on improving BETOS.
- 15 This estimate includes interest income. Under high cost assumptions, the Hospital Insurance trust fund could be exhausted as early as 2015. Under low cost assumptions, it would remain solvent until 2040.
- 16 Compensation per hour for a service is calculated in two steps. First, the work RVU per hour for the service is calculated as the service's work RVU divided by CMS's estimate of the time (in hours) a physician spends furnishing the service. Second, to get compensation per hour, the work RVU per hour is multiplied by the fee schedule's conversion factor. As an example, consider two specific services, each within the service categories mentioned in the text: one in the office visits service category and one in the CT category. Compensation per hour for the most frequently billed service in the office visits service category (HCPCS 99213) is $(0.92 \text{ work RVU} / 0.38 \text{ hour per service}) \times \$36.0666 \text{ conversion}$

- factor = \$87 per hour. Compensation per hour for the most frequently billed service in the CT category (HCPCS 72193) is $(1.16 \text{ work RVU}/0.30 \text{ hour per service}) \times \36.0666 conversion factor = \$139 per hour. Thus, compensation per hour for the CT service is 160 percent of compensation per hour for the office visit, a percentage somewhat higher than but otherwise similar to the average for the two service categories of 147 percent that is cited in the text.
- 17 In our June 2008 report, we used 2006 Medicare claims data and compared physician specialties according to the percent of their allowed charges that were for primary care services. Geriatric medicine had the highest percentage: 65 percent. Other specialties with relatively high percentages were family medicine (62.5 percent), internal medicine (44.4 percent), and pediatric medicine (36.5 percent). The percentages for nurse practitioners and physician assistants were 65.4 percent and 34.8 percent, respectively.
 - 18 To calculate this and the other averages discussed here, the changes in relative values were weighted by the units of service for each billing code as reported in CMS's utilization file released with the fee schedule final rule for 2009.
 - 19 CMS's practice expense method includes a budget-neutrality adjustment, so the method is budget neutral within practice expense. In other words, it does not require a budget-neutrality adjustment—similar to the one for physician work—applied to the conversion factor.
 - 20 To date, the review process has resulted in recommendations for changes in relative values for about 140 services. Most of the recommendations have been for reductions in relative values for work, practice expense, or both. Because changes in relative values are budget neutral, these efforts have resulted in some redistribution of payments among services. Looking ahead, we can assess further progress toward lower relative values for overvalued services and higher relative values for primary care (and other services).
 - 21 More adequate valuation of primary care in Medicare's fee schedule could also send a signal to private payers. Those payers often use the fee schedule as a basis for their payment rates.
 - 22 As an example, consider a fee schedule adjustment for primary care that equals 10 percent of a practitioner's allowed charges for primary care services. Assume also that eligible practitioners are those whose allowed charges for primary care services are 60 percent or more of their total allowed charges. Under such a policy, we estimate that the reduction for budget neutrality would be about -1.1 percent.
 - 23 In Chapter 1 of the Commission's June 2008 report, we described how rapid volume growth of procedures and specialty care may result from mispricing in the physician fee schedule (MedPAC 2008d).
 - 24 The number of PET scans performed in all settings (hospital and nonhospital) increased by 21 percent from 2006 to 2007. We calculated changes in the number of PET scans instead of changes in the volume of PET scans because volume is based on RVUs and CMS has not yet assigned RVUs to the technical component of PET services (technical component payments for PET are determined by the carriers). Because of HCPCS coding changes and CMS coverage changes, it is difficult to calculate the growth of PET before 2006.
 - 25 The time estimate for a technician to perform a study includes not only the time it takes to image the patient but also pre- and post-service activities, such as greeting the patient, obtaining patient consent, preparing the room and equipment, positioning the patient on the machine, cleaning the room after the study, and processing the films. Presumably, CMS includes these pre- and post-service activities in the time estimate for the equipment because the imaging room is not available for use by other patients during that time.
 - 26 CMS has accepted nearly all the recommendations made by the RUC's practice expense committee, although it is not required to do so. For more information on this process, see MedPAC 2006b.
 - 27 CMS currently assumes that a CT study uses a 16-channel machine (CMS 2005c).
 - 28 Tesla refers to the strength of the MRI machine's magnetic field.
 - 29 The assumption that physician fee schedule providers are open 50 hours per week is primarily based on data from the AMA and the Medical Group Management Association (CMS 1997).
 - 30 This concept—known as learning by doing—has been described by the Commission in the context of physician work (MedPAC 2006a). However, the same idea could apply to work performed by nonphysician clinical staff, such as technicians who perform imaging services.
 - 31 The RUC has since referred three of the CT codes to the CPT committee for their review (CMS 2008a).
 - 32 The NORC survey's sample included 133 physician offices and freestanding imaging centers in Boston, MA; Miami, FL; Greenville, SC; Minneapolis, MN; Phoenix, AZ; and Orange County, CA. The survey achieved a response rate of 72 percent (MedPAC 2006b).

- 33 The IMV survey found that nonhospital CT providers performed 4,165 studies per scanner per year, on average (IMV Medical Information Division 2008). The survey also found that nonhospital CT providers performed 1.6 scans per machine per hour, on average. We divided 4,165 by 1.6 to determine that nonhospital providers operated each of their CT machines 2,603 hours per year, on average, or about 50 hours per week.
- 34 IMV surveyed almost 3,000 nonhospital providers and received responses from 803 (IMV Medical Information Division 2008). Most of the nonhospital sites were freestanding imaging centers. It is possible that cardiology and radiation oncology offices were underrepresented. IMV does not indicate whether the survey data are nationally representative.
- 35 NORC did not model the impact of increasing the equipment use factor for PET machines because CMS has not yet assigned PE RVUs to the TC of PET studies. Because these studies do not yet have RVUs, their TC payment rates are determined by Medicare's contractors.
- 36 In addition, the baseline in the NORC model uses the PE RVUs that fully reflect the changes CMS made to the PE method for 2007 (CMS is phasing in these changes between 2007 and 2010).
- 37 For example, we estimate that the outpatient cap policy reduces PE RVUs by 26 percent for MRI services, by 11 percent for CT of the head, and by 13 percent for CT of other parts of the body. These estimates are based on comparing 2008 hospital outpatient rates with physician fee schedule RVUs for the technical component of imaging services. We used the PE RVUs that fully reflect the changes CMS made to the practice expense method for 2007 (CMS is phasing in these changes between 2007 and 2010). We used volume data from 2006.
- 38 Other sources of ASC payments include commercial insurance (64 percent), workers' compensation (7 percent), Medicaid (2 percent), self-payment (5 percent), and other federal programs (1 percent).
- 39 Rhode Island and Vermont have certificate-of-need (CON) laws that apply to ASCs. These laws may explain the low number of ASCs in those states. However, despite having a small number of Medicare-certified ASCs, Arkansas does not have a CON law for them.
- 40 An exception is ASC services where the ASC coinsurance amount exceeds the hospital inpatient deductible of \$1,068. Coinsurance for a service in the outpatient PPS cannot exceed the inpatient deductible, so in some cases the ASC coinsurance does exceed the outpatient PPS coinsurance. This is true for 37 procedures in 2009.
- 41 The operating margins for ASCs have important differences from the margins from other sectors such as hospitals. In particular, the margins for most ASCs do not reflect income taxes or the income going to physician owners.
- 42 This value is a weighted average of the ASC rates relative to the outpatient PPS rates, where the weights are equal to the 2007 service volume of the ASC procedures.
- 43 The survey consisted of 206 ASCs. Seventy-two percent were multispecialty and 28 percent were single specialty.

References

- Abelson, Reed. 2008. Financial ties are cited as issue in spine study. *New York Times* (January 30).
- Ambulatory Surgery Center Association. 2008. *Medicare ASC payment rates: An industry in the midst of change*. Presentation at the Medicare Payment Advisory Commission. December 12.
- American Hospital Association. 2007. *2006 AHA annual survey of hospitals*. Chicago, IL: AHA. <http://www.aha.org/aha/resource-center/Statistics-and-Studies/data-and-directories.html>.
- American Medical Association. 2008. *2008 national health insurer report card*. Chicago, IL: AMA. <http://www.ama-assn.org/ama1/pub/upload/mm/368/reportcard.pdf>.
- Baicker, K., and A. Chandra. 2004. Medicare spending, the physician workforce, and beneficiaries' quality of care. *Health Affairs* 23 (April): 184–196.
- Baker, L. C., S. W. Atlas, and C. C. Afendulis. 2008. Expanded use of imaging technology and the challenge of measuring value. *Health Affairs* 27, no. 6 (November–December): 1467–1478.
- Baker, L. C., and S. W. Atlas. 2004. Relationship between HMO market share and the diffusion and use of advanced MRI technologies. *Journal of the American College of Radiology* 1, no. 7 (July): 478–487.
- Berenson, A., and R. Abelson. 2008. Weighing the costs of a CT scan's look inside the heart. *New York Times*. June 29.
- Boards of Trustees, Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds. 2008. *2008 annual report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds*. Washington, DC: Boards of Trustees.
- Boden, W. E., R. A. O'Rourke, K. K. Teo, et al. 2007. Optimal medical therapy with or without PCI for stable coronary disease. *New England Journal of Medicine* 356, no. 15 (April 12): 1503–1516.
- Bodenheimer, T. 2006. Primary care—will it survive? *New England Journal of Medicine* 355, no. 9 (August 31): 861–864.
- Brenner, D. J., and E. J. Hall. 2007. Computed tomography—an increasing source of radiation exposure. *New England Journal of Medicine* 357, no. 22 (November 29): 2277–2284.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2008a. *Medicare fact sheet: final 2009 policy, payment changes for hospital outpatient departments and ambulatory surgical centers*. Baltimore, MD: CMS. October 30.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2008b. Medicare program: changes to the hospital outpatient prospective payment system and CY 2009 payment rates; changes to the ambulatory surgical center payment system and CY 2009 payment rates; requirements for approval and re-approval of transplant centers to perform organ transplants—clarification of provider and supplier termination policy Medicare and Medicaid programs: changes to the ambulatory surgical center conditions for coverage. Final rule. *Federal Register* 73, no. 223 (November 18): 68501–69380.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2008c. Medicare program; revisions to payment policies under the physician fee schedule and other revisions to Part B for CY 2009; and revisions to the amendment of the E-prescribing exemption for computer generated facsimile transmission. Proposed rule. *Federal Register* 73, no. 130 (July 7): 38502–38881.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2007. Medicare program; revised payment system policies for services furnished in ambulatory surgical centers (ASCs) beginning in CY 2008. Final rule. *Federal Register* 72, no. 148 (August 2): 42469–42626.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2006. Medicare program; revisions to payment policies, five-year review of work relative value units, changes to the practice expense methodology under the physician fee schedule, and other changes to payment under Part B; revisions to the payment policies of ambulance services under the fee schedule for ambulance services; and ambulance inflation factor update for CY 2007. Final rule with comment. *Federal Register* 71, no. 231 (December 1): 69623–70274.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2005a. *CMS manual system; Pub. 100–03: Medicare national coverage determinations*. Transmittal 31. Baltimore, MD: CMS. April 1.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2005b. Medicare program; revisions to payment policies under the physician fee schedule for calendar year 2006 and certain provisions related to the competitive acquisition program of outpatient drugs and biologicals under Part B. Final rule. *Federal Register* 70, no. 223 (November 21): 70116–70150.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2005c. Medicare program; revisions to payment policies under the physician fee schedule for CY 2006. Proposed rule. *Federal Register* 70, no. 151 (August 8): 45763–46064.

- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2003. *Medicare coverage issues manual*, Transmittal 171. Baltimore, MD: CMS. June 20.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 1997. Medicare program; revisions to payment policies under the physician fee schedule, other Part B payment policies, and establishment of the clinical psychologist fee schedule for calendar year 1998. Proposed rule. *Federal Register* 62, no. 117 (June 18): 33158–33164.
- Cherry, D., National Center for Health Statistics, Department of Health and Human Services. 2009. E-mail communication with MedPAC staff. January 8.
- Clarke, G., and A. Rahal. 2004. State of the art MRI: A technology update. *Imaging Economics* (July).
- Codespote, S. M., W. J. London, and J. D. Shatto. 1998. *Physician volume and intensity response*. Baltimore, MD: CMS. <http://www.cms.hhs.gov/ActuarialStudies/downloads/PhysicianResponse.pdf>.
- Cunningham, P. 2008. E-mail communication with MedPAC staff, November 10 and 25, regarding the following surveys funded by the Robert Wood Johnson Foundation: the 1996–1997 and 2003 HSC Community Tracking Study Household Surveys and the HSC 2007 Health Tracking Household Survey.
- Cunningham, P., and J. May. 2003. *Insured Americans drive surge in emergency department visits*. *Issue Brief Center for Studying Health System Change*, no. 70 (October): 1–6.
- Davis, K., C. Schoen, M. Doty, and K. Tenney. 2002. Medicare versus private insurance: Rhetoric and reality. *Health Affairs* (October): w311–w324.
- Deutsche Bank. 2008a. *Ambulatory surgical centers: Annual survey shows growth continues to slow*. New York, NY: Deutsche Bank Securities, Inc.
- Deutsche Bank. 2008b. *Ambulatory surgery centers: lowering PT & ests on scaled-back expectations*. New York, NY: Deutsche Bank Securities, Inc. December 19.
- Fisher, E., D. Wennberg, T. Stukel, et al. 2003a. The implications of regional variations in Medicare spending. Part 1: The content, quality, and accessibility of care. *Annals of Internal Medicine* 138, no. 4 (February 18): 273–287.
- Fisher, E., D. Wennberg, T. Stukel, et al. 2003b. The implications of regional variations in Medicare spending. Part 2: Health outcomes and satisfaction with care. *Annals of Internal Medicine* 138, no. 4 (February 18): 288–298.
- Global Insight. 2008. *Health care cost review, third-quarter 2008*. Washington, DC: Global Insight.
- Government Accountability Office. 2008. *Primary care professionals: Recent supply trends, projections, and valuation of services*. GAO report: GAO–08–472T. Washington, DC: GAO.
- Government Accountability Office. 2006. *Medicare: Payment for ambulatory surgical centers should be based on the hospital outpatient payment system*. GAO report: GAO–07–96. Washington, DC: Government Accountability Office. November.
- Hamon, M., R. Morello, J. W. Riddell, et al. 2007. Coronary arteries: Diagnostic performance of 16- versus 64-section spiral CT compared with invasive coronary angiography—meta-analysis. *Radiology* 245, no. 3 (December): 720–731.
- Hinesly, D. 2006. Expanding business and clinical options using 3T MRI. *Imaging Economics* (December).
- Hochman, J. S., G. A. Lamas, C. E. Buller, et al. 2006. Coronary intervention of persistent occlusion after myocardial infarction. *New England Journal of Medicine* 355, no. 23 (December 7): 2395–2407.
- IMV Medical Information Division. 2008. *2007 CT market summary report*. Des Plaines, IL: IMV. March.
- Institute of Medicine. 2006. *Hospital-based emergency care: At the breaking point*. Washington, DC: IOM.
- Jenkins, C. 2008. The doctor is out. *The Washington Post*. December 9. HE01.
- Kaiser Family Foundation and Health Research & Educational Trust. 2008. *Employer health benefits: 2008 annual survey*. Menlo Park, CA: Kaiser Family Foundation HRET. September.
- Keenan, T. 2007. Access to physicians survey. Washington, DC: AARP; and e-mail communication with MedPAC staff, November 12 and 20.
- Kravet, S., A. D. Shore, R. Miller, et al. 2008. Health care utilization and the proportion of primary care physicians. *American Journal of Medicine* 121, no. 2: 142–148.
- Lake, T., M. Gold, A. Ciemnecki, et al. 2005. *Results from the 2003 and 2004 targeted beneficiary surveys on access to physician services among Medicare beneficiaries*. Final report submitted to CMS. Washington, DC: Mathematica Policy Research, Inc.
- Medical Group Management Association. 2006. *Ambulatory surgical center performance survey*. Washington, DC: MGMA.

- Medicare Payment Advisory Commission. 2008a. *A data book: Healthcare spending and the Medicare program*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2008b. *Payment basics: Outpatient therapy services payment system*. Washington, DC: MedPAC. October. http://www.medpac.gov/documents/MedPAC_Payment_Basics_08_OPT.pdf.
- Medicare Payment Advisory Commission. 2008c. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2008d. *Report to the Congress: Reforming the delivery system*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2008e. Testimony before the Committee on Finance, U.S. Senate. *Reforming the delivery system*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2007. *Report to the Congress: Assessing alternatives to the sustainable growth rate system*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2006a. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2006b. *Report to the Congress: Increasing the value of Medicare*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2006c. *Report to the Congress: Physician-owned specialty hospitals revisited*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2004. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2003. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Mettler, F. A., B. R. Thomadsen, M. B. Bhargavan, et al. 2008. Medical radiation exposure in the U.S. in 2006: Preliminary results. *Health Physics* 95, no. 5 (November): 502–507.
- Mitka, M. Radiologists adjusting to revolution in CT. 2006. *Journal of the American Medical Association* 295, no. 7 (February 15): 745–746.
- NORC 2008. Practice expense cost tables from K. Merrell. March 10.
- NORC 2006. *Survey of imaging centers: Use of MRI and CT equipment*. Report for MedPAC. May.
- Pennsylvania Health Care Cost Containment Council. 2008. *Financial analysis 2007, volume two*. Harrisburg, PA: PHC4. November.
- RAND. 2006. *Further analyses of Medicare procedures provided in multiple ambulatory settings*. RAND report: 2R–349–MEDPAC. Santa Monica, CA: RAND.
- Redberg, R. F., and J. Walsh. 2008. Pay now, benefits may follow—The case of cardiac computed tomographic angiography. *New England Journal of Medicine* 359, no. 22 (November 27): 2309–2311.
- Reschovsky, J., and A. O’Malley. 2008. Do primary care physicians treating minority patients report problems delivering high-quality care? *Health Affairs* (April): w222–w231.
- Rich, W. L. 2007. Letter to Herb B. Kuhn. August 27.
- Richardson, J., K. Hayes, A. Winter, et al. 2007. Assessment of payment adequacy: Physicians. Presentation at MedPAC public meeting, Washington, DC. December 7.
- Roberts, D. C., M. P. McKay, and A. Shaffer. 2008. Increasing rates of emergency department visits for elderly patients in the United States, 1993 to 2003. *Annals of Emergency Medicine* 51, no. 6: 769–774.
- Sack, K. 2008. Primary-care doctors are in demand. *The Seattle Times*. April 6.
- Schoenman, J., M. Berk, and J. Feldman. 2006. *2006 MedPAC survey of physicians*. Bethesda, MD: NORC at the University of Chicago.
- Starfield, B., L. Shi, and J. Macinko. 2005. Contribution of primary care to health systems and health. *The Milbank Quarterly* 83, no. 3: 457–502.
- Starfield, B., and L. Shi. 2002. Policy relevant determinants of health: An international perspective. *Health Policy* 60: 201–218.
- Strunk, B., and P. Cunningham. 2002. *Treading water: Americans’ access to needed medical care, 1997–2001*. Results from the community tracking study no. 1. Washington, DC: Center for Studying Health System Change. March.
- Trude, S., and P. B. Ginsburg. 2005. *An update on Medicare beneficiary access to physician services*. Issue brief no. 93. Washington, DC: Center for Studying Health System Change. February.
- Ways and Means Committee, U.S. House of Representatives. 2004. *2004 green book*. Washington, DC: Government Printing Office.

Weber, E. J., J. A. Showstack, K. A. Hunt, et al. 2008. Are the uninsured responsible for the increase in emergency department visits in the United States? *Annals of Emergency Medicine* 52, no. 2: 108–115.

Weber, E. J., J. A. Showstack, K. A. Hunt, et al. 2005. Does lack of a usual source of care or health insurance increase the likelihood of an emergency department visit? Results of a national population-based study. *Annals of Emergency Medicine* 45, no. 1: 4–12.

Welch, H. G. 2004. *Should I be tested for cancer? Maybe not and here's why*. Berkeley: University of California Press.

Wennberg, J., E. Fischer, and S. Sharp. 2006. *Dartmouth atlas of health care 2006: The care of patients with severe chronic illness*. http://www.dartmouthatlas.org/atlas/2006_Chronic_Care_Atlas.pdf.