MARCH 2001

REPORT TO THE CONGRESS:

Medicare Payment Policy

MEDPAC Medicare Payment Advisory Commission

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

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

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

Two reports—issued in March and June each year—are the primary outlet for Commission recommendations. This year the Commission will devote its June report to the subject of Medicare in rural areas. In addition to these reports and additional reports on subjects requested by the Congress, MedPAC advises the Congress through other avenues, including comments on reports and proposed regulations issued by the Secretary of the Department of Health and Human Services, testimony, and briefings for congressional staff. This volume fulfills MedPAC's requirement to submit an annual report on Medicare payment policy.

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Acknowledgments

The report was prepared with the assistance of many people. Their support was key as the Commission analyzed issues and worked toward consensus on its recommendations.

Despite a very heavy workload, staff members of the Health Care Financing Administration were particularly helpful during preparation of this report. We thank Christy Cornell, William Cymer, Mark Freeland, Marvin Feuerberg, Tom Gustafson, Marc Hartstein, Stephen Heffler, Rebecca Hirshorn, Tom Hoyer, Kim Kotova, Bob Kuhl, Sheila Lambowitz, Mark Miller, Sol Mussey, Steve Phillips, Carolyn Rimes, John Shatto, Don Sherwood, Tom Talbott, Sarah Thomas, Armen Thoumaian, Carter Warfield, Bob Wardwell, Mary Wheeler, Laurence Wilson, Dave Zanardelli, and Carlos Zarabozo.

The Commission also received valuable insights and assistance from others—in government, industry, and the research community—who generously offered their time and knowledge. They include Stan Bastacky, Grace Carter, Larry Clare, James Cope, James Cosgrove, Carmela Coyle, William Dombi, Brian Ellsworth, Karen Fisher, Sam Fleming, Theresa Forester, Kurt Gillis, George Greenberg, Kamal Hijazi, Jeanne Harvell, Chris Hogan, Larry Lane, Ed Kalman, Henry Krakauer, Korbin Liu, Robert Lockridge, Joyce Mann, Rose Madden-Baer, Barbara Manard, Barbara Marone, Stephanie Mensch, Sharon McIlrath, Konrad Miskowiz-Retz, Penny Mohr, Susan Polniaszek, Kathy Reep, James Reuter, Edward Salsberg, Kirsten Sloan, Elise Smith, Kathleen Smith, Sherry Smith, Margaret Stineman, and Carolyn Zollar.

Once again, the skilled programmers at Social and Scientific Systems provided highly capable assistance as Commission staff analyzed data. In particular, we appreciate the hard work of Valerie Aschenbach, Nancy Allen, Tom Bell, Chris Brady, Danita Byrd-Holt, Daksha Damera, Deborah Johnson, Jeff McCartney, John May, Carl Newman, Margie Odle, Bryan Sayer, Jeff Sussman, Charles Thomson, Dawn Wolfe, and Arlene Turner.

Finally, the Commission wishes to thank Anne Brown Rodgers and Nancy E. Volkers for their help editing this report. ■

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Executive summary

Prospective payment systems (PPSs) have been rapidly replacing cost-based payment systems for health care delivered to Medicare beneficiaries in almost every sector of Medicare's traditional fee-for-service program. In this report we assess how well the new payment systems are working and how particular PPSs can be improved. We provide recommendations ranging from refinements of the hospital inpatient PPS to revisions of the basic building blocks of the PPSs for post acute care. We also consider using an update method similar to the method the Commission uses for inpatient care in PPS hospitals to update payments for other sectors, so that those updates would take the same factors into account. This would help ensure that decisions about the site of care are based on clinical factors rather than economic incentives resulting from differing payment systems.

Medicare's payments to fee-for-service providers also have implications for payments to private health plans under the Medicare+Choice (M+C) program. Until 1997, there was a simple, explicit link between the two sectors; now, payments to health plans are determined in a more complex manner—in some cases related to historical fee-for-service spending and in some cases not. Wide variation across the country in per capita fee-for-service spending, coupled with payments to private health plans based on other factors, means that payments to those two sectors in local markets may diverge, a situation that is not sustainable in the long run. MedPAC believes that Medicare's payment policies should not direct beneficiaries to either sector and that study of the variation in fee-for-service spending is needed to resolve the broader issue of program equity.

Evaluating Medicare's payment policies

The Balanced Budget Act of 1997 (BBA) and the Balanced Budget Refinement Act of 1999 (BBRA) launched profound changes in Medicare's payment policies for many services furnished to beneficiaries under the traditional fee-for-service program and for health care organizations participating in the new Medicare+Choice program. Those changes in policy have been accompanied in the past few years by other changes. For example, many M+C organizations have pulled out of counties or left the program entirely, leaving some beneficiaries with no choice other than traditional Medicare; for the first time, there was a drop in reported hospital case-mix severity and in total Medicare payments; and several large skilled nursing facility chains have gone bankrupt and many home health providers have left the Medicare market, yet there is no evidence that access to care has been impaired.

These changes raise important questions about the appropriateness of new payment systems' designs, their impacts on beneficiaries' access to high-quality care, and their effects on the financial incentives and performance of providers and health care organizations. Policymakers and analysts have been frustrated, however, by the lack of unambiguous indicators that might suggest answers to these questions. Are these changes a result of changing payment systems or other factors, and how can we tell? In Chapter 1 we step back and look at evaluating the performance of payment systems. The discussion focuses on three issues: what problems could result from limitations in the design or implementation of new payment policies, what indicators might suggest whether potential undesired outcomes are occurring, and what might be done to improve the availability of tools and information for detecting problems.

Updating payments for physician services and for care provided in hospital outpatient departments

In Chapter 2, we examine how to further a prime objective of Medicare payment policy—to base payments on the costs an efficient provider would incur in furnishing the covered services. To keep payments consistent with changes in those costs and to ensure beneficiary access to high-quality care, payments for most services are updated annually. MedPAC advises the Congress on the level of these updates using a framework that assesses the current level of payment and accounts for inflation in input prices, scientific and technological advances, and other factors affecting future costs.

Since the BBA, the sustainable growth rate (SGR) system has been used to update payments for physician services; however, this system neither adequately accounts for changes in cost nor controls total spending. Therefore, the Commission recommends an alternative method—similar to the one we use for inpatient services—to account better for changes in cost, and proposes additional work to develop methods for controlling spending that would work better than the expenditure target in the SGR. The Commission also recommends an update method for payments to hospital outpatient departments, also similar to the one we use for inpatient services, that will account for changes in costs and move toward achieving consistency of payment updates for ambulatory care services.

Accounting for new technology in hospital prospective payment systems

Because new technology is one of the key factors driving growth in health care costs, accounting for the cost of new technology in prospective payment systems is an important issue. Basic questions need to be answered, such as: How should policymakers define "new technology"? Does the definition affect how a payment system treats a given technology? What payment principles should apply to new technology? In Chapter 3, we discuss these questions in light of recent legislative changes in the treatment of technology in the inpatient and outpatient PPSs. To make Medicare's payment systems responsive to technological innovation while minimizing exposure to cost-based payment, we recommend that the Secretary expeditiously assign codes to new services and procedures, update relative weights, and investigate the need for patient classification changes. Additional payments for new technologies, so-called pass-through payments, should only be made when a technology is truly new or substantially improved and adds substantially to the cost of care. Even then, these additional payments should be made on a budget-neutral basis.

Developing input-price indexes for all health care settings

All of the PPSs for facilities—hospitals, ambulatory surgery centers, skilled nursing facilities and units, rehabilitation facilities and units, psychiatric facilities and units, and long-term hospitals—include (or will include) adjustments that raise or lower national base payment rates to reflect wage levels in local markets. Many rely on the hospital wage index to reflect local market prices for labor and other inputs. However, as we discuss in Chapter 4, the hospital wage index does not accurately reflect local market wage levels for two reasons. First, because the wage index is based on aggregate hospital wage data for each area, it combines differences in wage rates with differences in the mix of occupations, overstating wage rates in some markets and understating them in others. Second, although wage index values are calculated for 374 labor market areas, the areas often include two or more distinct labor markets. To address these problems, the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA) required the Secretary to collect data on wage rates by occupation. The data will be used to construct a new wage index for application beginning October 1, 2004. The Commission recommends methods for collecting occupation-specific data to improve input-price indexes used in Medicare's payment systems as well as providing a basis for improving the labor market definitions.

Financial performance and inpatient payment issues for PPS hospitals

The PPS for inpatient hospitals has been in effect since 1983 and one of MedPAC's responsibilities is to provide a recommendation to Congress on the annual update for that system. We conclude that the payment update for fiscal year 2002 in current law will be appropriate. In support of this conclusion, in Chapter 5 we derive our estimate of an appropriate update from our framework and also look at the evidence to date on hospitals' financial status.

Hospitals' financial status in fiscal year 2000 improved significantly from 1998 and 1999. The hospital total margin rose to a seasonally adjusted 5.1 percent for the first two quarters of the year, from a 1999 low of 2.8 percent. The poor results in 1999 were, it appears, due to a combination of Medicare payment cutbacks, falling payments from private payers, and one-time losses in 1999 resulting from hospitals divesting money-losing lines of business. Most of the upturn in 2000 appears to be attributable to hospitals negotiating more favorable payment terms with private insurers.

Even in a mature PPS such as that for inpatient hospitals, refinements continue to be needed. We recommend two. First, although the BIPA increased Medicare disproportionate share hospital (DSH) payments for rural hospitals, we recommend further reform of the DSH formula to include the cost of all poor patients and use the same formula to distribute payment to all hospitals. Second, we recommend a change in the rules governing geographic reclassification to improve its equity for urban hospitals when other hospitals in their area are reclassified.

Prospective payment for post-acute care: current issues and long-term agenda

Where prospective payment systems are just being put into place more work is needed than in more established payment systems. In Chapter 6, we look at progress to date in establishing new PPSs for post-acute care and recommend some major changes to improve their performance.

Post-acute care can be provided in skilled nursing facilities (SNFs), rehabilitation facilities, long-term hospitals, and in the home. This type of care is important in efforts to achieve Medicare's principal goal of ensuring beneficiaries' access to medically necessary care of high quality in the most appropriate clinical setting. The BBA and BBRA required the Health Care Financing Administration to replace cost-based payment methods with new prospective payment systems for all four post-acute settings. The SNF PPS went into effect in 1998, the PPS for home health in October 2000, and PPSs for rehabilitation facilities and long-term hospitals are scheduled to begin in 2001 and 2002 respectively. Designing, developing and implementing four different PPSs for the inter-related parts of post-acute care is a major challenge because effective systems would pay correctly not only within settings but also across settings.

In designing PPSs for post-acute care, some basic considerations must be taken into account in the long term. One aspect is the potential overlap of services and patients across settings; for example, does home health care substitute for SNF care in some cases? The Commission recommends that the Secretary study this issue because substitution may lead to undesireable effects on both Medicare payments and the quality and outcome of care received by beneficiaries. The BIPA recognized the potential overlap across post-acute services and includes a provision to develop patient assessment instruments with comparable common data elements; this should be done while minimizing the reporting burden. Closely aligned with the need for common data for patient assessment is the need for a common classification system for the PPSs across care settings, or for specific types of care—such as physical, occupational, or speech therapies—that occur in all settings. We recommend developing such a classification

system and also conducting demonstrations to evaluate including a larger scope of services, such as all post acute services, in the payment bundle. Such a step might improve care coordination and encourage placement based on clinical considerations.

In the shorter-term some aspects of the current and proposed PPSs need attention. The current system for classifying patients in the SNF PPS is not appropriate, and we do not believe refinements of it are worthwhile; instead, the Secretary should develop a new system. In the proposed PPS for inpatient rehabilitation, certain basic improvements must be made in the patient assessment tool, the outlier policy, and the disproportionate share adjustment for the system to work well. Finally, indicators such as change in condition payment adjustments and payments for patients with wound care should be monitored closely to determine whether the new PPS for home care is working well.

Reconciling Medicare+Choice payments and fee-for-service spending

In the M+C program, all health care services are bundled and a monthly payment is made to a single health care organization. In some sense, this can be considered an extension of the prospective payment concept. In Chapter 7, we examine the common problem under an administrative pricing process of calculating the proper payment for that bundle of services.

When payments to plans were linked to fee-for-service spending in individual counties, payment levels varied widely and beneficiaries in different parts of the country had access to plans with very different levels of benefits, which seemed inequitable. To fix this problem, the Congress changed the payment mechanism by increasing payments to the lower-paid areas of the country and limiting increases in higher-paid areas. Decreasing the differences in plan payments across the country, however, may have introduced a different problem: if payments to plans diverge too much from Medicare fee-for-service spending in a market, that market may become distorted. As a result, beneficiaries have fewer choices than they might otherwise or the Medicare program may end up paying more than in an undistorted market. No matter how payments to plans are manipulated, both problems—payment equity across markets and payment equity within markets—cannot be solved simultaneously as long as there is significant underlying variation in fee-for-service spending across market areas.

The Commission recommends holding to the principle of neutrality in payments between the fee-for-service and the M+C sectors, and studying the variation in fee-for-service spending to see how it should be reflected in payments in both sectors. Under current law payments to plans in floor counties—counties that formerly had low payments and where higher payments are now mandated—have been raised, and the Commission recommends studying how beneficiaries, providers, and insurers each benefit from these higher payments. Finally, the Commission recommends exploring using different payment areas that would produce more reliable estimates of spending and risk.

End-stage renal disease payment policies in traditional Medicare

We consider Medicare's long standing PPS for end-stage renal disease in Chapter 8. The PPS for outpatient dialysis services does not pay appropriately because neither payments for services in the payment bundle nor payments for certain services outside the payment bundle accurately reflect providers' expected costs. Refining the payment system would help Medicare achieve its payment objectives of providing incentives for controlling costs and promoting access to quality services. The Congress should require that the Secretary include in a refined prospective payment bundle services that are frequently used for dialysis but not now included in the bundle. The payment system also should account for factors not currently considered that affect providers' costs, including dialysis method, dose, frequency, and patient acuity. The latter recommendation concerns dialysis

payments generally and addresses the question raised in the BBRA on home hemodialysis payment methods. The Secretary also should consider whether the payment system's current unit of payment—a single dialysis session—would be appropriate with an expanded payment bundle.

Finally, the current composite rate payment should remain unchanged for calendar year 2002. In making this recommendation, the Commission considered current market conditions, which show continued growth in the industry, and the apparent subsidization of services included in the prospective payment bundle by services that are billed separately.

Reducing beneficiary coinsurance under the hospital outpatient prospective payment system

One aspect of a payment policy is how costs are shared; that is, how much Medicare pays and how much beneficiaries pay for a service. Cost sharing differs widely over the different services Medicare buys. For ambulatory services—physician services and care in ambulatory surgical centers and hospital outpatient departments—the beneficiaries' share is 20 percent for the first two sectors but varies in the third depending on the service and averages about 50 percent. In Chapter 9, we recommend that as the new PPS for care in hospital outpatient departments becomes established, cost sharing for beneficiaries should become 20 percent.

In 2000, the Health Care Financing Administration implemented prospective payment for hospital outpatient services. Under that payment system, beneficiaries' share of total payments, which had reached 50 percent, will slowly decline. Beneficiaries' coinsurance liability is variable, with a few beneficiaries facing high levels of coinsurance, including those receiving repeat services (such as chemotherapy) and individuals in poorer health. The concern is that the higher level of coinsurance for outpatient services compared to other Medicare services potentially poses a financial barrier to access. MedPAC has estimated that achieving a 20 percent coinsurance rate under the August 2000 policy would take decades and has previously recommended that the Congress accelerate the rate at which beneficiary coinsurance is reduced. The BIPA helped, phasing in a reduction of coinsurance to 40 percent in 2006 and the Commission recommends continuing the reduction to achieve a rate of 20 percent coinsurance in 2010.

Treatment of the initial residency period in Medicare's direct graduate medical education payments

Hospitals that operate approved residency training programs receive direct graduate medical education (GME) payments based on predetermined per-resident amounts. The amount hospitals receive is weighted; they receive the full payment amount for residents who are within the initial residency period—the minimum number of years training required to qualify for board certification in a particular specialty—and half this amount for residents training past the initial residency period. The BBRA required MedPAC to include in this report recommendations regarding the appropriateness of those initial residency periods. The Congress was specifically interested in whether the Commission believes that the initial residency period should be changed for combined residency training programs or for training programs that require preliminary year(s) of training in another specialty. Differential payments for residents may affect hospitals' decisions on the types of residents they train. The Commission, however, does not believe that the Medicare program should be involved in setting health workforce policy and, therefore, recommends in Chapter 10 that the current weighting factors be eliminated in a budget-neutral manner. Medicare's direct GME payments should cover the minimum training period, whatever its length, required for the first specialty residents plan to complete and, if chosen, the first subspecialty. ■

CHAPTER 1

Evaluating Medicare's payment policies

CHAPTER 1

Evaluating Medicare's payment policies

In this chapter

- Medicare's payment policy objectives and potential problems
- MedPAC's approach to evaluating payment systems' design and performance
- Improving tools and data

The Balanced Budget Act of 1997 and the Balanced Budget Refinement Act of 1999 launched profound changes in Medicare's payment policies for many services furnished to beneficiaries under the traditional fee-for-service program and for health care organizations participating in the new Medicare+Choice program. These policy changes have raised important questions about the appropriateness of new payment systems' designs, their impact on beneficiaries' access to high-quality care, and their effects on providers' and health care organizations' financial incentives and performance. Policymakers and analysts have been frustrated, however, by the lack of unambiguous indicators that might suggest answers to these questions. In this chapter, the Medicare Payment Advisory Commission describes its approach to evaluating payment system performance. Although we concentrate primarily on payment systems in the traditional program, the same issues arise in evaluating payment policies in the Medicare+Choice program. The discussion focuses on three issues: what problems could result from limitations in the design or implementation of new payment policies, what indicators might suggest whether potential undesired outcomes are occurring, and what might be done to improve the availability of tools and information for detecting problems when new policies are adopted.

The Balanced Budget Act of 1997 (BBA) and the Balanced Budget Refinement Act of 1999 (BBRA) required the Health Care Financing Administration (HCFA) to replace cost-based payment methods with new prospective payment systems (PPSs) for many types of providers participating in Medicare's traditional fee-for-service program.[1] HCFA responded to these mandates, adopting new payment systems for services furnished by skilled nursing facilities (SNFs), hospital outpatient departments (OPDs), and home health agencies. In addition, the agency modified its payment systems for hospital inpatient care and physician services while developing new PPSs for inpatient rehabilitation facilities, long-term hospitals, psychiatric facilities, and ambulatory surgical centers.[2] Finally, HCFA also changed the method for determining prospective capitation payments for health care organizations that enroll beneficiaries in the Medicare+Choice program.

Under the law, the Medicare Payment Advisory Commission (MedPAC) must evaluate the design and implementation of these payment systems and make recommendations to the Congress and the Secretary of Health and Human Services to address any problems identified. In addition, we make annual payment update recommendations to the Congress for Medicare's payment systems (see Chapter 2).

In carrying out these responsibilities, we have often faced difficult challenges in untangling the effects of Medicare's payment policies from those of other factors that influence beneficiaries, providers, and health care organizations. The recent major payment reforms in a multitude of settings have greatly heightened the need for timely analysis of policy outcomes and exposed glaring weaknesses in available evaluation measures. Consequently, we believe that substantial new efforts are needed in three areas. First, more resources should be devoted to developing focused measures of payment system performance that can more effectively meet policymakers' ongoing needs for payment policy assessment. Second, before new payment systems are implemented, policymakers should direct more resources to preparing surveys and other targeted data collection efforts needed to detect potential problems before they have widespread effects on beneficiaries' access to services or the quality of care they receive. Finally, new analytic tools are needed to monitor care patterns among beneficiaries.

In this chapter, MedPAC explores these problems and approaches that might be used to address payment policy evaluation questions and obtain relevant information to answer them. We begin by describing Medicare's payment policy objectives and the kinds of payment problems that might arise. This is followed by a discussion of the approach and indicators we use in evaluating the design and performance of prospective payment systems. In the last section, we consider improvements in tools and information that might enable timely detection of emerging problems and overall assessments of payment policy performance. We also highlight several lessons that policymakers should draw from recent experience.

Medicare's payment policy objectives and potential problems

Like other public and private health care purchasers, Medicare uses separate payment systems to compensate each type of provider—health care professionals, facilities, suppliers, and health care organizations—for covered services furnished to beneficiaries in hundreds of markets nationwide. All of these payment systems raise recurring questions about what could go wrong and how we might know whether, and to what extent, undesired outcomes were occurring. As discussed in previous MedPAC reports, any attempt to answer these questions should start with Medicare's payment policy objectives, which derive directly from the program's principal goals (MedPAC 1999b, MedPAC 2000b).

Medicare's principal goal—to ensure beneficiaries' access to high-quality care in the most appropriate clinical setting, without imposing unwarranted financial burdens on beneficiaries or taxpayers.

Medicare's payment policy objective—to set payment rates for products and services that are consistent with efficient providers' short-run marginal costs in each local market. ■

Medicare's payment policy objectives

Medicare was enacted to improve access to care by reducing the financial burden faced by elderly (and later disabled) people in obtaining medically necessary acute care services. Accordingly, Medicare's principal goal is to ensure that its beneficiaries have access to medically necessary acute care of high quality in the most appropriate clinical setting, without imposing undue financial burdens on beneficiaries and taxpayers.[3]

1 Under prospective payment, providers' payments are based on predetermined rates and are unaffected by their incurred costs or posted charges. Examples of prospective payment systems include the one Medicare uses to pay acute care hospitals for inpatient care and the physician fee schedule.

2 HCFA also has adopted or proposed other changes in payment methods, such as those for services furnished by independent therapists, durable medical equipment, and ambulance services.

3 In enacting the Medicare+Choice program, the Congress established the objective of giving beneficiaries choices—where feasible at no additional cost to Medicare—among alternative health care delivery systems and benefit packages. Nevertheless, the same overall goal of ensuring access to appropriate high-quality care should apply.

Medicare buys health care products and services from providers who compete for resources in private markets. To ensure beneficiaries' access to high-quality care, Medicare's payment systems therefore must set payment rates for health care products and services that are:

- high enough to stimulate adequate numbers of providers to offer services to beneficiaries,
- sufficient to enable efficient providers to supply high-quality services, given the trade-offs between cost and quality that exist with current technology and local supply conditions for labor and capital, and
- low enough to avoid imposing unnecessary burdens on taxpayers and beneficiaries through the taxes and premiums they pay to finance program spending.

In principle, these conditions would be met if Medicare's payment systems established payment rates approximating the competitive prices that would prevail in the long run in local health care markets. This is not a practical guide, however, because no one knows what these long-run market prices would be. Moreover, substantial discrepancies between Medicare's payment rates and providers' short-run marginal costs may lead to under- or over-supplies of services, causing serious problems for beneficiaries or taxpayers. Medicare's payment systems therefore must set payment rates that are consistent with efficient providers' short-run marginal costs. This means that the payment rates must accurately reflect predictable cost variations among products and services and those associated with patient or beneficiary characteristics and local market factors that are beyond providers' (or plans') control.

Setting and maintaining accurate payment rates across many health care settings in hundreds of local markets is a tall order for several reasons:

- Providers' costs are difficult to determine. We have little or no information about costs for most types of health care professionals—physicians or independent therapists, for example. The available measures for facility providers, such as hospitals and nursing facilities, are based on accounting costs, which may differ from true economic (resource) costs. Available cost information for Medicare+Choice plans suffers from similar limitations.
- Most health care providers and plans produce multiple products, many operate across two or more settings—hospital inpatient and outpatient services, for instance—and virtually all serve many patients or beneficiaries covered by other payers, making it difficult to isolate costs associated with specific services furnished to Medicare beneficiaries.
- Adjusting payment rates to reflect the effects of local market conditions—differences in input prices, for example—requires knowledge of providers' production processes and cost components, and accurate data (that are often not readily available) for related market factors.
- Medical science and technology and local market conditions are continually evolving; thus, payment rates must be frequently updated to maintain consistency with changes in efficient providers' costs.

Given these limitations, it is difficult to identify efficient providers and practically impossible to measure their short-run marginal costs. Further, if all payers set their payment rates equal to efficient providers' short-run marginal costs, some providers would face insolvency because they would be unable to cover their fixed costs.[4] As a result, policymakers usually set the initial payment rates in Medicare's prospective payment systems based on providers' historical average or median costs per unit and then rely on the incentives for efficiency inherent in predetermined payment rates to encourage providers to control their costs.[5]

What might go wrong

As with market-determined prices, Medicare's prospective payment rates create incentives for efficiency by placing providers at risk. Providers whose costs exceed the predetermined payment rate will take a loss; those whose costs remain below the payment rate keep the gain. Providers thus have financial incentives to improve efficiency for the products and services included in the payment rate.

Improving efficiency, however, is not providers' only option (Table 1-1). Even when payment rates accurately reflect efficient costs, some providers may lower their risk of loss by reducing their costs or increasing their revenues in other ways: stinting on services or inputs, unbundling the product by shifting some services to another setting, using the gray areas of diagnosis or procedure coding to overstate the complexity of care and receive higher payments (upcoding), submitting false claims, or ceasing to participate in Medicare.[6] Each of these practices has potential short-run and long-run costs for providers, such as loss of reputation, risk of malpractice claims, return of unwarranted payments, or loss of market share. These potential costs discourage providers from making inappropriate responses to payment incentives.

4 Providers' fixed costs include expenses that do not vary with changes in output volume, such as interest, depreciation, and insurance payments associated with buildings and equipment, expenses for utilities, and many administrative costs that must be incurred to produce any volume of services.

5 Alternatively, policymakers may set the initial level of payment rates to produce total spending equal to (or some fraction of) anticipated spending under the previous payment system. The Congress has used this approach for several payment systems, such as the physician fee schedule, the new system for hospital outpatient services, and the one for Medicare+Choice plans.

6 This is not meant to imply that most providers engage in these practices, only that fixed prices reward those who do. These potential rewards also suggest that payment policies alone—however well formulated—are unlikely to be sufficient to ensure appropriate access to high-quality care at affordable cost for all beneficiaries in all markets. Consequently, other tools are needed, such as access and quality standards and related monitoring activities.

TABLE 1-1

Payment rates relative to providers' costs, associated incentives, and risks for beneficiaries and taxpayers

Payment level and configuration	Financial incentives for provider	Access and quality risks for beneficiary	Financial risk for:	
			Beneficiaries	Taxpayers
Payment level				
Any level relative to providers' costs	Improve efficiency; stint on services or inputs; shift component services to another setting; upcode diagnoses or procedures; engage in risk selection	Patients with high expected costs may face access problems; others may not receive all appropriate services or have to get care in several settings	Shifting services may lead to unwarranted copayments and excessive premiums	Shifting services and upcoding may lead to increased spending and unnecessarily high taxes
Above costs	Enter market; produce too many units	May receive too many units, with unnecessary clinical risk	Increased volume may trigger unwarranted copayments and excessive premiums	Increased volume and spending may result in unnecessarily high taxes, threatening program viability
Below costs	Deny access; stint or shift component services to another setting; exit market	May get care in less appropriate setting, receive too little care, or may not receive services	Possible savings from reduced copayments and premiums	Possible savings from reduced spending
Payment distribution				
Rates too high for some products, but too low for others	Shift mix of products away from those with low payment rates	Some may receive too much care while others receive too little	Some may face unnecessary copayments	Uncertain
Rates too high for some markets and too low for others	Produce too many services in some markets and too few in others; entry in some markets and exit in others	Patients in some areas receive too much care while those in other areas receive too little	Copayments and premiums may be higher or lower than appropriate	Uncertain

Providers' personal and professional ethics also play an important role. Further, when payment rates are consistent with costs, providers face little pressure to engage in these practices. Financial pressure to adopt one or more of them increases, however, as payment rates fall below providers' marginal costs.

Substantial discrepancies between payment rates and providers' costs may create other problems for beneficiaries and taxpayers. Discrepancies can occur in several ways, with varying potential consequences. First, the payment rates for all products or services may be set too high or too low. When payment rates are too high (above marginal costs), providers have incentives to furnish too many units of service, exposing patients to unnecessary health risks and creating unwarranted burdens for beneficiaries and taxpayers. Conversely, when payment rates fall short of the marginal costs of additional services, providers have incentives to limit patients' access to care or stint on the services and inputs used to produce care. Thus, rates that are below marginal costs might cause access or quality problems for beneficiaries.

Second, even when the payment rate for a product or service is consistent with providers' costs, their marginal costs for some individual patients may differ substantially from the payment. In this case, providers have incentives to engage in risk selection, seeking only the least costly patients and avoiding those who are expected to need unusually expensive care.

Finally, payment discrepancies can occur when the payment rates are distorted relative to providers' costs among products or across markets. For example,

when the payment rates are set too high for some products or services and too low for others, providers have incentives to shift the mix of services they produce toward relatively profitable services and away from unprofitable ones. Similarly, when payment rates are not appropriately adjusted to reflect local market conditions—differences in input prices or low service demand in sparsely populated areas, for example—providers in some markets may be overpaid or underpaid. As a result, Medicare's payment rates may stimulate too much market entry and the production of too many services in some markets, and market exit and too few services in others.

Because Medicare sets payment rates separately for each provider and setting, inconsistencies across settings in the payment rates for similar services also may cause problems for beneficiaries. Payment inconsistencies might distort the behavior of providers or beneficiaries in determining the types and amounts of services consumed and the settings in which they are furnished. Inconsistent payment rates, for instance, might encourage some providers to shift certain services usually furnished in a hospital OPD to financially more attractive clinics or ambulatory surgical centers (ASC), thereby potentially increasing clinical risks for some patients or reducing quality of care.

MedPAC's approach to evaluating payment systems' design and performance

To assess payment system performance and the likelihood of payment discrepancies, we begin by examining each system's design, focusing on whether its structural elements are likely to enable HCFA to set and maintain accurate payment rates. We also review a wide range of information on recent trends and patterns in service volume, Medicare spending, and providers' costs and revenues (where available) for services furnished to beneficiaries.

In conducting these analyses, we are guided by the payment policy framework described in our March 1999 report to the Congress (MedPAC 1999b). That framework considers design options for major system components, problems that might arise from design or data limitations, and factors that may affect the likelihood of these problems. It also considers relationships between payment systems for complementary and substitute services.

Our policy framework suggests important questions that should be asked about any payment system:

- Is the product or service that Medicare is buying well defined and does HCFA have sufficient ability to monitor product attributes so that fixed-price contracting is desirable?
- If so, does the overall design—unit of payment, product or service classification system, and so forth—establish an appropriate basis for fixed-price contracting?
- Is the distribution of payments consistent with expected variation in efficient providers' costs resulting from differences in product mix or market conditions beyond providers' control?
- Is the current level of the payment rates consistent with the costs efficient providers (or health care organizations) would incur in furnishing covered services to beneficiaries?
- How are providers' costs expected to change in the forthcoming year as a result of anticipated changes in legitimate factors, such as market input prices or the introduction of new technologies?
- What payment tools and data may need improvement and how might improvements be accomplished?
- Do the payment rates established for a setting—physicians' offices, for example—create financial incentives for inappropriate shifts of services to or from potential substitute settings—hospital outpatient departments or ambulatory surgical centers, for instance?

The answers to these questions suggest expectations about the kinds of payment discrepancies that may arise in a particular system and thus what specific problems might be observed. Anecdotal reports from providers, industry associations, and beneficiary groups also suggest hypotheses about potential problems that may be occurring. These expectations and hypotheses often can be tested by analyzing administrative data—such as claims or cost report information—or by collecting data for specific process and outcome indicators.

The questions of greatest importance at any time differ according to the age and status of the various payment systems. For mature, well-functioning payment systems—those for hospital inpatient care and physician services, for example—we generally focus on only a few questions each year, such as what the annual payment update should be or what changes may be needed to improve accuracy for a particular payment adjustment. All of the questions identified earlier are important, however, in assessing the likelihood of potential payment discrepancies in recently introduced payment systems or those currently under development.

Evaluating payment systems' designs

To set accurate payment rates in each setting, HCFA must know what products and services it is buying and what it should cost efficient providers to furnish them. Given appropriate knowledge, tools, and data, HCFA can establish good contracts with providers in which both sides know what products are being purchased and the payment rates among products and markets are consistent with efficient providers' costs. Under such contracts, providers face financial risk primarily from a failure to produce care efficiently and random cost variation among patients. Further, opportunities for undesirable provider responses to

payment incentives are limited because HCFA knows what products and services it is paying for and can monitor effectively whether beneficiaries receive them.

Limitations in knowledge, tools, or available data, however, may impair HCFA's ability to define the products it is buying or set payment rates consistent with efficient providers' costs, leaving substantial uncertainty for both sides. Poor contracts increase the chances that payment discrepancies will occur, exposing providers to additional financial risk. They also leave opportunities for providers to reduce or avoid potential losses—in ways that may be difficult to detect—without improving efficiency. Compared with good contracts, poor ones thus put beneficiaries and taxpayers at greater risk.

In evaluating the payment system design in any setting, we focus initially on whether HCFA has the appropriate knowledge, tools, and data to establish a good contract (text box). This analysis may identify limitations in available tools or data that compromise HCFA's ability to achieve high contract standards. In these instances, we consider options for strengthening current tools and data and—if current limitations are serious and not easily remedied—whether full prospective payment is the most appropriate policy for achieving Medicare's access and quality goals.

HCFA's ability to establish good contracts depends primarily on four factors:

- the strength of the product definitions and HCFA's monitoring capabilities,
- whether appropriate supporting rules are established to set product boundaries,
- the availability of data for establishing accurate relative values among products, and
- the extent to which the system's design and available data accurately account for other important factors that may affect efficient providers' costs, but are beyond their control.

Many of these factors vary widely among Medicare's payment systems in the traditional program (Table 1-2). Consequently, HCFA's ability to establish good contracts ranges from relatively high in the hospital inpatient PPS and the payment system for physicians' services to relatively low in the payment systems for SNF care and home health services.

Prospective payment system design elements

Prospective payment systems typically encompass six major elements:

Product definitions are determined by the unit of payment and a matching product classification system:

- the unit of payment may be an individual service or a bundle of services, such as a day of inpatient care, an inpatient stay, an episode of care, or a specified period of time;
- the product classification system defines distinct services or products, consistent with the unit of payment, that are expected to require different amounts of providers' resources.

Relative values measure the expected relative costliness of a unit of the product in each product classification category, compared with the average cost per unit across all categories.

Adjustments to payment rates are applied to the base payment amount to compensate for the effects on providers' costs of market factors (local input price levels, for example), unusual provider circumstances, or special characteristics of services and beneficiaries.

The base payment amount (sometimes called the conversion factor) is the national amount that would be paid in the current year to a provider for a standard unit of product (with a relative value equal to 1.0) in a market with national average input-price levels, if no other adjustments applied.

Annual payment update is a factor applied to the base payment amount to raise or lower all payment rates in the forthcoming year. The update is intended to reflect changes in efficient providers' costs expected to result from anticipated changes in market factors—input prices or adoption of new technologies, for example—beyond providers' control.

Supporting systems and processes are the infrastructure necessary to operate and maintain all system components, such as processes for making coverage decisions about new technologies, updating product definitions, assigning patient encounters to product categories, and data systems and processes for calculating and updating base payment amounts, relative values, and payment adjustments.■

Factors affecting the strength of product definitions

The capacity to forge good contracts depends on the strength of the product definitions used to set Medicare's payment rates and HCFA's ability to monitor product attributes. The product definitions in each payment system reflect the unit of payment and a matching product classification system for the particular setting, which identifies distinct services, types of days or cases, or

TABLE 1-2

Payment unit and factors affecting HCFA's ability to establish a good contract for selected fee-for-service providers and settings

Provider and setting	Payment unit (and product classification system)	Scope of services included in bundle	Clinical consensus on bundle content	Strength of product classification system	Supporting rules on product boundaries	Availability of data for relative values	Knowledge of production process	Availability of data for factors that affect costs
Physician office Medical	Procedure (HCPCS)	Narrow	Moderate	Strong	Site differential; bundling (coding) edits	Limited	Strong	Moderate
Surgical	Procedure (HCPCS	Moderate (episode)	High	Strong	Site differential; multi-surgery discount; edits	Limited	Strong	Moderate
Physician other facility Medical	Procedure (HCPCS)	Narrow	Moderate	Strong	Site differential; bundling (coding); edits	Limited	Strong	Moderate
Surgical	Procedure (HCPCS)	Moderate (episode)	High	Strong	Site differential, multi-surgery discount; edits	Limited	Strong	Moderate
Hospital outpatient department	Procedure (APC)	Narrow	Mixed/ high	Strong	Outlier policy for services during a day	Moderate	Strong	Extensive
Ambulatory surgical center*	Procedure (APC)	Narrow	High	Strong	None	Mixed/ moderate	Strong	Limited
Hospital inpatient acute facility	Stay (DRG)	Broad	Mixed/ high	Strong	72-hour rule; transfer policy; outlier policy	Extensive	Strong	Extensive
Rehabilitation facility*	Stay (FIM-FRG)	Broad	High	Strong	Transfer policy; outlier policy	Extensive	Strong	Moderate
Long-term hospital#	Stay (not chosen)	Broad	Mixed/ moderate	Uncertain	Uncertain	Uncertain	Moderate	Moderate
Skilled nursing facility	Inpatient day (RUG-III)	Moderate	Moderate	Weak	Services bundled within scope of SNF benefit	Limited	Moderate	Limited
Home health agency	60-day episode (HHRG)	Broad	Low	Uncertain	Therapy and supplies bundled; 5-visit minimum; outlier policy	Limited	Moderate	Limited

Note: * proposed design. # under development. HCPCS (HCFA Common Procedure Coding System); APC (ambulatory payment classification); DRG (diagnosis related group); FIM-FRG (Functional Independence Measure-Function Related Groups); RUG-III (third version of Resource Utilization Groups); HHRG (home health resource group).

beneficiaries that are expected to require different amounts of providers' resources. Other things being equal, larger payment units give providers more opportunities to economize on the resources used in furnishing care, but also more opportunities to benefit from stinting on care or avoiding relatively costly patients (selection). Policymakers' choices among

payment units, however, are often limited by the lack of corresponding product classification systems or ready capability to monitor product content. For example, Medicare generally does not pay for physicians' services based on episodes of care because it lacks an effective episode classification system.[7]

Good product definitions require a product classification system that accounts for a substantial proportion of the predictable variation in providers' costs among products and reliable information for assigning services, cases, or beneficiaries to the product categories. Most product classification systems are based on clinical factors, such as diagnoses or procedures, that are expected to affect the content and duration of care. Good definitions thus generally reflect at least a moderate level of consensus among clinicians about the appropriate content and standards of care for the service or bundle of services included in each product.

The product classification systems used in Medicare's payment systems for hospital inpatient acute care and ambulatory care meet these criteria reasonably well. These classification systems include the diagnosis related groups (DRGs) for hospital inpatient care and the service classification systems, based on the HCFA Common Procedure Coding System (HCPCS), for physician services and ambulatory payment classification groups (APC) for hospital outpatient care. The classification system proposed for use in the payment system for rehabilitation facilities—functional independence measure-function related groups—also appears effective (Carter et al. 2000).[8]

In contrast, the classification systems used to pay for SNF care and home health services do not meet these criteria (see Chapter 6). Their ineffectiveness stems in large part from the lack of firm boundaries between acute care, which Medicare covers, and long-term care, which is not covered. A major problem in classifying SNF care is that a substantial proportion of SNF patients go on to use uncovered long-term nursing home care, often in the same facility. In addition, although the Resource Utilization Groups (RUG) classification system is largely based on patients' needs for specific services, it does not adequately distinguish medically complex patients who require costly drugs, intravenous therapies, and supplies (Kramer et al. 2000). For home health care, the problem is a lack of clinical consensus about the appropriate mix and quantity of visits that should be furnished to patients with different problems during a 60-day episode of care. This problem may be especially difficult to resolve for the many home health episodes that are initiated without a prior acute hospital inpatient stay.

Good product definitions also require classification variables that are reasonably objective, readily available, and easily verified. If these criteria were not met, providers would have incentives to increase their revenues by manipulating the classification variables so that services or patients were assigned to higher-paid product categories. Product definitions based on information that is subjective or difficult to obtain and verify are likely to be unreliable and burdensome for providers and HCFA.

Again, the information used to assign services or patients to product categories for ambulatory and hospital inpatient care appear to satisfy these criteria, while that used for SNF and home health care is fraught with problems. For example, services performed in the OPD are assigned to APC categories based on the HCPCS code corresponding to the service or procedure. The accuracy of the service codes reported on hospitals' OPD claims can be independently verified by examining patients' medical records. In contrast, the SNF and home health classification systems are based on information from patient assessment instruments that are difficult and time-consuming to use and produce subjective patient data of doubtful reliability (OIG 2000, Moore et al. 2000, Goldberg et al. 1999). Moreover, the classification variables—assessment items—cannot be independently verified at a later date because they represent subjective judgments at an earlier time; an auditor could not reexamine the patient and the medical record would only show the subjective judgment the assessor reached.

Supporting rules defining product boundaries

Supporting rules that establish product boundaries help to strengthen product definitions by neutralizing providers' financial incentives to unbundle the product or engage in risk selection. As mentioned, providers facing predetermined payment rates have incentives to unbundle the product by billing separately for services that should be included in the payment unit or by shifting some of these services to another setting. In addition, when the product classification system fails to capture severity differences among patients, providers have incentives to avoid patients whose care is expected to cost substantially more than the payment rate and seek patients whose care is likely to result in below-average costs.

To counter these incentives, most payment systems include several types of rules. Bundling rules typically prohibit providers from billing separately for services included in the bundle or discount payment—wholly or in part—when included services are furnished in another setting. For example, hospitals cannot bill separately for related outpatient services—such as laboratory tests or imaging services—furnished within 72 hours prior to a hospital admission. Similarly, physicians' payments are reduced when services are furnished in a hospital outpatient department or other facility instead of the physician's office.

7 One exception is surgical episodes; pre- and post-operative office visits are bundled together with the surgical procedure and paid under a global surgical payment rate. Another is end-stage renal disease; Medicare pays for physician management of dialysis services on a monthly capitation basis.

8 In its proposed rule (HCFA 2000), HCFA changed the name of this classification system to case-mix groups (CMG).

Transfer policies reduce providers' payment rates to reflect the decline in costs that occurs when services that ordinarily would have been furnished during the latter part of a stay are shifted to another setting.[9] Finally, outlier policies provide additional payments to providers when they encounter unusually costly patients, at least partially offsetting the marginal costs of furnishing additional services. If these policies are well designed, they limit the benefits providers can realize from actions that might cause unwarranted increases in program spending or diminish beneficiaries' access to care or the quality of care they receive.

Availability of data for setting and maintaining accurate relative values

To establish a good contract, HCFA also must have data for setting and maintaining relative values that accurately reflect the relative costliness of each product. Limitations in the available data are likely to result in errors in the relative values among products, leading to overpayments for some products and underpayments for others. The data HCFA uses to set product relative values for Medicare's payment systems are quite varied and always imperfect to some degree. Even the data used to set relative values for DRGs in the hospital inpatient PPS have important limitations. For example, the relative values are based on hospitals' billed charges, which give a distorted picture of relative costliness across DRGs because they reflect systematic differences among hospitals in the average mark-up of charges over costs and in the level of costs per case (MedPAC 2000b, MedPAC 2000a).

Data limitations are substantially more serious, however, in some other payment systems, such as those for SNF and home health services. In these systems, the relative values are based on estimates of staff time usage in furnishing care—days of SNF care, for example, for patients assigned to different RUGs. Although differences in the mix and quantity of staff time may account for much of the variation in per diem costs among SNF patients, these data are unlikely to produce accurate relative values for all SNF products because other important cost components, such as drugs and supplies, follow a different pattern. Errors in the relative values for both SNF and home health care are likely to be especially large for product categories—and patients—that require substantial amounts of prescriptions drugs and biologicals.

Availability of data for other rate adjustments

Finally, to support good contracts, the payment system in each setting must account appropriately for the impact of other factors that are expected to affect efficient providers' costs but are beyond their control. Almost all of Medicare's payment systems include rate adjustments intended to compensate providers for predictable cost differences associated with variation in:

- local market conditions, such as input-price levels or demand for services related to population density,
- special characteristics of patients or services offered, such as the proportion of patients who have end-stage renal disease, or
- specialized activities, such as operating programs for training residents (physicians) or other health professionals or serving a disproportionate share of low-income patients.

When these adjustments are set incorrectly, they degrade the purchase contract, resulting in payment errors across markets, for specific products, or for specific providers, which may threaten beneficiaries' access to care or diminish the quality of care they receive.

HCFA's capacity to set accurate payment adjustments for each payment system depends on knowledge of providers' production methods in each setting and the availability of accurate data for the relevant adjustment factors. Thus, for each setting, HCFA must understand the major components of providers' costs, such as labor, supplies, and equipment, and what factors are likely to affect those components. In addition, HCFA must collect data on those factors and design rate adjustments to account for their effects.

For example, because health care delivery is generally labor intensive, differences in market wage rates for occupations typically employed in health care organizations often account for a substantial proportion of observed nationwide variation in providers' unit costs. Consequently, accurate input-price adjustments are essential in setting appropriate payment rates for providers in each market area. For most facility providers, the market input-price adjustment is made by applying a wage index—which measures the relative level of average hourly wages in each market, compared with the national average wage rate—to raise or lower a portion of the base payment amount. The adjusted portion differs across settings, reflecting differences in the proportions of providers' costs that HCFA believes are affected by market wage levels. The wage index used in most facility settings, however, is based on labor compensation data collected only from acute inpatient and outpatient units in PPS hospitals. This problem as well as limitations in data content and labor market definitions, raises questions about the accuracy of the input-price adjustments for all facility settings, especially non-hospital settings (see Chapter 4).

Other adjustments address a variety of factors, such as additional payments for hospitals that operate residency programs for training physicians, and for those that

9 In the hospital inpatient PPS, hospitals are paid based on a per diem rate—up to a maximum of the full per discharge payment rate for the DRG—when they transfer a patient to another PPS hospital after a stay that is two or more days shorter than the national average length of stay for the DRG. This policy also applies for patients in 10 DRGs who are discharged to a rehabilitation facility, long-term hospital, SNF, or to related home health care.

are the sole providers in their communities (MedPAC 1999a). Recently, policymakers also have expressed interest in potential payment adjustments for low-volume providers that furnish inpatient or outpatient care in rural areas. (We expect to publish findings from our research on this issue in our June 2001 report to the Congress.)

Although current knowledge of providers' production processes is substantial for all settings, the quantity and quality of data available for analyzing factors that affect unit costs vary widely. HCFA has extensive claims and cost report data for hospitals, but available data for most other facility providers are limited, often of poor quality, and frequently lack information needed to assess existing or potential rate adjustments.

Is full prospective payment appropriate?

When limitations in knowledge, tools, and data prevent HCFA from establishing good contracts, substantial discrepancies may occur between the payment rates and efficient providers' short-run costs. In these instances, policymakers should be concerned that some providers might respond to the payment incentives in undesirable ways. The likelihood that some providers would respond inappropriately depends in large part on the power of the contract and the presence or absence of mitigating factors in the organizational environment surrounding care delivery.

The power of the contract

Other things being equal, providers' financial risk under prospective payment reflects two factors: the power of the contract and the scope of the service bundles included in the payment rates. The power of the contract is determined by the extent to which the payment rates are fixed in advance and unaffected by providers' incurred costs (Laffont and Tirole 1993). Contract power is greatest when payment rates are completely fixed. This places providers fully at risk for the difference between the payment rate and their unit costs, maximizing their potential rewards and motivation for reducing their costs because they get to keep every dollar they save.

The extent to which payment rates are fixed differs somewhat among Medicare's prospective payment systems, reflecting variations in two types of policies. First, payment rates are not completely fixed when some cost components are carved out or excluded from the payment rate and paid separately. For instance, Medicare's per diem payment rates for SNF care exclude the cost of services that must be provided in another facility, such as emergency room visits, certain nonroutine diagnostic tests, or dialysis treatments. Costs for new drugs and devices are treated similarly for a three-year period in the OPD payment system when they would substantially increase hospitals' costs per unit in an outpatient procedure category (see Chapter 3). Such carve-outs—often called pass-throughs—are narrowly defined, however, and used in only a few payment systems.

The extent to which the payment rates are fixed also is reduced by outlier policies, which make extra payments to providers when they incur extraordinarily high costs in furnishing a patient's care (McClellan 1997). Outlier policies are intended to preserve beneficiaries' access to care by mitigating providers' financial incentives to avoid patients who are likely to be unusually costly. These policies generally are not needed in Medicare's payment systems for ambulatory care because providers are paid for each service they furnish.[10] Medicare's payment systems for acute inpatient and post-acute care, however, are based on larger payment units—such as days, stays, or episodes—that encompass broader bundles of services. Except for the SNF payment system, all of these systems include an outlier policy that triggers additional payments when providers' costs for individual patients exceed a threshold amount equal to the regular payment rate plus a fixed loss amount. The outlier threshold in the hospital inpatient PPS in fiscal year 2001, for example, is set at the regular payment rate for the DRG plus $17,550. Medicare pays 80 percent of the provider's case-specific costs above the threshold.[11]

Providers' financial risk also reflects the scope of the service bundles included in the payment rates, which varies widely among Medicare's payment systems. Financial risk is lower in payment systems with narrow payment units, compared with those based on broader payment units. For example, risk is relatively low in the payment systems for physicians' services or OPD care because providers can increase payments by furnishing more services. In contrast, risk is relatively high in the payment system for hospital inpatient acute care (and even higher in Medicare+Choice contracts) because furnishing more services increases providers' costs, but not payments; conversely providers who reduce services within a hospital stay keep all of the cost savings.

Potential mitigating factors in the organization of care delivery

Although the hospital inpatient PPS and the physician fee schedule represent good contracts, providers still have opportunities to respond to payment incentives in undesirable ways. Other payment systems, such as those for SNF care and home health services, present greater opportunities for payment discrepancies and undesirable provider responses. Providers' actual responses to payment incentives in each setting, however, depend on several factors, including:

- whether the care decisionmaker is also the service provider,

10 Policymakers made an exception in the OPD payment system; the outlier policy offsets facilities' higher costs when a patient receives an unusually large number of services in a single day.

11 McClellan argues that Medicare's prospective payment contracts with hospitals are not as high powered as they may at first seem, citing extra payments for outlier cases and higher payment rates when surgical or other procedures are performed.

- the extent of physician involvement in furnishing care, and
- the likelihood of clinical oversight.

These factors vary among care settings, potentially affecting the likelihood that providers might choose undesirable responses to payment discrepancies (Table 1-3). In some settings, the care decisionmaker differs from the service provider, and the financial incentives they face under separate payment systems are usually not aligned. In the hospital inpatient setting (and to a lesser degree in OPDs or ASCs) for example, the care decisionmaker is the patient's physician who generally is independent and paid separately from the hospital (or other facility service provider). In these instances, the potential for adverse responses to service providers' payment incentives may be limited by physicians' direct involvement in monitoring the care furnished by the facility staff. The chances of undesirable responses by the service provider are probably also reduced when oversight by other clinicians is routine.

In other settings, however, care decisionmakers and service providers may not be independent, physicians may have little direct involvement in the care beneficiaries receive, and clinical oversight may be limited. In these settings—skilled nursing facilities and home health agencies, for example—only the organization's culture and caregivers' personal and professional ethics may inhibit undesirable responses to payment incentives.

TABLE 1-3

Factors that may inhibit undesirable responses to payment discrepancies for selected fee-for-service providers and settings

Provider and setting	Care decisionmaker differs from service provider	Alignment of financial incentives for care decisionmaker and service provider	Extent of physician direction of care	Extent of clinical oversight
Physician office	No	Aligned	Strong	Limited
Hospital outpatient department	Yes	Generally not aligned	Strong	Moderate
Ambulatory surgical center*	Yes	Depends on whether physician is an owner	Strong	Moderate
Hospital inpatient	Yes	Generally not aligned	Strong	High
Rehabilitation facility*	No	Depends on physician compensation	Strong	High
Long-term hospital#	No	Depends on physician compensation	Strong	High
Skilled nursing facility	No	Generally aligned	Weak	Limited
Home health agency	No	Generally aligned	Weak	Limited

Note: * proposed design. # under development.

Policy options when the contract is poor

The most obvious solution for a poor contract in a particular payment system is to pinpoint the weakness—usually the product classification system, its supporting data, or lack of data for setting relative values and appropriate payment adjustments—and strengthen the faulty tools and information. Building new classification systems or upgrading supporting data, however, usually involves a substantial effort that may take several years to bear fruit. What can be done in the short run until new tools and data are available?

We must find ways to limit the effects of potential payment discrepancies when the products being purchased are not well defined or other barriers prevent HCFA from setting accurate relative payment rates. In the past, policymakers have adopted several strategies to reduce financial risk for providers, lowering the likelihood that they would respond to payment problems in undesirable ways. One strategy is to accept the weaknesses of available tools and data in making initial design decisions about new prospective payment systems. Policymakers, for instance, might select a narrower payment unit with stronger product definitions rather than a broader unit that would be more consistent with clinicians' thinking about episodes of care. The payment system for physicians' services is an example. Some might argue that HCFA also followed this strategy in adopting narrower APC definitions with more limited bundling of procedure-related services than those it originally proposed. Similarly, using the day rather than the stay as the payment unit for SNF services might be viewed as one way of avoiding undesirable incentives and limiting financial risk for providers.

Another strategy is to continue to pay for some product components on the basis of incurred costs, thereby limiting the proportion of providers' costs at risk under prospective payment. Policymakers initially followed this strategy—with pass-through provisions for capital and direct medical education costs and those related to organ acquisition for transplants—in implementing the hospital inpatient PPS.

A third strategy is to implement a blended payment system in which a portion of providers' payments are based on prospective rates and the remaining portion on providers' incurred costs or fee schedules based on narrow service definitions. Policymakers employed a form of this strategy during the four-year transition to full prospective payment for operating costs per case under the hospital inpatient PPS. However, the cost-based portion of the payment was set equal to hospitals' case-mix adjusted operating costs per case in a base year updated for inflation, rather than actual incurred costs during each transition payment year. This reduced providers' financial risks relative to those they would have faced under the national prospective payment rates, but the reduction in risk was less than would have been achieved using providers' actual incurred costs. Using incurred costs, however, would have substantially weakened providers' incentives for efficiency (Newhouse 1996).

Evaluating the level of the payment rates and updates for the forthcoming year

As noted earlier, analysis of limitations in payment systems' designs and available data can suggest how the relative structure of payment rates among products and markets may differ from efficient providers' relative costs. We can use this information to identify the types of problems that may arise for providers and beneficiaries under a particular payment system. However, payment rates in any setting also may be set too high or too low across all products and markets.[12] Consequently, we also assess the current level of the payment rates and the extent to which they may need updating for the forthcoming year to accommodate anticipated changes in factors—such as input prices, care technologies, or clinical practice patterns—that might be expected to affect providers' costs (see Chapter 2).

To assess the level of the payment rates, we review information on trends and patterns in a number of factors that might be related to Medicare's payment levels including:

- volume of services,
- providers' costs, revenues, and margins,
- product content,
- provider entry and exit, and
- beneficiaries' access to and quality of care.

Volume of services

Rapid growth in product volume furnished to beneficiaries could suggest that Medicare's payment rates are too high. Declines in volume could indicate the opposite. In practice, however, it is difficult to distinguish the effects of payment policies from those associated with changes in technology, beneficiaries' preferences, or diffusion of new care standards.

Providers' costs, revenues, and margins

Cost and financial data can be obtained for some types of providers from HCFA administrative files or industry surveys. These data can be used to track trends in providers' unit costs and financial margins for services furnished to beneficiaries and those furnished to all payers. Declines in unit costs that occur while input prices are rising may suggest that providers are improving efficiency. Alternatively, providers may be stinting on services or inputs. Similarly, if unit costs are rising at about the same rate as input prices, but providers' margins for Medicare services are rising, then Medicare's payment rates may be too high. Correctly interpreting these trends is challenging, however. Available information is often incomplete—we usually lack accurate measures of providers' overall product mix, for example. We lack the ability to control for changes in care quality. Finally, the information we have is based on accounting costs, which may differ substantially from true economic costs because allocations of fixed and overhead costs are arbitrary and because unit costs measure average rather than marginal costs.

Product content

Medicare administrative data and industry surveys also may suggest changes in the nature of providers' products—declines in length of hospital inpatient stays, for example. Some changes in product content reflect changes in technology, such as improvements in surgical techniques, drugs, and anesthesia. They also may result, however, from shifting services to other settings, which would reduce providers' costs without changing Medicare's payment rates. MedPAC has previously recommended reducing Medicare's hospital inpatient payment rates to offset the effects of shifting services to post-acute care settings (see Chapter 2).

Provider entry and exit

Rapid growth in the number of participating providers across many markets may indicate that Medicare's payment rates are too high. Conversely, widespread provider withdrawals from Medicare could suggest that the rates are too low.

Beneficiaries' access and quality of care

Evidence of widespread access or quality problems for beneficiaries may indicate that Medicare's payment rates are too low. In the absence of such evidence, the payment rates could be either about right or too high. Access and quality measures

12 The level of the payment rates in any setting is determined by the base payment amount or conversion factor.

are often difficult to interpret, however, because they are influenced by many factors. Access to care for specific services, for example, may be influenced by beneficiaries' income, secondary (medigap) insurance coverage, preferences, or transportation barriers, which are all unrelated to Medicare's payment policies.

All of these measures present formidable challenges of interpretation. Consequently, none of them provides conclusive evidence about the appropriateness of Medicare's base payment amounts in any setting. Moreover, the availability, timeliness, and quality of information vary among settings. Nevertheless, the combined weight of evidence is sufficient to make reasonable judgments about payment levels for some settings, such as hospital inpatient care, physicians' services, and perhaps some other ambulatory care settings. Judgments about payment levels in post-acute care settings are subject to much greater uncertainty because little information is available about the appropriate volume of care or for the indicators identified earlier.

Improving tools and data

Analyzing the limitations of payment system design and available data in each setting can help identify which payment systems are likely to produce substantial payment discrepancies and the types of discrepancies. The findings from such an analysis within and across Medicare's payment systems should be used for several purposes. First, they highlight important weaknesses of payment system design and performance that could be remedied by improving or replacing specific payment tools and data. Second, they can be used to infer the specific types of problems that providers' responses to payment discrepancies might create for beneficiaries and taxpayers. This can help identify kinds of indicators and appropriate data sources for monitoring payment systems' effects on providers and beneficiaries. Finally, the findings may suggest some important lessons for policymakers about problems that should be anticipated and addressed in developing and applying changes in Medicare's payment policies.

Strengthening tools and data to improve payment system performance

Although payment discrepancies may result from weaknesses in any payment system component, our analysis suggests that four components are especially important:

- the product classification system and supporting data,
- the accuracy of the relative weights,
- the accuracy of input-price adjustments, and
- the level of the base payment amount or conversion factor.

In some of Medicare's payment systems—those for post-acute care services, for example—major improvements are needed in at least the first two components.

Improving post-acute care classification systems is likely to require developing a better understanding of key clinical factors—such as the nature and mix of diseases and conditions, stage of disease progression, and functional status—and other factors (care objectives, availability of support at home) that should affect the mix and quantity of services furnished to patients. In addition, these factors must be captured for each patient in a reliable reporting system, either as part of providers' claims or linked to them. The most difficult challenge will be to distinguish patients' acute recovery and rehabilitation needs from their needs for long-term support services.

Rethinking post-acute care classification systems might yield three benefits. It would focus attention on what we need to know about patients who are candidates for post-acute care. This might permit HCFA to simplify patient assessment and reporting systems, improving reliability and reducing the administrative burden on providers. Developing new classification systems also should enable clinicians to specify corresponding clinically based standards for care, which are essential for quality monitoring and for detecting some payment problems. Finally, standards of care associated with each product category imply types of resources needed to furnish appropriate care, which might help policymakers develop better methods for establishing and maintaining accurate relative values.

To enhance the accuracy of the relative values, policymakers will have to devote resources to improving the reliability of claims and cost report information submitted by providers. This might entail requiring providers to improve their systems for setting and posting service charges for non-routine services and those for allocating and reporting costs associated with categories of services furnished to beneficiaries.

Identifying problem and performance indicators and appropriate data sources

More effort is needed to develop timely and focused measures of payment systems' effects on providers and beneficiaries. Because resources are limited, however, this effort must be carefully targeted to the settings where problems are most likely to occur and the types of problems most harmful to beneficiaries. As noted earlier, analysis of payment system and data limitations suggests the kinds of payment discrepancies that may be likely in each setting and thus the potential provider responses we might expect to observe. Those expectations can then be used to infer the problems beneficiaries might experience, helping develop targeted indicators for monitoring payment systems' effects.

A number of useful indicators for evaluating payment systems' effects on providers could be developed by making better use of HCFA's administrative data. For some facility settings, this would require improvements in the content and quality of financial data providers report on their annual cost reports. Specific indicators might be similar to those we now use in analyzing payment policies' effects on hospitals under the inpatient PPS, including shifts or changes in patterns for:

- product volume
- product mix
- unit cost
- product content
- staff ratios
- revenues and margins for Medicare services
- provider participation

Problems of interpretation will remain, however, because providers' decisions about product volume and mix, staffing, and so forth are influenced by many factors—such as private payers' payment policies and local market conditions—other than Medicare's payment rates.

Indicators of payment systems' effects on beneficiaries' access to and quality of care are more difficult to develop and frequently require specialized surveys of beneficiaries or providers. Moreover, such associations are difficult to demonstrate. Nevertheless, substantial efforts are needed in HCFA and elsewhere to advance the policy community's ability to measure and monitor changes in access to and quality of care. Observed trends in access or quality may not be attributable to changes in payment policies. Still, a variety of sensitive indicators can highlight non-payment problems that need attention and they are necessary for assessing the extent to which Medicare is meeting its overall goal of ensuring access to high-quality care.

Lessons for policymakers

Our assessment of Medicare's payment systems in the traditional program also holds some lessons for policymakers. One is that HCFA cannot do everything at once. The BBA required many changes in Medicare's payment policies within a very short period. Developing and implementing new payment systems is a difficult and time-consuming task in the best of circumstances; adopting five or six new systems nearly simultaneously is unprecedented.

Given the volume of work, HCFA lacked the staff resources and time to fully prepare new payment systems and make the necessary changes in its administrative systems. Some objectives that could have been addressed in less hectic conditions were sacrificed, including prior development of monitoring systems to track changes in provider behavior that might adversely affect beneficiaries.

Other tasks—such as delivery of critical coding, patient assessment, and billing software to HCFA's fiscal agents and providers for pre-testing, and the development and dissemination of edit standards—were often delayed until new payment systems were about to go into effect. As a result, fiscal agents and providers had little time to prepare their internal data systems to process claims under the new systems. Further, because changes in provider reporting requirements were not implemented in advance, baseline data needed to measure and evaluate changes in the volume and mix of services under the new systems are often unavailable. This problem is especially serious for SNF and home health care, in which patient assessment instruments needed to assign patients to new payment categories were not widely used prior to the adoption of prospective payment.

These problems contrast sharply with what occurred when HCFA adopted new payment systems for hospital inpatient care and physician services. Before implementing the hospital inpatient PPS in 1983, HCFA developed a monthly monitoring system that tracked changes in discharge volume, length of stay, and other indicators that might suggest whether providers were responding to the new payment system as policymakers intended. In addition, hospitals were using the clinical coding systems needed to assign patients to DRGs for several years before the inpatient PPS was implemented. Similarly, before the physician fee schedule took effect in 1991, HCFA and the Physician Payment Review Commission (PPRC) developed monitoring systems and special surveys to track physicians' responses to the payment system. PPRC also developed physician and beneficiary surveys designed to detect changes in access to care.

Many of the problems caused by inadequate preparation have been (or will be) compounded by the continuing changes in payment policies mandated in recent legislation. The BBRA and the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 required an already overburdened HCFA to make changes in many of its payment systems under extremely tight deadlines. Although many of these policy revisions are arguably needed, they create substantial administrative problems for HCFA and providers and instability in Medicare's payment rates. The latter outcome is clearly inconsistent with one of the objectives of prospective payment; setting payment rates in advance to reduce uncertainty and facilitate planning for providers and HCFA.

A second lesson is that we get what we pay for. Many of the data limitations that cause problems in establishing accurate payments for some settings are due, at least in part, to chronic underfunding of HCFA's administrative budget. Activities that help to improve the accuracy and reliability of providers' reported data—such as auditing cost reports or developing and disseminating coding instructions—have received inadequate support for many years. HCFA's administrative expenses generally have accounted for less than 2 percent of total outlays in

recent years, well below the comparable proportion of private insurers' expenses for similar activities. Consequently, data necessary to develop critical payment system components, evaluate important policy options, or detect serious problems often have been lacking or unreliable.

The lack of adequate monitoring tools and data is a major problem, especially in a period of rapid change. This problem will be difficult and costly to remedy. Consequently, additional resources will be needed to develop better data for setting and maintaining accurate payment rates and to expand monitoring activities to satisfy policymakers' ongoing needs for payment policy assessment.

Finally, in some instances, the tools and data available in the short run may suffer from so many limitations that policymakers should carefully consider whether prospective payment is appropriate. The alternative policy is partial or complete reliance on cost reimbursement or a fee schedule based on a narrow payment unit, with limits on cost increases, the extent to which services can be billed separately, and other potential restrictions. Compared with cost reimbursement, prospective payment gives providers strong incentives to reduce costs. But prospective payment is not always better. If the products Medicare is buying cannot be well defined and monitored, or payment rates are likely to be seriously inaccurate for other reasons that cannot be easily corrected, prospective payment might expose beneficiaries to substantial risk with little chance of benefit.

The corollary is that payment system designs and the supporting data should be carefully and fully evaluated based on empirical evidence in an open process before they are adopted. If the evidence shows that the best currently available design would still produce a poor contract, then policymakers should be willing to rethink the desirability of pursuing prior decisions to adopt prospective payment. (This possibility applies not only to the current payment systems for SNF care and home health services, but to new systems under development for long-term hospitals and psychiatric facilities.) Sometimes the best we can do is not good enough, and we have to go back to the drawing board. That is not cause for shame or recriminations; rather, it is good public policy to avoid making potentially costly mistakes.

What to do with poor contracts that have been adopted is an open question. If total payments to providers are adequate and systematic payment distortions tend to offset for individual providers, policymakers may be willing to let the current payment system continue until a better replacement can be developed. Whether these conditions hold for SNF care and home health services, however, is impossible to judge based on currently available information. Consequently, decisions about short-run policy options for these settings will have to await further information about beneficiaries' and providers' experiences under these payment systems.

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CHAPTER 2

Updating payments for physician services and for care provided in hospital outpatient departments

RECOMMENDATIONS

2A The Congress should replace the sustainable growth rate system with an annual update based on factors influencing the unit costs of efficiently providing physician services.

***YES: 14 • NO: 0 • NOT VOTING: 0 • ABSENT: 2**

2B In implementing the update for physician services, the Congress should require the Health Care Financing Administration to use a forecast of the change in input prices.

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

2C The Secretary should not use an expenditure target to update the conversion factor in the outpatient prospective payment system or to update payments for other ambulatory care settings.

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

2D The Congress should require an annual update of the conversion factor in the outpatient prospective payment system that is based on the relevant factors influencing the costs of efficiently providing hospital outpatient care, and not just the change in input prices.

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

***COMMISSIONERS' VOTING RESULTS**

CHAPTER 2

Updating payments for physician services and for care provided in hospital outpatient departments

In this chapter

- Problems with the sustainable growth rate system for physician services
- Instituting a new approach for updating payments
- Controlling spending for physician services
- Updating payments for care in hospital outpatient departments

To help ensure beneficiaries' access to high-quality care, Medicare payments should correspond to the costs efficient providers incur in furnishing this care. To keep payments and costs synchronized over time, Medicare's payments for most services are updated annually. Two methods for updating payments include: (1) accounting for cost changes over time using an update framework, and (2) determining a target for spending and basing updates on whether spending is consistent with this target. For most services, updates to Medicare payments are based, at least in part, on the former approach. For physician services, however, a target for overall spending is determined according to the so-called sustainable growth rate system. The Medicare Payment Advisory Commission is concerned that this system fails to account adequately for changes in the cost of physician services and that it is a poor mechanism for controlling spending. Accordingly, we recommend replacing the sustainable growth rate system with an update method that better accounts for the cost of providing care. The Commission also is concerned that inconsistent methods for updating payments to different ambulatory care providers may lead to treatment decisions based on financial, as opposed to clinical, considerations. As a result, we recommend that updates under the prospective payment system for hospital outpatient services also be based on an update framework, rather than on an expenditure target.

Medicare's payments for physician services are made according to a fee schedule, under which services are given relative weights that reflect resource requirements. These weights are adjusted for geographic differences in practice costs and multiplied by a dollar amount—the conversion factor—to determine payments. The conversion factor is updated annually, based on a formula designed to control overall spending while accounting for factors that affect the costs of providing care.

Calculating the update to the conversion factor is a two-step process. First, the Health Care Financing Administration (HCFA) must estimate the sustainable growth rate (SGR), which is the target rate of growth in spending for physician services and is based on a formula defined in law. It is a function of the percentage changes in:

- input prices for physician services,
- traditional Medicare enrollment,
- real gross domestic product (GDP) per capita, and
- spending attributable to changes in law and regulation.

Second, HCFA calculates the update to the conversion factor. This update is a function of:

- the change in input prices for physician services,
- an adjustment factor that increases or decreases the update as needed to align actual spending with the SGR target, and
- other adjustments, such as budget neutrality adjustments required by the Balanced Budget Refinement Act of 1999.

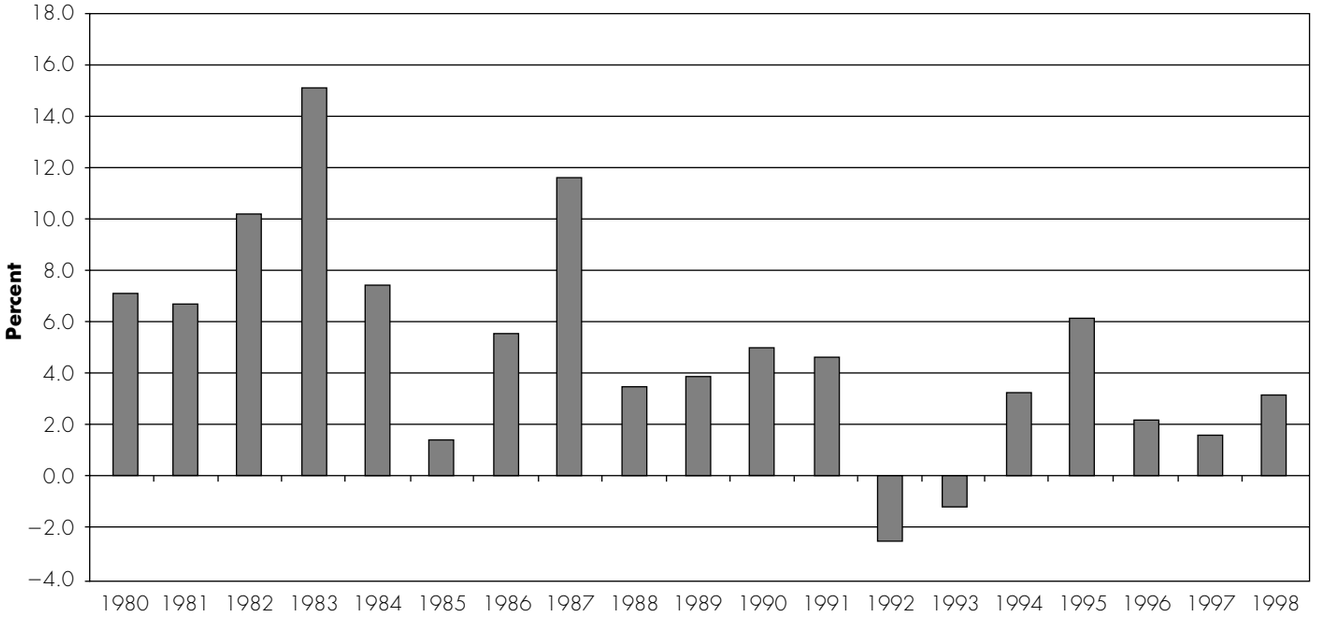
The update equals the change in input prices only if actual spending equals the SGR target. When actual spending is above the target, the update is less than the change in input prices; if actual spending is below the target, the update exceeds the change.

Use of an expenditure target to update payments began following passage of the Omnibus Budget Reconciliation Act of 1989—the Congress's response to rapid growth in Medicare spending for physician services. During the 1980s, annual growth in real spending per beneficiary for physician services ranged from 1.3 percent to 15.2 percent (Figure 2-1), with an average annual growth rate of 8.0 percent during 1980–1989. Since the fee schedule was introduced in 1992, growth in spending for physician services has slowed, with growth in real spending per beneficiary averaging 2.4 percent from 1991–1998.

This slowdown in spending, combined recently with relatively high growth in real GDP per capita, has led to updates exceeding the estimated change in input prices for physician services. For 2000,

FIGURE 2-1

Growth in real Medicare spending per beneficiary for physician services, 1980–1998



Note: Spending growth deflated by gross domestic product deflator.

Source: Board of Trustees, 1995, 1998, and 2000.

the update was 5.4 percent, based on an input price change of 2.4 percent, an update adjustment factor of 3.0 percent, and other adjustments of −0.1 percent. For 2001, the update was 4.5 percent, based on an input price change of 2.1 percent, an update adjustment factor of 3.0 percent, and other adjustments of −0.6 percent.

Problems with the sustainable growth rate system for physician services

In updating Medicare's payments for physician services, policymakers must answer two questions (MedPAC 1999). First, are current payment rates at the right level? And second, what factors should be taken into account in deciding how much to change that level over time? Answers to these questions are important because payment rates for individual services that are too low may limit beneficiaries' access to high quality care, while rates that are too high may encourage overproduction of services and unnecessarily burden beneficiaries and taxpayers. After reviewing the design of the SGR system, MedPAC concludes that it cannot maintain payment rates at the right level.

The system does not adequately account for all relevant factors that affect the cost of providing physician services. When making payment update recommendations to the Congress, MedPAC typically considers both factors affecting the current level of payment and factors expected to affect unit costs in the coming year, including changes in input prices, technology, and productivity growth, as well as one-time factors, such as implementation of new federal regulations. As discussed below, some of these factors are not relevant to updating payments for physician services, but the SGR system only addresses input price inflation and productivity growth; therefore, it does not fully account for changes in the cost of providing physician services.

More fully accounting for factors affecting costs would only solve one of the problems with the SGR system. Because this system adjusts updates for spending that is above or below an expenditure target, it can lead to payments that diverge from the costs of efficiently provided care.

Additionally, it is difficult to set an appropriate target for overall spending on care provided by physicians. Like all health care services used by Medicare beneficiaries, overall spending for physician services is influenced by many factors that are difficult to measure, including the preferences of patients and providers, the diffusion of technology, and the aging of the population. The situation is further complicated because physician services can be provided in a variety of ambulatory care settings—including physicians' offices, hospital outpatient departments, and ambulatory surgical centers—and because services are shifting from inpatient to ambulatory care and among ambulatory care settings (MedPAC 2000). Establishing the proper spending level while accounting for all these dynamics does not seem possible.

The SGR system attempts to sidestep these measurement problems with an expenditure target based on growth in real GDP. Such a target provides some assurance that growth in spending will be consistent with growth in the national economy and therefore affordable. Such a target, however, does not necessarily correspond to changes in the unit costs of providing necessary care of high quality.

Policymakers' difficulty in setting an expenditure target can have serious consequences for two reasons. First, because actual spending is unlikely to be the same as the target, updates under the SGR system can lead to payments that diverge from costs. If this occurs, payments will either be too low, potentially jeopardizing beneficiary access to care, or too high, making spending higher than necessary.

Second, the SGR system only applies to services paid for under the physician fee schedule. Because such services can be provided in several settings, updates based on an expenditure target that applies only to one setting could create financial incentives that inappropriately influence clinical decisions about where services are provided.

Even if the problems with setting an appropriate expenditure target could be overcome, it is unlikely that a mechanism like the SGR system could work as the Congress intended. When an expenditure target for physician services was first enacted in 1989, it was assumed that the system would provide physicians with a collective incentive to control the volume of services. This goal is unrealistic, however, because an individual physician reducing volume in response to incentives provided by the SGR system would not realize a proportional increase in payments. Instead, the increase in payments would be distributed among all physicians providing services to Medicare beneficiaries.

Instituting a new approach for updating payments

Given the problems with the SGR system, MedPAC recommends that the Congress consider a new approach to updating payments for physician services that more fully accounts for changes in the unit costs of providing those services. In considering payment updates of other Medicare services, MedPAC uses an update framework consisting of eight factors that address the appropriateness of the current level of payment and changes in costs expected to occur during the coming year (see text box, p. 24). The Commission believes elements of this framework could provide a promising basis for developing a new approach for updating payments to physicians.

The Commission also believes that payment updates for physician services should only account for changes in the

MedPAC's update framework

MedPAC uses a framework to develop update recommendations for Medicare's fee-for-service payment rates consisting of eight factors that may influence providers' payments or costs. The framework is intended to provide a basis for ensuring that payments continue to match the efficient cost of delivering high-quality patient care. To estimate the degree to which payments per unit (discharge, day, visit, or service) should rise or fall in the coming year, we estimate the percent changes (expressed as point estimates or ranges) attributable to each factor and sum them.

In assessing the adequacy of payment rates, policymakers ideally would first settle on an appropriate base rate and then consider the need for an update for the coming year. For this reason, MedPAC's framework first addresses factors affecting the appropriateness of the current level of payments and then turns to factors expected to change providers' costs in the coming year. Factors relating to the current level of payments are still ideally dealt with annually, however, as evidence of their effects on payments emerges. When this proves feasible, the "level" adjustments and "update" adjustments can be combined into a single recommended payment change for the next year.

Five components of the update framework address the appropriateness of current rates:

- **Correction for previous forecast error.** Inflation in input prices is measured using an index developed by the Health Care Financing Administration (HCFA) that comprises a fixed set, or market basket, of cost elements. Because the updates the Congress legislated previously were based on forecasts of price inflation, however, they are subject to inaccuracy. The Commission corrects for forecast error when actual data become available, generally two years after the update decision.

- **Unbundling of the payment unit.** A downward adjustment is made when there is evidence that cost reductions have been attributable to unbundling; that is, providers billing separately for services formerly within a single unit of payment. Unbundling can lower providers' costs without a corresponding reduction in Medicare's overall payment obligations. However, this component only applies in payment systems with a unit of payment that bundles services.

- **Coding changes across service categories.** Changes in case mix (that is, a shift in caseload to higher- or lower-paying classification groups) automatically change prospective payments. Changes in coding practices, however, can affect payments without any change in providers' resource needs. When there is evidence of such changes in coding, MedPAC makes an offsetting adjustment to bring payments back into alignment with efficient providers' costs.

- **Complexity changes within service categories.** A change in case complexity within a classification group—reflecting a change in the average severity of illness or other factors—can affect resource needs without a corresponding change in payments. A compensating adjustment is required.

- **Medicare policy changes affecting financial status.** Payment changes affecting the service that are legislated but not yet implemented should be considered in the updating process. A policy change that cuts payments does not automatically provide justification for an offsetting increase through the update, or vice versa, but the Commission may adjust the update that otherwise would apply if we believe the two changes together would have too large an effect on provider financial status.

Three components of the framework address cost changes expected in the next year:

- **Forecast of price inflation.** HCFA's forecast of the market basket estimates the rise in costs over the next year if there were no changes in the inputs providers use to furnish care or in the types of patients they treat.

- **Scientific and technological advancement net of productivity growth.** The allowance for scientific and technological advancement provides for the adoption of technological advances that enhance quality of care but also raise costs. Offsetting this amount is a downward adjustment for productivity growth, reflecting the savings MedPAC expects from fewer or less expensive inputs being used to deliver the services. Productivity improvements often result from the introduction of cost-reducing new technologies.

- **One-time factors.** This component provides the Commission with the flexibility to consider irregular factors outside the control of providers that are expected to have a systematic and significant impact on costs. For example, a one-time adjustment has been made for year 2000 computer problems, and the costs of complying with major new regulations might be considered in the future. If these impacts are expected to affect costs in a single year but not permanently, a negative adjustment is applied in a following year. ■

cost of efficiently providing care. If control of overall spending becomes an issue, other options, outlined later in this chapter, can be considered.

RECOMMENDATION 2A

The Congress should replace the sustainable growth rate system with an annual update based on factors influencing the unit costs of efficiently providing physician services.

Replacing the SGR system would be a major departure from current policy. As required by law, HCFA has updated the fee schedule's conversion factor with an expenditure target mechanism, in one form or another, since the fee schedule was introduced in 1992.[1] Basing the updates instead on factors influencing the unit costs of providing services requires answers to two questions: what factors are relevant to updating payments for physician services, and how can they be measured? Further work is necessary to answer these questions, but the Commission can offer some initial thoughts.

Four of the factors appear to be particularly relevant to updating payments for physician services: input price inflation, complexity changes within service categories, scientific and technological advancement (S&TA), and one-time factors. The discussion below addresses the relevance of these factors and begins to lay out how they could be considered in updating payments.

Input price inflation

In accounting for changes in the cost of providing services, changes in input prices are important for all services. In the update framework, this factor is defined as an estimate of how much costs are expected to rise in the coming year, holding constant the quality or mix of inputs providers use to furnish care and the types of patients they treat.

For physician services, a measure of input price inflation is already available: the Medicare Economic Index (MEI). Calculated by HCFA, the MEI is a weighted average of price changes for inputs used to provide care. These include physician time and effort (work), nonphysician employees, and office expenses. The MEI is similar conceptually to the market basket index in the update framework for inpatient hospital care, although it includes an adjustment for productivity growth. Productivity growth is accounted for differently in the update framework as it is applied to hospitals.

Including a productivity adjustment in the MEI prevents the double-counting of gains in labor productivity (HCFA 1991). Failure to remove improvements in productivity from the earnings estimates in the MEI would mean that physicians could be paid twice for productivity growth—once in the MEI and once for any increases in the volume and intensity of services that result from becoming more productive in their practices.

Measuring input price inflation

In the MEI, inputs used to provide physician services fall into two general categories: physician work and practice expense (Table 2-1). Practice expense includes nonphysician employee compensation, office expenses, medical materials and supplies, professional liability insurance, medical equipment, and other professional expenses, such as private transportation.

The weights used to construct the MEI represent the shares of physicians' practice revenues attributable to each input, based on a survey conducted by the American Medical Association. Physician work has a weight of 54.5 percent; the remaining 45.5 percent is allocated among categories of practice expense. The downward adjustment for productivity is measured as a 10-year moving average of growth in output per unit of labor in the general economy.

Basing updates on a forecast of input price inflation

Although payment updates should be prospective in that they attempt to anticipate changes in providers' costs during the coming year, the MEI (as used in the SGR system) is retrospective. Payments for a calendar year are based on data from the year ending the previous June 30.

RECOMMENDATION 2B

In implementing the update for physician services, the Congress should require the Health Care Financing Administration to use a forecast of the change in input prices.

The rationale for a retrospective MEI is not necessarily relevant today. As part of the 1972 amendments to the Social Security Act, the Congress mandated the MEI to update "prevailing" charges under the "customary, prevailing, and reasonable" (CPR) payment method. When it passed the legislation, the Congress's concern was that the CPR method was contributing to inflation in charges for physician services. Use of the MEI to update prevailing charges was intended to reduce this inflationary tendency, presumably by "follow[ing] rather than lead[ing] inflationary trends" (HCFA 1991). With implementation of the physician fee schedule in 1992, Medicare's payment rates for physician services were disconnected from charges, and assumed inflationary tendencies of the CPR method are no longer an issue.

If the Congress decides to use a forecast of input price inflation in updating payments, it will be necessary to make corrections for forecast errors. This can be accomplished easily by comparing the actual change in input prices, when known, with the forecast used to update payments.

1 The SGR system was in effect for the 1999, 2000, and 2001 updates. Previously, updates were determined by the volume performance standard (VPS) system. This system linked annual updates of the conversion factor to historical growth in the number and mix of physician services minus an adjustment factor. If volume growth in a year exceeded that allowed by the VPS, the update was adjusted downward two years later.

TABLE 2-1

Medicare Economic Index weights and measures of price change

Input	Weight (%) Category	Weight (%) Total	Measure of price change
Physician work		54.5	
Wages and salaries	44.2		Average hourly earnings, private nonfarm
Nonwage compensation	10.3		Employment cost index: benefits, private nonfarm
Practice expense		45.5	
Nonphysician employee compensation			
Wages and salaries	12.4		Employment cost index: wages and salaries, weighted by occupation
Nonwage compensation	4.4		Employment cost index: fringe benefits, white collar, weighted by occupation
Office expense	11.6		Consumer price index: urban consumers (CPI-U), housing
Medical materials and supplies	4.5		Producer price index (PPI): ethical drugs; PPI-surgical appliances and supplies; CPI-U, medical equipment and supplies (equally weighted)
Professional liability insurance	3.2		HCFA survey
Medical equipment	1.9		PPI, medical instruments and equipment
Other professional expense			
Professional car	1.3		CPI-U, private transportation
Other	6.3		CPI-U, all items less food and energy
All		100.0	

Source: HCFA 2000.

Questions about measuring input price inflation

Replacing the SGR system would make the MEI a more important factor in payment updates for physician services because the index would no longer be subject to the SGR system's adjustment for spending above or below an expenditure target. Questions about the MEI relate to its productivity adjustment and the measures of price change used in the index.

The productivity adjustment in the MEI is similar to the adjustment for productivity growth in MedPAC's update framework. Both adjustments account for changes in productivity that affect the cost of providing services; however, the MEI adjustment only accounts for growth in labor productivity. Under MedPAC's update framework, an adjustment for productivity ideally should be based on growth in multifactor productivity, measured as output per unit of combined labor and capital inputs.

This difference helps explain why the adjustment to the MEI has typically been larger than the productivity adjustment resulting from MedPAC's applying the update framework to hospital inpatient payments. The productivity adjustment in the MEI is 1.4 percent in 2001, compared with an adjustment of 0.5 percent for the update to hospital inpatient payments. The 1.4 percent adjustment in the MEI is the weighted average of a 1.9 percent adjustment for labor inputs and no adjustment for non-labor inputs, while the 0.5 percent adjustment is a policy standard, adopted by the Commission, based on growth in multifactor productivity in the private nonfarm business sector of the economy during the 1990s (BLS 2000).

The difference between these productivity measures raises the question of whether a multifactor measure would be appropriate for physician services. MedPAC's position is that a combined measure accounts for changes in productivity for all relevant inputs used to provide services, and thus captures the gradual substitution of capital for labor that has been occurring in the economy.

In addition to questions about the MEI's productivity adjustment, comments on proposed rules by HCFA have raised questions about some elements of the MEI (Wells 1998). One issue concerns the index's measure of physician work. The measure of price change for physician work is based on average hourly earnings for all nonfarm workers, but some believe the measure should instead be based on the earnings of professional and technical workers. This may reflect the nature of the services physicians provide more appropriately, and its use would make the MEI more consistent with the hospital market basket index.

Another issue pertains to the nonphysician compensation component of the MEI. Some argue that this component does not adequately account for changes in skill mix resulting from changes in technology and shifts in the site of care from hospitals to physicians' offices.

Complexity changes within service categories

In using its framework to consider updates for hospital payments, MedPAC attempts to take into account changes in patient complexity within existing patient classification groups. For example, the

shift of less complex cases from inpatient to ambulatory care has led to an increase in the average complexity of patients receiving care in the inpatient setting.

Using this factor in updating payments is only one step toward making payments consistent with changes in patient complexity; recalibrating a payment system's relative weights is also necessary. These actions together help ensure that the overall level of payment and payments for individual services remain consistent with changes in costs. If relative weights are recalibrated without accounting for patient complexity in the update, payments for one service can rise due to a change in patient complexity only if payments for another service fall.

Similar issues arise in considering an update for physician services. For example, the complexity of patients receiving coronary artery bypass grafts (CABGs) appears to have increased with the use of stents for the treatment of occluded coronary arteries (Health Economics Research 1999). Greater use of these stents may reduce the number of low-complexity CABG patients, thus increasing the cost of physician services for the typical CABG patient.[2]

Measuring change in within-service complexity for physician services is difficult. Detailed information is necessary on changes in patient characteristics and other factors. Information from reviews of the fee schedule's relative weights is currently used by HCFA only for recalibration, but it also might be useful for estimating changes in the cost of physician services due to changes in the complexity of specific services (see text box). Use of information from HCFA's reviews should be contingent on a change in the review process, however. Based on experience with the first five-year review, the agency is concerned that the process is limited in its ability to identify changes in service delivery that decrease cost, including cost-decreasing changes in patient severity (HCFA 1999).[3] A tendency under the current process to focus more on cost-increasing changes in patient severity would make an adjustment based solely on the review too high.

To address this issue, HCFA has hired a contractor to provide technical assistance on identifying services with inappropriate relative weights for physician work. The contractor has issued one report that discusses possible methods for identifying overvalued and undervalued services (Health Economics Research 1999). A second report will review alternative data sources (HCFA 2000).

Scientific and technological advancement

Medicare's payment policies account for technological advances in different ways, depending on the nature of the advance and the payment system. New services are defined as such in service classification systems, and relative weights are assigned by comparing the cost of each new service to the average cost of all services. An example of a new service is ocular photodynamic therapy for macular degeneration; HCFA extended Medicare coverage to include this service in November 2000.

Other advances affect the cost of providing existing services. Accounting for the costs of these advances requires an increase in the overall level of payment, followed by a budget-neutral recalibration of a payment system's relative weights. Recalibration of relative weights is necessary because the effects of new technologies are often service-specific.

A decision about whether to use an adjustment for S&TA as part of the update for physician services requires answers to

Review of relative weights in the physician fee schedule

Under Medicare's fee schedule for physician services, services are assigned relative weights, reflecting resource requirements. These weights are adjusted for geographic differences in practice costs and multiplied by a dollar amount—the conversion factor—to determine payments. By law, the Health Care Financing Administration (HCFA) is required to review the fee schedule's relative weights at least every five years. The review must account for changes in medical practice, coding changes, new data, and the addition of procedures.

To fulfill this requirement, HCFA has implemented two similar processes. In the case of new and revised procedure codes, HCFA receives recommendations annually from the American Medical Association/ Specialty Society Relative Value Scale Update Committee (RUC). HCFA staff, working with medical directors from the carriers that process claims, review the recommended relative weights and compare them with the weights for other services. Then, HCFA establishes interim weights for new and revised codes, publishes them in the Federal Register, and revises them as necessary after considering public comments.

In the case of established or existing procedures, HCFA has developed a process known as the "five-year review," during which the agency solicits public comments on the relative weights for all services in the fee schedule and refers codes to the RUC. After review by the RUC, the process proceeds as for new and revised codes. HCFA completed the first five-year review in 1996. The second review is now under way. ■

2 Relative weights in the physician fee schedule are based on the cost of a service for the typical patient.

3 In the update framework, cost-decreasing changes in services, other than changes in patient severity, are accounted for in the productivity adjustment.

two questions. First, is it possible to estimate expected changes in the cost of physician services due to technological advances for existing services? Second, how would HCFA recalibrate relative weights in the physician fee schedule to align them with service-specific changes in S&TA? The following discussion addresses these two questions.

Estimating changes in cost due to scientific and technological advances

Estimating changes in the cost of services due to new technology is difficult, as illustrated by MedPAC's experience considering an S&TA adjustment for hospital inpatient care. To establish a basis for a recommendation, MedPAC staff identify and describe major new technologies but do not attempt to quantify their impacts on hospital costs. Commissioners must then estimate an appropriate adjustment with little quantitative basis. To improve its method for measuring the effects of S&TA, the Commission plans to use a contractor, drawing on ideas from clinical consultants and meetings of expert panels, to assist with quantifying an S&TA adjustment.

One option for estimating an S&TA adjustment for physician services is to use information from reviews of the relative weights in the physician fee schedule. These reviews can include consideration of the various sources of change in costs for physician services, such as technology diffusion and learning by doing. For example, the five-year review completed in 1996 showed that HCFA needed to increase the relative weight for a pathology service: evaluation of fine-needle aspirate. When the weight for the service was initially determined in the late 1980s, this service was used primarily for screening and followed by a confirmatory biopsy. By 1996, the service had become a definitive diagnostic procedure from which treatment decisions were made, increasing the physician work necessary to provide it.

Recalibrating relative weights

If an S&TA adjustment to the payment update for physician services were implemented, recalibration of relative weights could occur as it does now, with HCFA calculating new relative weights and adjusting them for budget neutrality. Together, the payment adjustment and recalibration would ensure that payment increases are allocated to the services with changes in cost due to technological advancement.

One-time factors

The Commission recently revised its update framework to consider one-time factors that affect the cost of providing services, that are systematic and substantial, and that will improve care for Medicare beneficiaries.

An example of a one-time factor, which may be applicable to physician services, is the effect of new documentation requirements for evaluation and management services, a topic addressed in MedPAC's March 2000 report to the Congress. HCFA is revising documentation guidelines, which could result in an increase of the resources required to provide these services.

Requirements of the Health Insurance Portability and Accountability Act of 1996 (HIPAA) are another example of a one-time factor. HIPAA mandated federal standards for the protection of the privacy of personal health information, and implementation of these standards is expected to have an effect of the cost of providing physician services.

Aside from an adjustment for year 2000 computer improvements, MedPAC has not yet used one-time factors in its update recommendations.

Other factors in the update framework

Some of the remaining factors in MedPAC's update framework are probably not relevant in updating payments for physician services; others may be relevant to some degree but are not measurable. For example, it may not be necessary to consider the effects of changes in other Medicare payment policies because the physician fee schedule does not include other components (such as a medical education adjustment to payments for inpatient care) that affect the overall level of payments. Unbundling of the payment unit also is not an important issue in updating payments for physician services because the unit of payment is small (generally individually coded services). In addition, carriers that process Medicare claims use thousands of coding edits in their claims-processing software to detect unbundling, such as claims with two or more codes for services that should be billed under a single code.

Changes in coding practices may be relevant for some physician services if such changes occur without a change in the complexity of the services provided. In the case of hospital inpatient care, MedPAC evaluates coding changes based on an analysis of reabstracted medical records assembled by HCFA. A similar analysis may be possible for physician services, but data collection issues must be explored first.

Controlling spending for physician services

Payment updates such as those described in the previous section provide a means for controlling one component of spending growth: the price Medicare pays for individual services. The other component, growth in the volume and intensity of services, has not been a major concern since the physician fee schedule was introduced in 1992. The volume and intensity of physician services per beneficiary grew at an average annual rate of 3.2 percent from 1991 through 1998 (Board of Trustees 1998, Board of Trustees 2000), compared with 7.4 percent from 1980 through 1989 (Board of Trustees 1995). If volume growth reemerged as a concern, a better strategy might depend on:

- trying to achieve appropriate use of services through outcomes and effectiveness research;
- disseminating tools for applying this research, such as practice guidelines; and
- developing evidence-based measures to assess the extent to which knowledge is being applied (PPRC 1994).

Updating payments for care in hospital outpatient departments

In addition to recommending replacing the SGR system for physician services, the Commission also recommends steps toward establishing similar methods of determining payment updates for all ambulatory care services. As noted already, Medicare beneficiaries receive ambulatory care in a number of different settings, including hospital outpatient departments, ambulatory surgical centers, and rural health clinics. A variety of methods are used to update payments for services provided in each of these settings (see text box).

MedPAC has previously recommended against establishing a single overall expenditure target for physician services and ambulatory care facilities, as well as against establishing setting-specific

Payment update methods

Various methods are used to update Medicare's payments for ambulatory care facilities, including hospital outpatient departments, ambulatory surgical centers (ASCs), and rural health clinics (RHCs).

Hospital outpatient departments
Medicare's payments for hospital outpatient care are based on a fee schedule, the outpatient prospective payment system (PPS), under which services are classified into ambulatory payment classification (APC) groups. Relative weights are assigned to each group, and these weights are multiplied by a dollar conversion factor to determine payment amounts. By law, the conversion factor is updated annually by the hospital market basket index. In 2002, this update will be reduced by 1 percentage point.

The Secretary has two options for modifying the update. First, he can substitute an index specific to hospital outpatient departments for the hospital market basket index. The Health Care Financing Administration (HCFA) solicited comments on the design of a substitute index but received none, and is now working with a contractor to study the possibility of developing an index for outpatient departments. Second, the Secretary may adjust the update for unnecessary increases in the volume of services. HCFA's interpretation of this provision is that an expenditure target is an option for updating the outpatient PPS conversion factor, but the agency so far has delayed implementation of any mechanism. The delay is intended to give hospitals time to adjust to the outpatient PPS and to give HCFA time to study methods for controlling the volume of outpatient services. A contractor has been hired to help with the study of options.

Ambulatory surgical centers
Since 1980, Medicare's Part B benefit has covered certain surgical procedures provided to beneficiaries in freestanding or hospital-based ASCs. ASC-approved procedures were originally assigned to one of four payment groups, with payment for each group calculated from cost and charge data from 40 ASCs. In early 1990, HCFA increased the number of payment groups to eight, based on 1986 survey data. In 1998, HCFA proposed replacing payments for these 8 groups with payments based on more than 100 APCs. The Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 delayed implementation of this proposed change in payments until 2002, when it will begin to be phased in over four years.

HCFA is required to update payment rates for procedures on the ASC list annually. To fulfill this requirement, the agency rebases payment rates every five years using data from a survey of a sample of ASCs. For years when payments are not rebased, payment rates are adjusted for inflation using the consumer price index for urban consumers. The Balanced Budget Act of 1997 reduced the update by 2.0 percentage points for fiscal years 1998-2002.

Rural health clinics
Payments to RHCs are based on an all-inclusive rate for each beneficiary visit for covered services. Covered services are primary and emergency care services furnished by physicians and certain nonphysician practitioners, and services and supplies incidental to these services. The all-inclusive per visit rate for an RHC is based on reasonable costs, as determined by a fiscal intermediary. With the exception of RHCs that are part of rural hospitals with less than 50 beds, these all-inclusive rates are subject to payment limits, which are updated each year by the Medicare Economic Index. ■

expenditure targets for other ambulatory care services (MedPAC 2000). Because HCFA did not remove an expenditure target from consideration in the April 7, 2000 final rule on the outpatient prospective payment system, the Commission reiterates its position.

RECOMMENDATION 2C

The Secretary should not use an expenditure target to update the conversion factor in the outpatient prospective payment system or to update payments for other ambulatory care settings.

Assuming HCFA will not use an expenditure target to update payments under the outpatient PPS, how should the agency proceed? The Balanced Budget Act of 1997 required annual updates equal to the hospital market basket index, minus 1 percentage point, through 2002. The Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 amended this requirement by permitting an update for 2001 equal to the hospital market basket index; it also allows the Secretary to adjust the outpatient PPS conversion factor for changes in coding or the classification of covered outpatient services that do not reflect real changes in service mix.

RECOMMENDATION 2D

The Congress should require an annual update of the conversion factor in the outpatient prospective payment system that is based on the relevant factors influencing the costs of efficiently providing hospital outpatient care, and not just the change in input prices.

As with physician services, the update for outpatient hospital care should be based on factors influencing the cost of providing services efficiently, including those factors in MedPAC's update framework. To update payments for outpatient hospital care in this way, questions that need to be addressed include:

- Should HCFA update the conversion factor for the outpatient PPS with the hospital market basket index or an index specific to outpatient departments?
- Is an update adjustment needed to account for new technologies not addressed by existing components of the outpatient PPS, including new-technology APCs and pass-through payments for drugs, biologicals, and implantable medical devices?
- What is an appropriate measure of expected productivity growth for outpatient hospital care?
- Given the small payment unit in the outpatient PPS, is unbundling an important issue?
- Can HCFA collect data on coding changes across service categories?
- Will any important one-time factors affect the cost of providing outpatient hospital care in the coming year?

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CHAPTER 3

Accounting for new technology in hospital prospective payment systems

RECOMMENDATIONS

3A In the outpatient payment system, the Secretary should develop formalized procedures for expeditiously assigning codes, updating relative weights, and investigating the need for service classification changes to recognize the costs of new and substantially improved technologies.

***YES: 13 • NO: 0 • NOT VOTING: 0 • ABSENT: 3**

3B In the outpatient payment system, pass-through payments for specific technologies should be made only when a technology is new or substantially improved and adds substantially to the cost of care in an ambulatory payment classification group.

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

3C Pass-through payments in the outpatient payment system should be made on a budget-neutral basis and the costs of new or substantially improved technologies should be factored into the update to the outpatient conversion factor.

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

3D For the inpatient payment system, the Secretary should develop formalized procedures for expeditiously assigning codes, updating relative weights, and investigating the need for patient classification changes to recognize the costs of new and substantially improved technologies.

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

3E Additional payments in the inpatient payment system should be limited to new or substantially improved technologies that add significantly to the cost of care in a diagnosis related group and should be made on a budget-neutral basis.

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

***COMMISSIONERS' VOTING RESULTS**

CHAPTER 3

Accounting for new technology in hospital prospective payment systems

In this chapter

- Defining new technology
- Principles of payment system design and the treatment of new technology
- Treatment of new technology in the outpatient payment system
- Treatment of new technology in the inpatient payment system

In this chapter, the Medicare Payment Advisory Commission addresses questions about payment for new technology in hospital prospective payment systems. How should policymakers define "new technology"? Does the definition affect how a payment system treats a given technology? What payment principles should apply to new technology? These questions are discussed in light of recent legislative changes to the treatment of technology in the inpatient and outpatient prospective payment systems. The Commission presents a series of recommendations on these issues for the Congress and the Secretary aimed at making Medicare's payment systems responsive to technological innovation while minimizing exposure to cost-based payment. Chief among them are recommendations to the Secretary on assigning codes to new services and procedures, investigating the need for patient or service classification changes, updating relative weights, and implementing additional payments for new technologies. The preceding chapter (Chapter 2) addresses the related issue of methods for updating payments in traditional Medicare.

Most services provided in hospitals are now paid for prospectively. Recently, concerns have arisen regarding the treatment of new technology under prospective payment. Does Medicare recognize the introduction of new technologies quickly enough to ensure needed access for beneficiaries? Do payment rates adequately reflect the costs of new technologies? The Balanced Budget Refinement Act (BBRA) of 1999 addressed this issue for the outpatient prospective payment system (PPS) by establishing pass-through payments for certain types of new technology. The recently enacted Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA) requires HCFA to develop new mechanisms to pay for technological advances under the inpatient PPS.

In considering the issue of payment for new technology at a conceptual level, the following questions must be addressed:

- How should we define "new technology"? Does that definition affect how a payment system treats a given technology?
- What payment principles should apply to the treatment of new technologies?
- How should prospective payment systems account for new technologies?

After this conceptual discussion, the chapter reviews how the outpatient and inpatient prospective payment systems treat new technology and recommends several policy changes.

Defining new technology

Technology has been the hallmark of modern medicine. Although technological advances have greatly improved the outcomes of medical care, they also have been a major element in increasing costs (Newhouse 1993). In considering how payment systems should treat new technology, the definition of "new technology" must be established. If, for example, a new technology applies to all services in a hospital, accounting for those costs in the payment system will require different mechanisms than a new technology that applies only to a specific service.

In the most basic sense, technology is the practical application of knowledge. In the health sector, this may include:

- drugs,
- devices, equipment, and supplies,
- medical and surgical procedures,
- support systems, and
- organizational and managerial systems (Goodman 1998).

Some of these technologies, such as drugs or surgical procedures, affect identifiable services and individual patients. Others, such as new diagnostic equipment, may be used for an array of services and multiple patients. Still others, such as information systems or improved management techniques, affect all services provided in a hospital. When defining a new technology, both brand new types of technology (such as digital imaging) and substantial improvements on older technologies may be considered. Within a payment system, a new technology may also be an adaptation of a technology previously used in another setting, such as movement of cholesystectomy from inpatient to ambulatory settings. Although the overall effect of technology has been to increase costs, specific new technologies may increase or decrease costs.

The mechanisms used to account for the costs of new technology in a payment system depend, in part, on the kind of technology considered. Recognition of the costs of a device used in a particular procedure, such as coronary stents used in angioplasty, may be reflected in the relative weight assigned that procedure or through an additional payment. The costs of broader technologies, such as capital equipment or information systems, however, are more easily treated through updates to the base payment rate. In some cases, such as the inpatient PPS, changes in relative weights are made in a budget-neutral fashion. In that case, the payment system still needs to account for the cost-increasing nature of technology through the update process.

Principles of payment system design and the treatment of new technology

Prospective payment was adopted by the Medicare program for hospital inpatient services to promote efficiency in provision of those services and thus protect taxpayers and beneficiaries from unnecessary treatments and expenditures. By setting payment rates in advance, the Medicare program gives hospitals a fixed payment that ideally reflects an efficient provider's costs. More generally, providers paid prospectively are placed at financial risk for costs above the payment amount and rewarded if they keep their costs below it. This contrasts with cost-based reimbursement, which has no built-in incentives for efficiency.

A prospective payment system provides financial incentives to adopt new technologies that lower costs; however, the payment system should also provide mechanisms to account for the costs of new technologies that enhance quality, even if they increase costs.

A PPS should maintain neutrality regarding clinical decisionmaking, including adoption of new technology. The payment system should not favor the use of one procedure or technology over clinically appropriate substitutes, but pay the costs of an efficient provider for all options, leaving medical personnel to choose what is clinically optimal given individual circumstances.[1] Payment rates

1 Payment policy is only one factor in the diffusion of technology. Many individuals participate in bringing new technology into use: basic and applied science, industry, marketers, providers, patients, government. The public role includes funding research, determining safety and efficacy, and setting coverage policy for the Medicare program. Setting Medicare payment rates is one of the final steps in that process.

are set for a given output, but the number and mix of inputs used to create the output is left to the clinical judgment of the provider. Payments that are too high place an unnecessary burden on both beneficiaries and taxpayers. If payments are too low, there is an incentive to withhold needed services. Correct payment rates are important both at the global level and for the distribution of payments among services.

A balancing process is needed to ensure that payments are sufficient to maintain access to needed services without spending more than necessary. The calculation of adequate payment rates must be administratively feasible, using the most reliable data sources available. Limited data and predictable variations in costs across providers also imply that payment adequacy be determined at a broad level, with payment adjustments such as those given to teaching hospitals used to account for predictable variations in costs among types of providers.

PPSs have certain common elements, including a patient or service classification system, a unit of payment, relative payments among services (payment weights), and a base payment rate (or conversion factor). All PPSs also have a process for updating both the relative payment weights and the base payment amount. The way these elements are treated has implications for the treatment of new technology under a given PPS.

Classification system

The classification system groups services for payment. It may be broad, as in the inpatient PPS, which groups hospital stays primarily by their leading diagnosis or significant procedure. Alternatively, it may be fairly narrow, as in the outpatient PPS, which groups services based on a single service or small bundle of services, such as a diagnostic test, an outpatient surgical procedure, or a clinic visit. The classification system may influence how technology is defined and how new technology is treated. A narrow payment system (such as the outpatient PPS) may target a specific device or drug by using additional payments or other directed mechanisms. Basing the classification system on diagnosis (as in the inpatient PPS) can make it more difficult to tie a specific technology to a given case.

Unit of payment

The unit of payment is related to the classification system and determines the scope of bundling within a payment. The inpatient PPS encompasses a broad bundle: payment is for all services provided during a hospital stay. In contrast, the outpatient PPS relies on a limited bundle: payment is for the inputs required for a narrowly defined procedure. Defining the unit of payment determines, in part, the extent of incentives for efficiency within a PPS: the broader the bundle, the more room for efficiency enhancements at the provider level, but the greater the opportunity for withholding services.

The payment unit also influences the mechanisms that can capture the cost of new technology. If the unit of payment incorporates a large bundle, increased costs in one area, such as a new-generation medical device, may decrease costs in another area, such as length of stay, causing total payment for the bundle to stay the same or decline. For a narrow bundle, however, there is less scope for offsetting efficiencies, and the costs of new technologies may need to be taken into account more explicitly.

Coding and relative weight updates

Updating codes and payment weights provides another avenue for considering how to treat new technology. Recalibrating relative weights for services takes into account the ways in which new technology, increased productivity, and other factors change the costs of services in relation to one another. This process also allows for the explicit introduction of new codes for innovative procedures. All PPSs provide for routine updating of codes and relative weights; both the inpatient and outpatient PPSs undergo annual revisions. The frequency with which codes and weights are revised does affect the length of time before appropriate payments may be made for new technologies. However, multiple priorities must be balanced, including the integrity of the coding and payment systems, disruption to providers from revising their billing processes to reflect new codes and new weights, data availability, and administrative requirements.

Payment updates

Finally, payment updates to base rates may also reflect the cost impacts of new technology. Some updating approaches—such as the update framework MedPAC developed for updates for the inpatient PPS and other fee-for-service settings—explicitly consider the effect of quality-enhancing but cost-increasing technologies on costs, and increase payments accordingly. Of course, when new technology increases efficiency and decreases costs, payment updates should also reflect those trends. For the inpatient PPS, the Congress legislates the update annually, with guidance from MedPAC and the Secretary of Health and Human Services. For the outpatient PPS, the Congress has set the update to the conversion factor through 2002. The updating process for future years has not been fully developed by the Health Care Financing Administration (HCFA). For the present, no explicit mechanism accounts for the cost impacts of new technology in updating the outpatient conversion factor.

Treatment of new technology in the outpatient payment system

The implementation of the outpatient PPS on August 1, 2000, marked a move away from primarily cost-based payment for services provided in hospital outpatient departments. This section describes the outpatient PPS and how it pays for new technology and makes recommendations for improving the system.

Structure of the outpatient payment system

The outpatient PPS classifies services based on their HCFA Common Procedure Coding System (HCPCS) code into ambulatory payment classification (APC) groups. There are two kinds of HCPCS codes. Level I codes are based on the Physicians' Current Procedural Terminology (CPT) coding system developed by the American Medical Association. Level II codes, which include many supplies, drugs and devices, are developed by HCFA. Services are classified to be similar clinically and with regard to resource use. The unit of payment for the outpatient PPS is the individual service. If a patient receives multiple services during an encounter, such as a clinic visit and a diagnostic x-ray, the hospital will receive separate payment for each service. Payment for a service in an APC group includes limited bundling of ancillary services and supplies considered incident to the primary service. The most extensive bundling occurs for outpatient surgery. Payment for outpatient surgery covers the hospital's costs for the operating and recovery rooms, anesthesia, most drugs, and most surgical supplies used during the surgery.

Responding to technology costs

The outpatient PPS explicitly addresses payment for new technologies by defining new technology APC groups and making pass-through payments that provide additional reimbursement for specific drugs, biologicals, and medical devices. The new technology APC groups aim to ensure timely payment for new technologies that represent new services, distinct from the existing APC groups. The pass-through payments aim to ensure adequate payment for new technologies that are inputs to an outpatient service, rather than a distinct service. A pass-through payment is a cost-based payment that supplements the standard APC payment when a specific technology is used. A major rationale for establishing these provisions was concern over the use of 1996 data as a baseline to establish payment rates, as the Congress believed that the 1996 data did not adequately reflect the costs of new technologies and could result in underpayments upon implementation in 2000. The rest of this section discusses coding and classification issues, the new technology APC groups, and the transitional pass-through payments.

Coding and classification issues

All of Medicare's payment systems include measures to accommodate the introduction of quality-enhancing technologies. Implementing them expeditiously ensures timely payment for new technologies.

RECOMMENDATION 3A

In the outpatient payment system, the Secretary should develop formalized procedures for expeditiously assigning codes, updating relative weights, and investigating the need for service classification changes to recognize the costs of new and substantially improved technologies.

Industry has expressed concern that delays in the coding and classification processes hamper the diffusion of new technologies, although there is no clear evidence of access problems. In the outpatient PPS, the process for handling new technology includes assigning codes to new services and procedures, updating the classification (APC) weights, and investigating the need for new or restructured service classification groups.

Timely coding updates are especially important in the outpatient sector, where payment bundles are small and most procedures require a code for hospitals to be reimbursed. New outpatient codes are assigned by HCFA and/or the CPT Editorial Panel. In addition, to implement the outpatient technology provisions of the BBRA, HCFA has developed a system for assigning pass-through payment codes, including setting aside a block of temporary codes to be assigned quickly.[2] HCFA must also review the outpatient payment weights on an annual basis and restructure the APCs as needed, although the process for doing so has not been fully detailed beyond establishing an external advisory committee.

New technology ambulatory payment classification groups

In developing the outpatient PPS, HCFA created separate APC groups to classify new technology services that do not qualify for pass-through payments. These groups contain services that are similar in cost, but are not necessarily clinically similar. The agency established a total of 15 new technology groups, with cost ranges starting at $0 to $50 and ending at $5,000 to $6,000. The payment rate for all the services or items within a particular group will be the midpoint of the group's cost range.

To qualify for classification within a new technology APC, a service must be covered by Medicare, be underrepresented in the 1996 data used to set payment rates, have a HCPCS code, and be deemed reasonable and necessary for treating an illness or improving an impaired function. HCFA will group qualifying new technologies or services within new technology APC groups for two to three years before assigning the services to an existing or new standard APC group. This mechanism will allow HCFA to pay for new technologies shortly after they become available and qualify for Medicare payments. It will also allow HCFA to collect clinical and cost data to refine and update the APC classification system.

This approach to accounting for new technology is most applicable to a PPS with a narrow unit of payment and limited bundling. Given the narrow definition of a service in the outpatient PPS, new technologies may be appropriately defined separately from all the other APC groups. For example, under the outpatient PPS, new technology APC groups have been established for positron emission tomography (PET) scans for specific

2 As discussed later in this section, provisions of the Benefits Improvement and Protection Act of 2000 require HCFA to base pass- through payments on categories, which may also require additional changes in the coding system.

diagnostic purposes (for example, staging and characterization of lymphoma). One of the difficulties with this approach, however, is that it uses a temporary payment rate—the new technology APC group rate—while data on hospital costs are being collected to set a permanent rate. HCFA uses an application process to gather cost data to place services within the new technology APC groups, but data derived in this way are not easily verified and may not be representative of hospitals' operational costs.

Pass-through payments

Pass-through payments for certain drugs, biologicals, and medical devices were authorized under the BBRA to ensure that outpatient payments adequately accounted for the costs of new technologies (see text box, p. 40, regarding eligibility for pass-through payments). The policy responds to concerns that the 1996 data used to calculate payment rates did not adequately reflect the costs of certain new technologies. Pass-through payments are meant to supplement the standard payment rate when specific drugs, biologicals, and medical devices—the costs of which were not included in the 1996 data—are used as inputs to provide a service. They have the potential to be inflationary, however, because they re-introduce cost-based payment into the system.

By paying hospitals' incremental costs for new devices, pass-through payments encourage their adoption and diffusion. For drugs and biologicals, additional payments are set at 95 percent of average wholesale price. For medical devices, pass-through payments are based on each hospital's costs (as determined by adjusting charges using a cost-to-charge ratio). For all items, pass-through payments are made at the claim level. For example, when a pacemaker is implanted, the hospital receives a base payment for facility costs associated with performing the procedure (about $3,900 in 2001) and a pass-through payment based on costs for the device. In this example, the amount of the pass-through payment will be offset by subtracting the estimated cost of the device it replaces (about $2,850 in 2001) from the base payment rate.[3]

Pass-through payments will be paid for two to three years until standard payment rates can be modified to incorporate the costs of new devices. Data collected during the transition will be used to modify the standard payment rates. Total payments under the pass-through provision are limited to 2.5 percent of total program payments through 2003, and 2 percent thereafter. If this limit is exceeded, all pass-through payments are to be reduced. Additionally, total payments must remain budget neutral, meaning that the conversion factor will be decreased to account for the cost of the pass-through payments. In effect, the provision redistributes payments among services.

This approach to paying for new technologies targets inputs that are bundled into the APC payment, rather than new services that could have their own APC group. The provision is transitional in that additional payments are made for a set period of time (2-3 years) until sufficient data are available to set APC group rates. However, the provision will continue into the future as additional new technologies are introduced. As payment rates are updated to account for technologies not in the 1996 data, the need for pass-through payments may decline.

Experience implementing this policy to date has raised concerns about its effects on competition in the medical marketplace. HCFA interpreted the BBRA to require an item-specific approach. Critics contend that by approving items by trade name, HCFA has approved certain new devices within a class, but not competing products, potentially creating bias and an incentive for the favored manufacturer to price higher. This argument assumes that clinicians will decide which products to use based on their pass-through eligibility status. By identifying certain products but not their competitors as eligible for additional payment, this provision does not conform to the principle of maintaining neutrality in clinical decision-making. The effect on competition may be temporary, however. As the outpatient PPS becomes established, the process of approving items should be applied more evenly across products.

To address the issue of unfair competition, the BIPA requires HCFA to create categories of devices for the pass-through payments. Initial categories must be established by April 1, 2001. Additional categories will be established based on criteria to be developed by HCFA by July 1, 2001. The duration of a category will be two to three years; devices that enter a category after it has been established will be eligible for pass-through payments only for the remaining duration of the category. The BIPA also removes the criterion (established in the BBRA) that a technology be under-represented in the 1996 data. All medical devices described by a category will now receive pass-through payments, regardless of when they were first used in the outpatient setting. In effect, this provision will result in unbundling payments and providing cost-based pass-through payments for most medical devices.

In our June 2000 report, MedPAC noted that although transitional pass-through payments may help to ensure access to new and innovative technologies, they may also dilute the ability of the outpatient PPS to provide incentives for efficiency and cost control (MedPAC 2000). Introducing cost-based pass-through payments gives manufacturers and hospitals an incentive to increase prices for these items. Pass-through payments for drugs and biologicals will be based on average wholesale prices, which are also subject to manipulation. Inflationary trends in the pass-through payments will also increase future standard payment rates as the pass-through costs are incorporated into the base.

3 To date, HCFA has not been able to identify the cost of most devices in the underlying payment rates. Therefore, not all pass-through payments will be decreased to account for the costs of the older device in the base payment rate.

Eligibility for new technology pass-through payments under the outpatient payment system

The Balanced Budget Refinement Act (BBRA) specified the items and services that qualify for pass-through payments under the outpatient prospective payment system (PPS):

- drugs, biologicals, and brachytherapy[4] used in cancer therapy;
- orphan drugs;[5]
- radiopharmaceutical drugs and biological products used in diagnostic, monitoring, and therapeutic nuclear medicine procedures; and
- new medical devices, drugs, and biologicals[6] first paid as outpatient services after 1996.

The Health Care Financing Administration (HCFA) defines medical devices eligible for pass-through payments as those that "are used for one patient only, are single use, come in contact with human tissue, and are surgically implanted or inserted in a patient during a procedure but may also be removed during the procedure so that the patient leaves the hospital without the device" (HCFA 2000). To develop a per unit pass-through payment, a unit must be defined. To avoid paying for the same item multiple times, HCFA has decided that the device must be single use, although prorated payments might also be feasible. The restriction to implantable devices refers to a provision of the BBRA that shifts payment for some implantable devices from the durable medical equipment, prosthetics, orthotics, and supplies (DMEPOS) fee schedule to the outpatient PPS. Other medical devices are paid under the DMEPOS fee schedule or are considered part of the bundled payment.

The following types of devices do not qualify for transitional pass-through payments: equipment, instruments, and items used for diagnostic or therapeutic purposes; devices that are not implanted; and those items used on more than one patient. Because these materials are included within supplies or capital expenses, HCFA maintains they are reflected in the ambulatory payment classification (APC) payments, updated to reflect inflation in outpatient costs. Indeed, the costs of supplies and capital equipment should be fairly well spread across services and would therefore have been captured in HCFA's process of increasing the conversion factor to account for increases in the costs of outpatient services between 1996 and 1999. This process works well for items used in many different services and thus unlikely to affect relative weights among services. For items with non-trivial costs that are inputs to a specific service, however, the use of old data may underestimate the relative weights, and hence payments, of specific services.

Devices must also be covered by Medicare and approved by the U.S. Food and Drug Administration. By law, the cost of a medical device must be "not insignificant" in relation to the portion of the payment rate associated with the technology. This provision limits pass-through payments to new technologies that are substantially more expensive than existing payments—so expensive that hospitals face incentives to limit the availability of the technologies. Although HCFA originally established three criteria related to cost, the interim final rule published on August 3, 2000, delayed implementation of two of them.[7] The interim final rule also reduced the threshold for the first criterion, which originally stated that the cost of the new technology must represent at least 25 percent of the total fee schedule amount for the related APC. The threshold was thought to be too restrictive and was lowered to 10 percent. ■

4 Brachytherapy is radiotherapy in which the radiation source is placed within the body.

5 Orphan drugs are products used to treat diseases affecting fewer than 200,000 Americans.

6 Biologicals include items such as blood products, hormones, and antibodies.

7 The two criteria are: (i) the cost of a new technology must exceed the cost of the technology it replaces by 25 percent; and (ii) the difference between the cost of a new technology and the technology it replaces must exceed 10 percent of the related APC group rate. HCFA plans to implement these criteria on January 1, 2003.

The provision instituting a cap on total payments (2.5 percent of total program payments through 2003 and 2 percent thereafter) and proportional reductions of all pass-through payments if the cap is exceeded is meant to prevent increases in overall spending due to the pass-through payments. Due to political pressures and uncertainty regarding data, however, the cap will not be applied in 2000 and 2001, and program spending will increase despite the cap.

Whether or not the limit will be exceeded depends, in large measure, on the definition of what qualifies for pass-through payments. HCFA has expanded its definition numerous times since releasing the final rule; more than 1,000 items were eligible on January 1, 2001 (see text box, p. 40). Provisions of BIPA will lead to further expansions. For example, the BIPA will extend pass-through payments to medical devices that

had been in use before 1996 and the costs of which should already be included in the APC payment rates. As the list expands, the pass-through payments will make up a greater share of total outpatient payments. Based on cost data collected from applications for pass-through eligibility, HCFA estimated that pass-through payments for the existing list of technologies will exceed 5 percent of total outpatient spending in 2001. Changes introduced in the BIPA, such as expanding eligibility to older devices, will likely further increase these costs. However, HCFA will not implement proportional reductions in 2000 and 2001. Therefore, at least for 2001, the pass-through payments will exceed the cap and increase total costs significantly.

In considering pass-through payments, two principles should be kept in mind: minimizing interference with clinical decision-making, and ensuring that mechanisms are in place to limit the program's exposure to cost-based payment. Balancing these potentially conflicting notions requires consideration of the eligibility criteria for pass-through payments.

RECOMMENDATION 3B

In the outpatient payment system, pass-through payments for specific technologies should be made only when a technology is new or substantially improved and adds substantially to the cost of care in an ambulatory payment classification group.

Limiting pass-through payments to new and substantially improved technologies protects the program and beneficiaries against unnecessary exposure to cost-based payments. It also eliminates the potential to pay for technologies twice: once in setting the initial payment rates (which include older technologies) and again through a pass-through payment. For this reason, the definition of "new" should not include items whose costs were reflected in the 1996 data used to set payment rates. Limiting pass-through payments to those new or substantially improved technologies that add substantially to the cost of care limits the program's exposure to the administrative burden of special payment provisions and the introduction of cost-based payment for technologies that compose a small part of overall payment.

Another mechanism for protecting against the inflationary pressures of cost-based pass-through payments is the budget-neutrality provision. For interim payment adjustments for new technology to be maintained, they must be implemented on a budget-neutral basis to protect against excessive expenditures. However, HCFA will not do so for calendar year 2001 in the outpatient payment system.

RECOMMENDATION 3C

Pass-through payments in the outpatient payment system should be made on a budget-neutral basis and the costs of new or substantially improved technologies should be factored into the update to the outpatient conversion factor.

The budget-neutrality requirement lowers the conversion factor by 2.5 percent to fund the pass-through payments. This mechanism reimburses hospitals for the increased costs of these specific technologies when they are used, but does not account for the overall cost-increasing nature of new and substantially improved technologies. Budget-neutrality will also have distributional impacts. Since large urban and teaching hospitals are more likely to use new technologies, the redistribution of funds across services will also redistribute funds among hospital types.

Therefore, in a manner similar to the inpatient PPS, the costs of pass-through technologies should be brought into the system through the update to the conversion factor. This is one of the elements that MedPAC considers in its updating framework for inpatient care; a similar mechanism is needed in the outpatient PPS. However, any increase to the update for new technology should not include the costs of technologies in use prior to 1997 that are now eligible for pass-through payments because their costs are already accounted for in the base.

Similarly, the update should not factor in the costs of new procedures that are part of the new technology APC groups. The costs of these services are covered directly as each unit is paid for, leading to increases in total spending.

Treatment of new technology in the inpatient payment system

Medicare's PPS for acute inpatient services has been in effect since 1984. The process for annually changing its payment rates already includes a set of largely informal procedures for responding to the costs of new technology. BIPA enacted a method to account directly for the costs of new services and technology, patterned somewhat after the outpatient technology pass-through provision discussed above. In this section, we briefly review the structure of the inpatient PPS and address both the existing and new treatments of technology costs.

Structure of the inpatient payment system

The unit of payment in the hospital inpatient payment system is the case, or inpatient discharge, as classified by diagnosis related group (DRG). The DRG system provides for much broader patient classifications than the outpatient APC system, encompassing all routine nursing, support service, and ancillary costs incurred in patients' stays. The payment system consists of three main components:

- operating and capital base payment rates, which reflect the average costliness of Medicare cases nationwide, adjusted for the relative input prices of the hospital's local area;
- the case weight, which accounts for the relative costliness of each DRG compared with the national average Medicare case; and
- special adjustments, which include outlier payments for unusually costly cases, an indirect medical education

adjustment that accounts for the higher costs of teaching facilities, and a disproportionate share adjustment providing additional funds to hospitals under financial pressure from caring for the poor.[8]

Responding to technology costs

The BIPA changed Medicare's method of paying for new technology in the inpatient PPS. In this section, we describe the procedures previously used to account for the costs of new technology and evaluate the new BIPA provisions. We conclude by recommending that HCFA formalize its procedures for responding to new and substantially improved technologies and offering guidelines for implementing the technology pass through mandated by the BIPA.

Previous methods

Technology has always been addressed in Medicare's inpatient PPS. The first component of HCFA's system is a technical advisory panel that assigns ICD-9-CM codes to new technologies and deletes codes for outdated procedures.[9] This group, known as the ICD-9-CM Coordination and Maintenance Committee, is jointly operated by HCFA and the National Center for Health Statistics. The process of assigning codes has no fixed timetable, but generally takes at least a year.

Second, HCFA staff analyze variation in the costliness of cases within DRGs, primarily in response to suggestions by industry representatives that the costs of certain types of cases are systematically higher than the applicable DRG average. Based on these analyses, HCFA periodically reassigns certain types of cases to a different DRG or splits DRGs into two or more new groupings and modifies the case weights accordingly.

The third way in which HCFA responds to new technology is by recalibrating the DRG case weights. Recalibration is done annually and reflects the relative costliness of cases (as determined by applying a hospital-specific cost-to-charge ratio to the charges of each case) in the most recent year's claims file. This process reflects any changes in the construct of DRGs that occurred in the previous year. Although annual recalibration plays an important role in maintaining accurate payment relatives, it can only reflect the current degree of dissemination. If only a few hospitals are using a new technology, their charges will have only a small effect on the DRG rate and they may continue to be underpaid pending the next recalibration.

The final mechanism for responding to technology changes is the annual update to the base payment rates. Since the early years of the inpatient PPS, Congress has legislated updates for operating payments, while HCFA has set the updates for capital payments (8.5 percent of the total) through an annual rulemaking process. Congress rarely indicates the factors it has taken into account in making an update decision, but both MedPAC and HCFA develop recommendations on the basis of an update framework. MedPAC's framework specifically addresses technology costs through a scientific and technological advancement factor, which is intended to account for the impact of quality-enhancing but cost-increasing new technologies and is offset at least partially by a negative productivity adjustment, which captures the effects of cost-decreasing new technologies.

During the 1980s, the Congress made its update decisions on an annual basis, after considering recommendations from the Prospective Payment Assessment Commission (ProPAC) and HCFA. More recently, Congress has legislated updates three to five years into the future, which means that several decisions must be made without input from either MedPAC or HCFA. Both MedPAC and HCFA, however, have continued to make update recommendations annually to guide the Congress on whether a change in the legislated updates might be warranted.

HCFA and ProPAC considered payment adjustments for specific technologies several times in the past, but few were implemented or even formally recommended. In 1989, ProPAC recommended covering the costs of providing blood clotting factor to Medicare patients with hemophilia, which had risen dramatically in 1987 and 1988. Congress enacted this recommendation for a two-year period in the Omnibus Budget Reconciliation Act of 1989. At the end of the two years, ProPAC recommended eliminating the adjustment because DRG recalibration had realigned payments appropriately and only a small number of patients distributed over several DRGs continued to have costs that markedly exceeded the applicable DRG average (ProPAC 1992).

ProPAC and HCFA were involved in an extensive debate over whether an adjustment was warranted for tissue plasminogen activator (TPA) and streptokinase, drug regimens for the follow-up treatment of heart attacks and stroke. Interest in a specific payment adjustment was generated by the unusually high cost of TPA, but the fact that TPA was much more expensive than streptokinase with little evidence of superior effectiveness emerged as a strong factor in ProPAC's and HCFA's decisions not to recommend an adjustment.

Provisions of the Benefits Improvement and Protection Act of 2000

The BIPA section addressing the treatment of new technology costs in the inpatient PPS contains three mandates for HCFA:

- Develop a process to incorporate new medical services and technologies expeditiously into the clinical coding system for inpatient hospital services, which is currently the ICD-9-CM system. The statute did not specifically identify drugs as new technologies, but it appears that HCFA could choose to include them.

8 A more detailed description of the inpatient PPS is provided in the introductory section of Chapter 5.

9 The ICD-9-CM acronym stands for International Classification of Diseases, 9th Revision, for Clinical Management.

HCFA is required to report to Congress on its proposed methods for adopting new technology codes, and then to implement the system by October 1, 2001.

- Collect data on the costs of new technologies (aided by the new clinical codes) for a period of 2 to 3 years, and then assign cases using the technologies into new or existing DRGs that have case weights derived from the data collected.

- Provide for additional payment to cover the costs of each new technology during the study period. This payment could be in the form of new technology groups with case weights reflecting the average costs of patients using the technologies, or it could be an add-on or adjustment to the normal DRG payment for cases where the technology is used.

The first two provisions serve to formalize, and perhaps expedite, most of the procedures that HCFA already uses. The third provision, implementing what amounts to an interim payment for specific new technologies, represents a sharp departure from current policy. Like the outpatient technology pass through, the Secretary is expected to implement the provision on a budget-neutral basis.[10] This means the effect of the additional payments for specific new technologies would be entirely distributional; the provision would not affect the need to account for the cost-increasing impact of new technology in annual payment updates.

The additional payments for new technologies are pass throughs in the sense that HCFA must establish rates that cover the estimated cost of each technology. Presumably, HCFA will update these amounts over time to keep them matched to current costs. However, the inpatient pass-through provision differs from the outpatient one in that it is based on the *average* cost of a technology rather than each hospital's costs. Thus, hospitals will benefit financially if they can negotiate a purchase price that is beneath the national average, and vice versa.

The reason for a technology pass through for acute inpatient care is to ensure that inadequate payment for specific DRGs or cases within DRGs does not prevent hospitals from adopting new services and technologies. When a new technology raises costs for most patients in a DRG, the payment rate may be too low relative to other DRGs until its weight is changed through recalibration. When a technology raises the costs of a subset of patients in a DRG, the payment rate for those patients may remain inadequate indefinitely unless HCFA believes that the problem is important enough to warrant a change in the DRG structure.

However, two reasons make this advantage less compelling for inpatient care than for outpatient services. First is the broader construct of DRGs, such that a new drug, device, or service is likely to make up a much smaller portion of overall costs. Consequently, there are more opportunities for decisionmaking on the mix of inputs used to produce the unit of payment—decisions on whether a technology is clinically necessary, how often a service should be used, and which competing technology is most cost-effective. A technology pass through would influence, and potentially distort, these decisions by ensuring that the costs of select new technologies will be covered in full and increase the total payment received, while the costs of other technologies and other types of inputs must be covered by the fixed case-level payment.

The second reason is that, unlike in the outpatient PPS, neither patients' DRG classification nor the process for recalibrating the DRG weights is dependent on HCFA assigning codes to new services or procedures. Similarly, recalibration is based on an accumulation of charges for all services provided, and ICD-9-CM codes are not needed for hospitals to provide services and record their charges. In fact, the DRG rates would likely have been recalibrated at least twice under current HCFA policy during the span of the time needed to assign a new procedure code, wait for a sufficient volume of claims reflecting the code to generate, and determine the appropriate payment system response as specified in BIPA. New codes serve only to facilitate analyses that might lead HCFA to restructure DRGs.

Several other problems cited above for the outpatient technology pass through will also likely apply to an inpatient pass through. These include:

- The lack of data for HCFA to determine an appropriate interim payment adjustment for a technology before hospitals have much experience in providing it. Setting payments early in the dissemination process would require reliance on either unverifiable cost or pricing data from technology manufacturers or on limited hospital charge data, collected at a time when the hospitals would have a strong incentive to set high charges.

- HCFA's difficulty predicting the frequency of new technology use and therefore the reduction in base payment rates needed to provide pass-through funding on a budget-neutral basis.

- The high staff-intensity of the process for HCFA and hospitals alike. Hospitals must submit more detailed claims and HCFA must process them, as well as manage systems for approving technologies for payment and establish appropriate rates for them.

Our recommendations envision a system for accounting for the costs of new technology that captures the best aspects of the previous system and the provisions of the BIPA. The first recommendation essentially endorses the first of three major BIPA provisions.

10 While the BIPA did not require budget neutrality, as was the case with the outpatient pass-through provision, the report of the Ways and Means Committee made clear that this was the Congress's intention.

RECOMMENDATION 3D

For the inpatient payment system, the Secretary should develop formalized procedures for expeditiously assigning codes, updating relative weights, and investigating the need for patient classification changes to recognize the costs of new and substantially improved technologies.

Although annual recalibration of inpatient payments has an established track record, the other two processes—code assignment and patient classification changes—are less formalized and perhaps not completed as quickly as they could be. For example, the ICD-9-CM Coordination and Maintenance Committee only meets twice per year to consider potential code changes. In addition, there are no established procedures for affected parties to request DRG restructuring, and no fixed process or timetable for HCFA staff to respond to such requests. Numerous complaints have been voiced regarding the lack of timeliness. For example, when cardiac surgeons began using stents during angioplasty procedures to improve and extend blood flow, it took five years for HCFA to ultimately decide that the applicable DRG should be split into two DRGs, for angioplasty with and without stent. MedPAC endorses the Congress' initiative via the BIPA to formalize and expedite HCFA's procedures.

With changes to formalize the system for assigning codes to new services and procedures and investigating the need for DRG changes, we believe the current inpatient payment system would have been capable of responding adequately to the costs of new technology. This conclusion rests on the premise that decisions regarding the adoption and use of technology are best made at the clinical level, and that a technology pass through may distort clinical decision making by removing all financial risk from the use of select technologies. The procedure-based system for outpatient payment makes it more difficult to respond to the introduction of new technologies without using pass-through payments. But the design of the inpatient PPS makes it easier to ensure an appropriate distribution of payments while accommodating technological advances.

The key reasons the system can allow the use of new technology to be governed by local decision making are that new technologies generally have a small impact on the broadly defined DRGs and that recalibration of DRG weights is already accomplished annually, without the need to assign new codes to new procedures and technologies. In addition, pass-through payments would inevitably lead to higher payments for the major teaching hospitals that lead the way in introducing new technologies, at the expense of hospitals that play a lesser role in technology dissemination. We believe that this is not necessary in light of the subsidy already built into the indirect medical education payments that teaching hospitals receive.

However, the payment system must ensure that the overall level of payments is sufficient to cover the costs of quality-enhancing new technology, in addition to providing for an appropriate distribution of payments. This job should fall primarily to the annual updating process.

While it is difficult to determine the appropriate increase in payments to accommodate new technology, we have mechanisms in place for attempting to do so. MedPAC's annual recommendation to the Congress on the inpatient payment update always includes a provision for cost-increasing new technologies, and we plan to sponsor research that will help to quantify this provision. The existing decisionmaking process has the advantage of flexibility in defining the scope of new technology (we have accounted for the costs of innovations in medical information technology, for example), and also allows simultaneous consideration of the impact of cost-decreasing technologies.

RECOMMENDATION 3E

Additional payments in the inpatient payment system should be limited to new or substantially improved technologies that add significantly to the cost of care in a diagnosis related group and should be made on a budget-neutral basis.

These parameters parallel those we specified earlier in the chapter for implementation of outpatient pass-through payments. The "substantial impact" provision would provide a temporary boost in payments when the impact of a new technology on its early users is the most severe, while minimizing interference with clinical decisionmaking at the local level. Budget neutrality would limit the pass through to influencing the distribution of payments, leaving decisions regarding changes in the overall level of payments to the annual updating process.

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CHAPTER 4

Developing input-price indexes for all health care settings

RECOMMENDATION

To implement an occupation-mix adjusted wage index in fiscal year 2005, the Secretary should collect data on wage rates by occupation in the fiscal year 2002 Medicare cost reports. Hospital-specific wage rates for each occupation should be supplemented by data on the mix of occupations for each provider type. The Secretary also should continue to improve the accuracy of the wage index by investigating differences in wages across areas for each type of provider and in the substitution of one occupation for another.

***YES: 14 • NO: 0 • NOT VOTING: 0 • ABSENT: 2**

***COMMISSIONERS' VOTING RESULTS**

CHAPTER 4

Developing input-price indexes for all health care settings

In this chapter

- Current wage index policies
- Limitations in the wage index
- Strategies for improving the wage index

Many of Medicare's prospective payment systems rely on the hospital wage index to adjust national average payment rates to reflect local market prices for labor and other inputs. However, the hospital wage index does not accurately reflect local market wage levels for two reasons. First, because the wage index is based on aggregate hospital wage data for each area, it combines differences in wage rates with differences in the mix of occupations, overstating wage levels in some markets and understating them in others. Second, although wage index values are calculated for 374 labor market areas, the areas often include two or more distinct labor markets. To address these problems, the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 required the Secretary to collect data on wage rates by occupation. The data will be used to construct a new wage index for application beginning October 1, 2004. The Commission recommends methods for collecting occupation-specific data for improving input-price indexes used in Medicare's payment systems as well as providing a basis for improving the labor market definitions.

Medicare uses separate payment systems to compensate each type of provider for furnishing covered services to beneficiaries. To ensure beneficiaries' access to high-quality care in the most appropriate clinical settings under the Medicare+Choice and traditional fee-for-service programs, Medicare's payment rates must approximate the costs efficient plans and providers would incur in furnishing services under the conditions of each local health care market (see Chapter 1). Consequently, Medicare's payment rates for services in each setting should accurately reflect the effects on providers' costs of local factors that are beyond their control.

Two factors account for most of the variation in providers' unit costs: differences in the mix of outputs they produce—often called their case mix—and variation in the level of market prices for labor and other inputs. Case-mix measurement systems are intended to capture differences in providers' expected costs associated with differences in their mixes of services, cases, or beneficiaries. Case-mix payment adjustments thus account for expected differences among providers in the quantity and mix of labor and other resources required to produce care, given their case mix.

Because case-mix payment adjustments account for expected differences in the quantity and mix of resources, the input-price adjustments in Medicare's payment systems should account only for differences in the market prices for these resources. Providers have some control over the mix and quantity of employees used, consistent with the local supply of nurses and other occupations and the kinds of services delivered.[1] They have limited ability, however, to affect market levels of input prices.

All of the prospective payment systems (PPSs) for facilities—hospitals, ambulatory surgery centers, skilled nursing facilities, rehabilitation facilities, psychiatric facilities, and long-term hospitals—include (or will include) input-price adjustments that raise or lower national base payment rates to reflect local market wage levels.

Currently, the Health Care Financing Administration (HCFA) uses a single measure of geographic differences in area wage levels—the hospital wage index—to adjust the payment rates for services furnished in all facility settings.[2] There are significant issues regarding the current wage index: first, it is inaccurate because it is based on hospitals' total labor costs in each market area, reflecting differences in wage rates for each occupation and differences in the mix of occupations employed; second, it is inaccurate for skilled nursing facilities, home health agencies and others because they employ different mixes of occupations than do hospitals; and third, problems with the labor market definitions and the age of the data used for the wage index affect the accuracy of payment across all types of facility services.

Current wage index policies

Congress has required input price adjustments for payment for almost all facility services as well as physician payment. To implement such adjustments, HCFA has developed methods for collecting data and calculating the wage index. The Congress has required HCFA to define labor market areas using the Office of Management and Budget's metropolitan and non-metropolitan areas. Congress has addressed deficiencies in the use of these areas to describe health care markets for labor by allowing hospitals to be reassigned from one geographic area to another.

Source and content of hospital wage data

HCFA collects compensation data—wages, salaries, employee benefits, contract and home-office labor costs, and related paid hours of employment—through the annual cost reports filed by hospitals and skilled nursing facilities. At present, the agency uses only data from hospitals subject to the hospital inpatient PPS to calculate the wage index. The index is recalculated annually, using the most recent data available. Cost report data from hospital reporting periods beginning during fiscal year (FY) 1997 were used to calculate the wage index for payments in FY 2001.

In their cost reports, hospitals provide information regarding total compensation and paid hours for three groups of organizational units:

- all inpatient and outpatient departments;
- skilled nursing facility (SNF) subproviders, if any; and
- other subproviders, including rehabilitation and psychiatric units, home health agencies (HHAs), and other units excluded from the inpatient PPS.

Hospitals also report total compensation data for four groups of workers:

- all workers;
- physicians performing work related to Part A services (serving in an administrative capacity, such as a medical director position, performing quality control functions);
- teaching physicians and residents (these data are collected through a special survey of teaching hospitals); and
- certified registered nurse anesthetists (CRNAs).

After extensive review and editing by its central office staff and hospitals' fiscal intermediaries, HCFA had viable FY 1997 data for almost all PPS hospitals.

1 Providers' choices also may be constrained by law and regulation. For example, California is in the process of establishing minimum nurse staffing ratios for hospitals and a number of states have specific staffing ratios for nursing homes.

2 For Medicare+Choice plans, HCFA uses the hospital wage index and the geographic practice cost indexes from the physician fee schedule to adjust the national portion of the blended national/county capitation rate.

Constructing the hospital wage index

HCFA calculates hospital wage index values for 325 urban and 49 rural labor market areas.[3] Urban labor markets are based on the definitions of metropolitan statistical areas (MSAs) and New England county metropolitan areas issued by the U.S. Office of Management and Budget. Statewide rural labor markets are defined as the collection of all non-MSA counties in each state.

Constructing area wage index values involves five steps:

- Data for individual hospitals are adjusted to exclude compensation and hours for workers in non-acute units and hospital employees performing general and administrative functions related to the non-acute units. In addition, HCFA is gradually (over five years) removing from the wage index compensation for teaching physicians, residents, and CRNAs.[4]
- Each hospital's data are adjusted to reflect a common time period. Because hospitals' cost report data reflect varying hospital-specific fiscal year end dates, HCFA adjusts each facility's wage data by an inflation factor based on the national employment cost index for hospital workers from the Bureau of Labor Statistics (BLS). This adjustment inflates or deflates each hospital's total wages to reflect the mid-point of FY 1997 (March 30, 1997).
- Each hospital is assigned to the labor market to which it has been reclassified by law or by actions of the Medicare Geographic Classification Review Board.
- The average hourly wage is calculated for each labor market area and for the nation. The sum of adjusted total wages for all hospitals in the area is divided by the sum of their adjusted total hours. HCFA also calculates a comparable aggregate national average hourly wage based on the simple sums of adjusted total wages and hours for all hospitals in all labor market areas.
- The wage index value for each area is the ratio of the average hourly wage in the area to the national average hourly wage.

Hospital reclassifications and changes in the wage index

To address inequities in labor market definitions, particularly for rural hospitals located near the edges of urban areas, Medicare policy allows for reclassification from one area to another. Under the law, hospitals may request reclassification to an adjacent labor market area if they meet certain criteria. Generally, hospitals must meet two conditions:

- They must be within 15 miles from the border of the area to which they seek to be reassigned.
- Their average hourly wage rate must exceed 106 percent of the average hourly wage in their actual labor market location and 82 percent (rural hospitals) or 84 percent (urban hospitals) of the average wage rate in the adjacent area.

In FY 2001, 490 hospitals (a little less than 10 percent of hospitals receiving PPS payments) are reclassified for the wage index because they met these or related criteria.

HCFA must apply complex statutory rules to recalculate the aggregate average hourly wage rates for labor market areas affected by reclassification. These rules determine whether the reclassified hospitals' wage data are included in the calculation of the aggregate wage rate for the area they were reassigned to and the area they were reassigned from.

When hospitals are reclassified, the aggregate hourly wage rate declines in the area they were reclassified from (because the reclassified hospitals' wage rates must be greater than 106 percent of the aggregate average wage for their area before reclassification). To protect the remaining hospitals in rural labor markets, the aggregate hourly wage rate (and hence the wage index) is not permitted to decrease as a result of reclassification. The wage index in an urban area that loses hospitals by reclassification is allowed to decrease. Urban hospitals are protected to a limited degree, however, by a provision in the law that establishes an urban wage index floor at the statewide rural wage index for their state. In FY 2001, this provision affects the wage indexes for 193 hospitals located in 34 MSAs.

Hospitals located in areas affected by the entry of reclassified hospitals are protected from significant declines in the wage index. When reclassification would reduce the index by more than 1 percent, the hospitals actually located in the area get a wage index calculated as if no reclassification had occurred; hospitals reassigned into the area receive a wage index that reflects aggregate average wages after including their data.

As a result of these policies and annual updates of the data, the wage index values for some labor market areas and for individual hospitals may change substantially from one year to the next.[5] For FY 2001, HCFA estimates that changes in the underlying data—without reclassification—would have increased the wage index by more than 5 percent in 21 labor market areas and decreased the wage index by more than 5 percent in 15 labor markets. However, these large changes would affect only about 200 urban hospitals and 2 rural hospitals, suggesting

3 Six urban labor markets and one rural market are in Puerto Rico; wage indexes are not calculated for other outlying areas, such as Guam and the U.S. Virgin Islands.

4 The rationale for this change is that services furnished by all three groups are reimbursed outside of the inpatient PPS. Thus, their compensation is not included in the cost base for PPS payments and should be excluded from the wage index. To execute the phase out, HCFA calculates separate wage indexes with and without their compensation, which are currently blended together in fixed proportions (60 percent with and 40 percent without in FY 2001).

5 In the BIPA, Congress has ameliorated the effect of changes in reclassification by making reclassifications effective for three years.

that wage index volatility resulting from new data may be largely concentrated in smaller urban labor markets.

Hospital reclassifications often have significant effects on PPS payments for hospitals that are granted (or lose) reassignment to another area. For example, 114 rural hospitals are newly reclassified to urban or other rural areas in FY 2001. These hospitals are expected to receive a 4.9 percent increase in PPS payments per case because of reclassification alone. The comparable increase for the 35 newly reclassified urban hospitals is 4.7 percent.

Changes in the wage index from reclassification cannot affect the overall amount of PPS payments to hospitals, so the increase in payments from reclassification is subtracted from the total payments for all hospitals. The downward adjustment in payments resulting from this budget neutrality adjustment in FY 2001 is −0.5 percent.

Limitations in the wage index

Analysts have criticized the wage index for failing to accurately measure differences in hospital wage rates across market areas for three reasons:

- it uses aggregate wages and hours for each labor market area, combining differences in wage rates with differences among areas in the occupational mix of employment,
- the labor market areas are frequently too large to represent labor markets accurately, and
- the wage patterns it reflects are four years old.

In addition, it is unlikely that the index accurately reflects differences in wage rates across market areas for skilled nursing facilities, home health agencies and other provider types.

Differences in occupational mix

The objective of the adjuster is to account for differences beyond providers' control (local market prices) and not for geographic differences associated with case mix or management decisions (the mix of labor). Thus, the use of aggregate wages may distort the wage index by elevating the average wage per hour where hospitals employ a costly mix of labor and depressing the average wage where hospitals employ a relatively inexpensive mix. These inaccuracies may have substantial effects on payment accuracy and subsequently on payment distribution among hospitals in the inpatient PPS. Moreover, the same payment accuracy (and distribution) problems are likely to affect other payment systems in which the hospital wage index is used, such as those for services furnished in SNFs, HHAs, outpatient departments, rehabilitation facilities, and ambulatory surgery centers (ASCs).

If relative wage rates among occupations are similar across market areas, the wage index measures true differences in market wage levels only if occupational mix is constant across markets. One study used data from the BLS hospital industry wage survey (with occupation-specific data for 23 large MSAs) and the American Hospital Association's (AHA) annual survey to calculate a fixed occupational-mix index for all MSAs and statewide rural areas (Pope 1989). After excluding physicians and residents, Pope found that an index that measured differences in the complexity of occupations employed by hospitals ranged from 0.959 for the 5th percentile to 1.032 for the 95th percentile. Because the wage index is applied to 71 percent of PPS inpatient operating payments, this difference implies that hospitals in areas with the most costly occupational mix are overpaid by 2.3 percent (3.2 percent times 71 percent), while those with the least costly occupational mix are underpaid by 2.9 percent.[6] Moreover, if the wage index was adjusted to remove occupational-mix differences, the values for many urban areas (which tend to employ a more costly mix of employees) would fall while those for many small urban and rural markets would rise.[7]

Labor market size

MSAs and statewide rural areas are frequently too large to capture homogeneous labor markets for health care workers. Earlier research (ProPAC 1990) showed systematic differences in hospital wage levels within many urban and rural labor market areas. Hospitals in outlying suburban counties generally appear to face lower market wage rates than those located in the central core of the same MSA. Similarly, hospitals located in outlying rural areas appear to face lower wage rates than those located in counties adjacent to MSAs.

Other research, based on time-series and cross-sectional data for 1990–1997, suggests that these differences are still substantial (Dalton et al. 2000). The research indicates that many MSAs have two submarkets with distinct wage rates. Among statewide rural areas, the study found three distinct sub-markets within each state-wide rural area, related to the size of the urbanized population in the county (rather than whether or not the county is adjacent to an urban area).

Research on labor market definitions has faced barriers. The lack of occupation-specific wage data makes it difficult to determine whether observed differences in hourly wage rates among submarkets within MSAs and statewide rural areas represent true differences in wage levels or differences in the mix of occupations employed by hospitals, reflecting variation in the range of services, mission or other hospital characteristics. Thus, researchers often have been stymied in evaluating potential alternative labor market definitions by their inability to separate differences in market wage levels from differences in occupational mix.

6 Hospitals' PPS capital payments also are affected because the geographic adjustment factor used to adjust the federal capital rate is based on the wage index.

7 The Prospective Payment Assessment Commission (ProPAC 1990) used data from the AHA survey and the U.S. Census to study differences in the mix of occupations across labor market areas. This study found occupational-mix differences similar to those Pope presented.

Refinement of labor market areas is dependent on the availability of occupation-specific wage data. Additionally, beginning in 2003, the Census Bureau will change the MSAs based on the results of the 2000 census. Refining the definitions of market areas should await these events.

Timeliness of wage data

By the time the wage index is applied to adjust payments, the underlying wage data are four years old. Although the age of the data has often been cited as an important problem, very little research is available on this issue.

To test the question of whether the four-year data lag compromises the accuracy of the wage index, Dalton (2000) compared the performance of two wage indexes in accounting for the variation in hospitals' current hourly wage rates. One index (the old index), based on four-year-old data, was similar to that now used to adjust PPS payments in the current period. The other index (the current period index) was based on current hourly wage data.[8] Using regression analysis, Dalton determined the percent of hourly wage variation explained by the two indexes for each year from 1990 through 1996. Although the explanatory power of the old index was always slightly lower than that of the current period index, after 1992 their explanatory power was nearly equal. These results suggest that relative wage levels across geographic areas do not change much over time. The availability of data by occupation will allow a more thorough investigation of this issue in the future.

Strategies for improving the wage index

MedPAC has supported refining the hospital wage index to eliminate differences attributable to occupational mix. The BIPA requires the Secretary to collect data at least once every three years on the mix of hospital employees and use these data to adjust the hospital wage index beginning October 1, 2004. Improvements in labor market definitions also depend on the availability of these data. To implement the BIPA requirement, the Secretary will need to decide on data content and collection methods.

Collecting data from each type of provider/setting

Accurately measuring geographic variation in wage rates requires two types of information: wage rates for a representative selection of the occupational categories employed by all types of health care providers in all labor market areas, and (fixed) national labor shares for the same occupational categories for each type of provider. One issue is whether to collect these data from all providers. Collecting hospital data would be sufficient if hospitals generally dominate the demand side of the labor market in most areas and other provider types represent a small share of the total market demand for workers in the specific occupations.

Even if hospitals do not dominate the market and other providers pay higher or lower wage rates than do hospitals for the same occupations, the differences between types of providers may be fairly constant across areas. That is, the difference in nurses' wages between San Francisco and West Virginia might be the same for nurses employed by nursing homes and those employed by hospitals. If this is the case, accurate wage indexes could be built using only hospital wage rate data.

Data on the mix of labor hours for each occupation, however, should be collected for each provider type. A report on wage rates in skilled nursing facilities (ProPAC 1992) suggested that nursing-facility data may be important because of the differential impact of state laws and regulations on nursing home occupational mix. Differing state standards for nursing staff time in SNFs, for example, may require varying proportions of nurses among states. Finally, the staffing used in each type of provider will differ because of the nature of the care delivered by the facilities (acute, post-acute and ambulatory).

The number of occupations needed depends on several factors, besides the cost of collection. One is how much occupational mix varies among providers within a provider type. If occupational mix varies little, geographic differences in wage rates can be captured accurately by measuring wage rates for only a few prominent categories. Similarly, if wage relatives across occupational categories are similar among market areas, accurate wage indexes can be obtained based on a few occupational categories.

Although much of the hospital work force is employed in health-related occupations, a substantial portion consists of general occupations, such as accountants, administrative staff, housekeepers, dietary workers, and other categories regularly employed outside the health industry. Wage rates may differ across areas in a different way for health-related occupations than for occupations employed in the general economy.

Finally, to the extent that the wage ratios between occupations differ across market areas, providers in different markets have financial incentives to substitute one kind of labor for another. Thus, the occupations selected should include those that exhibit different geographic patterns from other occupations. Collecting the right data may ensure measurement accuracy even if labor substitution occurs, but only if the wage rates for the involved labor categories are included.

Method of data collection

Two strategies exist for collecting wage data. HCFA could contract with the BLS to conduct sample surveys of health care providers in all labor market areas, or the same information could be collected through the annual cost reports providers submit to HCFA.

The BLS approach, while better conceptually, may not be feasible for collecting comprehensive data. All BLS

8 If the geographic pattern of wage rates across market areas changed substantially over the four-year interim period, the old index should account for much less of the variation in current hourly wage rates than the current index.

surveys are voluntary; conducting a mandatory survey for HCFA might jeopardize health providers' willingness to cooperate in the agency's other survey efforts. Moreover, prior experience indicates that a voluntary survey would likely have a poor response rate. Although a BLS survey may not work for collecting wage rate information, it could be used to collect information on the mix of occupations employed by provider type.

Collecting data through the annual provider cost reports is more feasible. Cost reports are required for all facilities (except ASCs) and their accuracy is attested in writing under penalty of law by each provider. HCFA already has specific editing, auditing, and educational processes for ensuring accuracy of the current wage data in the cost reports. To meet the congressional deadline for implementing occupational mix adjustment, the FY 2002 wage data collection worksheet (S-3) in the cost report would have to be modified to add lines for wage rates and hours for the selected occupations. To help ensure accuracy as well as diminish the burden on hospitals and others, the instructions should be provided to hospitals and others prior to October 2001.

RECOMMENDATION

To implement an occupation-mix adjusted wage index in fiscal year 2005, the Secretary should collect data on wage rates by occupation in the fiscal year 2002 Medicare cost reports. Hospital-specific wage rates for each occupation should be supplemented by data on the mix of occupations for each provider type. The Secretary also should continue to improve the accuracy of the wage index by investigating differences in wages across areas for each type of provider and in the substitution of one occupation for another.

Collecting data for the improved wage index will involve several issues. First, the Commission recommends using hospital-specific data on wage rates for each occupation to minimize the administrative burden for HCFA and providers. Second, HCFA should identify the minimum set of occupational categories that could be used for all types of providers, although the occupational mix categories should not be so broad that differences in skill mix reflecting training and experience (which substantially affect wage rates) are lost.

The Secretary should continue to improve the wage index by investigating whether hospital data are adequate to capture geographic differences in wage rates for other providers. For instance, differences in unionization might create small differences in the relative wage rates across areas for nursing homes compared with those for hospitals.

Finally, the Secretary should examine whether including variation in the mix of occupations by area is always inappropriate. If the gap between registered nurse and aide wages differs across market areas, for instance, hospital managers may react by changing their occupational mix to the most efficient for that area. The availability of occupation-specific data will make it possible to examine whether differences in occupational mix are attributable to local market conditions that affect hospitals' willingness to substitute one type of employee for another based on cost. Pope suggests that "unless the degree of substitution is large, the (occupation-mix-adjusted wage) index is close to the true, substitution-adjusted wage index." ■

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CHAPTER 5

Financial performance and inpatient payment issues for PPS hospitals

RECOMMENDATIONS

5A The inpatient PPS operating update of market basket minus 0.55 percent set in law for fiscal year 2002 will provide a reasonable level of payments.

***YES: 14 • NO: 0 • NOT VOTING: 0 • ABSENT: 2**

5B In collecting sample patient-level data, HCFA should seek to balance the goals of minimizing payment errors and furthering understanding of the effects of coding on case-mix change.

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

5C Although the Benefits Improvement and Protection Act of 2000 improved the equity of the hospital disproportionate share adjustment, Congress still needs to reform this adjustment by:

- including the costs of all poor patients in calculating low-income shares used to distribute disproportionate share payments, and
- using the same formula to distribute payments to all hospitals covered by prospective payment.

YES: 12 • NO: 0 • NOT VOTING: 0 • ABSENT: 4

5D The Congress should protect urban hospitals from the adverse effect of nearby hospitals being reclassified to areas with higher wage indexes by computing each area's wage index as if none of the hospitals located in the area had been reassigned.

YES: 11 • NO: 0 • NOT VOTING: 1 • ABSENT: 4

***COMMISSIONERS' VOTING RESULTS**

CHAPTER 5

Financial performance and inpatient payment issues for PPS hospitals

In this chapter

- Overview of the payment system and policy changes
- Hospital financial performance
- Updating operating and capital payments
- Improving disproportionate share payment distribution methods
- Improving the equity of geographic reclassification for urban hospitals

Hospitals' financial status deteriorated significantly in 1998 and 1999, due to a combination of Medicare payment cutbacks and falling payments from private payers. The Medicare margin for inpatient services declined to 12.0 percent from an all-time high of 16.9 percent, and the Medicare margins for hospitals' outpatient departments, rehabilitation and psychiatric units, home health agencies, and skilled nursing facilities also dropped during this period. There are signs of substantial improvement in fiscal 2000, however; the hospital total margin rose to a seasonally adjusted 5.1 percent for the first two quarters of the year from a 1999 low of 2.8 percent. Most of this upturn appears attributable to hospitals negotiating more favorable payment terms with private insurers and to one-time losses in 1999 resulting from divesting money-losing lines of business. We conclude that there is no compelling reason to change the current law payment update for fiscal year 2002. Although the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA) implemented a welcome increase in Medicare disproportionate share payments for rural hospitals, we stress that further reform of this payment adjustment is needed. Finally, we recommend a change in the rules governing geographic reclassification to improve its equity among urban areas.

Overview of the payment system and policy changes

Under the inpatient prospective payment system (PPS), hospitals receive prospectively determined operating and capital payments for each Medicare discharge.[1] Operating payments totaled $66 billion in 2000. They are intended to cover all costs hospitals incur in furnishing acute inpatient services for Medicare beneficiaries, except capital costs. Capital payments, which account for another $6 billion, cover building and equipment costs (principally interest and depreciation) allocated to Medicare's inpatient services. Hospitals also receive $6 billion in beneficiary copayments for inpatient services covered by the PPS and $2 billion in payments for graduate medical education (GME) for physicians and other health professionals (Committee on Ways and Means 2000).

Operating and capital payment policies

Hospitals' operating and capital payments for inpatient care under the PPS are determined in similar ways. Each payment system has three main components:

- the per-case base payment rate,
- a set of case weights, and
- special adjustments.

The base payment rate reflects the average costliness of Medicare cases nationwide, adjusted for the relative level of input prices in hospital market areas. The labor-related portion of the base operating payment rate is adjusted by a wage index that reflects the relative level of hospital workers' wages in each metropolitan or statewide rural area.

A similar index, called the geographic adjustment factor, is used to adjust the base capital payment rate.[2] Medicare's capital PPS has been phased in from 1992 to 2001. All hospitals are now paid on the basis of national prospective rates, and in fiscal year 2002 other special provisions (such as hold-harmless payments) in place during the transition will no longer be in effect.

The second component of PPS payment is a weight that accounts for the relative costliness of each case compared with the national average Medicare case. A separate weight is defined for each of 499 diagnosis related groups (DRGs), and the same DRG definitions and weights are used for both operating and capital payments. The product of a hospital's base payment rate and the relative weight for the DRG to which a patient is assigned is the hospital's DRG payment rate for a case. Consequently, a facility's DRG operating and capital payments under the PPS automatically reflect its mix of Medicare patients among DRGs, as measured by the average weight of the DRGs used to pay for their care. This average weight is the facility's PPS case-mix index (CMI).

The third PPS component consists of additional amounts that may be paid for unusual cases or to hospitals with certain characteristics. These factors are intended to account for differences in the costs of treating patients that are beyond hospitals' control or to accomplish broader policy objectives. Extremely costly cases can qualify for outlier payments, which are added to the DRG payment rate. An indirect medical education (IME) adjustment accounts for the higher patient care costs of teaching facilities, and hospitals that treat a disproportionate share of low-income patients receive the disproportionate share (DSH) adjustment. Finally, special payment provisions apply to rural hospitals designated as sole community providers, referral centers, or small Medicare-dependent hospitals.[3]

Hospital financial performance

The hospital sector is the single largest category of health spending and Medicare is the single largest purchaser of hospital services. The financial performance of the hospital industry is important for Medicare to ensure access to high-quality care for Medicare beneficiaries. The financial status of the industry depends on the volume of care provided, the per unit costs of providing that care, and the payments that private and public purchasers agree to make.

Hospitals were under financial pressure for most of the 1990s, first from public and later from private purchasers. As a result, hospitals have taken successful action to constrain cost growth, which initially improved financial performance. They also expanded into complementary lines of service by adding physician practices, health insurance subsidiaries, home health agencies, and skilled nursing facilities. In recent years, however, pressure has developed from the public and private sectors simultaneously, cost growth has begun to rise, and the expanded lines of service have produced unanticipated losses. These trends led to significant deterioration in hospital financial performance in 1998 and 1999. Signs of substantial improvement emerged in 2000, however, apparently led by payment changes in the private sector.

This section begins by reviewing hospital financial performance under Medicare. It then broadens to address all payers for hospital care, operating and non-operating revenue, and hospital total margins.

1 For Medicare beneficiaries enrolled in Medicare+Choice, services covered by the inpatient PPS usually will be paid under terms negotiated between the hospital and health plan.

2 Hospitals in Alaska and Hawaii also receive cost-of-living adjustments for the nonlabor portion of the base operating rate and for the federal capital payment rate.

3 A sole community provider is designated by Medicare as the only provider of hospital care in a market area. A rural referral center is generally a large rural hospital designated by Medicare as serving patients referred by other hospitals or by physicians who are not members of its medical staff. A small rural Medicare-dependent hospital is located in a rural area, has 100 or fewer beds, is not classified as a sole community provider, and has at least 60 percent of inpatient days or discharges attributable to Medicare.

Changes resulting from recent legislation

The Balanced Budget Act of 1997 (BBA) included several provisions that affected inpatient payment to PPS hospitals, as well as payment for the other services they provide (including outpatient, skilled nursing, home health, rehabilitation, and psychiatric care). The Balanced Budget Refinement Act of 1999 (BBRA) and the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA) slowed or reversed some of these changes, eliminating a significant portion of the savings resulting from the BBA.

Prior to the BBA, the update to PPS operating payments for fiscal year 1998 and beyond was equal to the forecasted increase in the PPS hospital market basket. However, since the inpatient PPS was introduced in 1984, the actual update has generally been below the market basket forecast. Action by the Secretary of Health and Human Services or the Congress led to updates averaging 2.1 percentage points below market basket from 1986 through 1996. The BBA continued this pattern by freezing rates in 1998, followed by updates of 1.9 and 1.8 percentage points below market basket in 1999 and 2000, respectively; 1.1 percent below market basket in 2001 and 2002; and equal to market basket thereafter. The BIPA increased the update relative to the BBA and the BBRA provisions for 2001 and 2002 and reduced it in 2003. It sets an update with an average value equal to the market basket in 2001, 0.55 percent below market basket in 2002 and 2003, and equal to the market basket thereafter.

The update for capital payments is established by the Secretary of Health and Human Services through regulation before the beginning of each fiscal year, rather than being set by statute.

The BBA sharply cut PPS capital payments for fiscal year 1998 to make these payments better reflect Medicare-allowable capital costs. The Health Care Financing Administration (HCFA) overestimated capital cost growth in the early 1990s, and therefore set high annual updates to capital payment rates. Because actual payments were held equal to 90 percent of estimated capital costs in fiscal years 1992-1995, however, the updated payment rates did not result in increased payments. When budget neutrality expired in 1996, actual payments increased to equal updated rates, resulting in a 22.6 percent increase in rates. In response to that change, the BBA permanently reduced capital payment rates by 15.7 percent and, for fiscal years 1998-2002, by an additional 2.1 percent. This largely reversed the increase caused by the end of budget neutrality.

Effective fiscal year 1999, the BBA defined certain cases as transfers and paid for them using a modified payment formula. The cases must be in 10 DRGs selected by the Secretary and be discharged to PPS-excluded hospitals or units, skilled nursing facilities or, in some cases, home health care. Hospitals transferring patients are paid an average per diem amount for the days before transfer (twice the per diem rate for the first day) up to the full DRG rate. The Secretary identified the applicable DRGs based on high volume and above-average use of post-acute care, and estimated that the provision would reduce PPS payments by 0.6 percent.

The BBA reduced indirect medical education (IME) payments to teaching hospitals. Before the BBA, payments were increased by 7.7 percent for each 10 percent increase in a hospital's ratio of residents to beds. The BBA reduced this to 7.0 percent in 1998, 6.5 percent in 1999, 6.0 percent in 2000, and 5.5 percent in 2001 and subsequent years. The BBRA slowed this reduction to 6.5 percent in 2000, 6.25 percent in 2001, and 5.5 percent in 2002 and subsequent years. The BIPA further liberalized the adjustment to an average of 6.5 percent in 2001, 6.5 percent in 2002, and 5.5 percent in 2003 and beyond.

The BBA cut DSH payments during fiscal years 1998–2002, with reductions implemented in one-percentage-point increments reaching 5 percent in 2002, but with no further reductions in 2003 and after. The BBRA froze the reduction at 3 percent in 2001 and changed it to 4 percent in 2002. The BIPA softened the reduction further to an average of 2 percent in 2001 and 3 percent in 2002; full DSH payments will be made in 2003 and beyond. In addition, the BBA required that HCFA recommend a new payment formula for the DSH adjustment, that the new formula treat all hospitals equally, and that the low-income share measure continue to reflect both Medicaid patients and Medicare patients eligible for Supplemental Security Income. Although due by August of 1998, HCFA has not yet issued its report recommending a new payment formula.

The BBRA made other changes to reduce disparity in graduate medical education (GME) payments. In addition, the Secretary was directed to collect the uncompensated care data needed to reform the distribution of DSH payments. The BIPA made changes to the process for reclassifying hospitals for the wage index and other changes to enhance payments for rural hospitals. The BIPA made further changes to reduce the variation in GME payments.

Before the BBA, Medicare reimbursed hospitals fully for Medicare beneficiaries' bad debts at PPS hospitals. The BBA reduced this reimbursement in three steps to 55 percent of bad debts in 2000. The BBRA left this schedule unchanged, but the BIPA increased the percentage reimbursed to 70 percent in 2001 and thereafter. ■

Financial performance under Medicare

Medicare accounts for about 36 percent of spending on hospital care; all private payers combined account for 42 percent. Our discussion of hospitals' Medicare financial performance begins with the trend in cost per case—a direct measure of the resources used in producing inpatient care—and the trend in length of stay, a key determinant of inpatient cost growth. This discussion leads to a comparison of the trends in cost per case, payment per case, the hospital market basket, and the payment update factor. We then describe the trend in inpatient margins to understand how changes in Medicare payment policies affect hospital financial performance. Finally, we have expanded our research to include a margin for hospitals' five largest lines of Medicare business, which provides a comprehensive understanding of the overall impact of Medicare payment policy on hospitals.

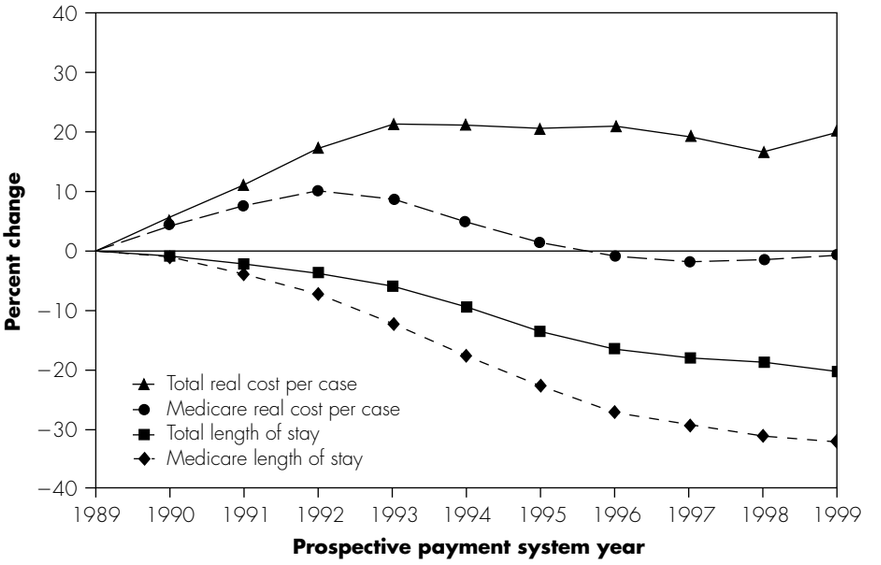
Length of stay and cost per case

We examined length of stay and cost per case for both Medicare beneficiaries and the patients of all payers. The Medicare Cost Report provides information on inpatient care for Medicare beneficiaries, while American Hospital Association (AHA) data give information on care to all patients, including expenses per adjusted admission, a measure encompassing both inpatient and outpatient care.

Trend during the 1990s Through the 1990s reductions in length of stay for Medicare's patients and those of other payers have been associated with slow growth or actual declines in real cost per case. We have calculated the real change in cost per case, which removes the effect of inflation over time. From 1992 through 1997, Medicare real cost per case declined every year, falling more than 3 percent in both 1994 and 1995 (Figure 5-1). In 1998 and 1999, it increased minimally—0.3 and 0.9 percent, respectively. In comparison, PPS length of stay declined from 1990 to 1997 at an average rate of 4.6 percent per year, and slowed to 2.4 percent in 1998 and 1.6 percent in 1999. Thus, large length-of-stay declines were associated with negative real cost growth through the mid-1990s, and smaller reductions in length of stay are associated with a slight increase in real cost per case in both 1998 and 1999. In aggregate, Medicare length of stay dropped more than 32 percent from 1990 through 1999, and Medicare real cost per case fell almost 1 percent.

FIGURE 5-1

Cumulative changes in Medicare and total length of stay and real cost per case, 1989–1999



Note: Total expenses per adjusted admission and total length of stay data (from the American Hospital Association) are based on community hospitals (which include some facilities excluded from prospective payment) and federal fiscal years. The Medicare inpatient costs per discharge and Medicare length of stay data (from HCFA) are based only on hospitals paid under prospective payment and on prospective payment system years. Real costs are calculated using the Gross Domestic Product implicit price deflator.

Additional data are shown in Appendix Table B-1.

Source: MedPAC analysis of American Hospital Association Annual Survey of Hospitals and Medicare Cost Report data from HCFA.

Changes over time in real cost per case for all payers are also closely associated with length-of-stay changes. Although all-payer length of stay dropped slightly in the early 1990s while real cost per case increased, as the decline in length of stay grew larger between 1993 and 1998, real cost per case fell. In the past decade, length of stay for all payers decreased 20 percent, while their real cost per case increased almost 20 percent. Thus, smaller length-of-stay declines for all payers compared to Medicare alone resulted in larger cost growth for all payers.

Trend by type of hospital The trends in Medicare length of stay differed among hospital types early in the decade, but have become more similar as the trend in length of stay stabilized. While both urban and rural hospitals had declines in Medicare length of stay every year throughout the 1990s, the reduction has been greater for urban hospitals, perhaps due to the greater availability of post-acute care providers in urban areas. In the mid-1990s, the drop in urban hospitals' length of stay exceeded the decline for rural hospitals by 2 percent a year; in 1999, the difference was only 0.3 percent.

The largest length-of-stay declines have been experienced by major teaching hospitals, and the smallest decreases by non-teaching hospitals.[4]

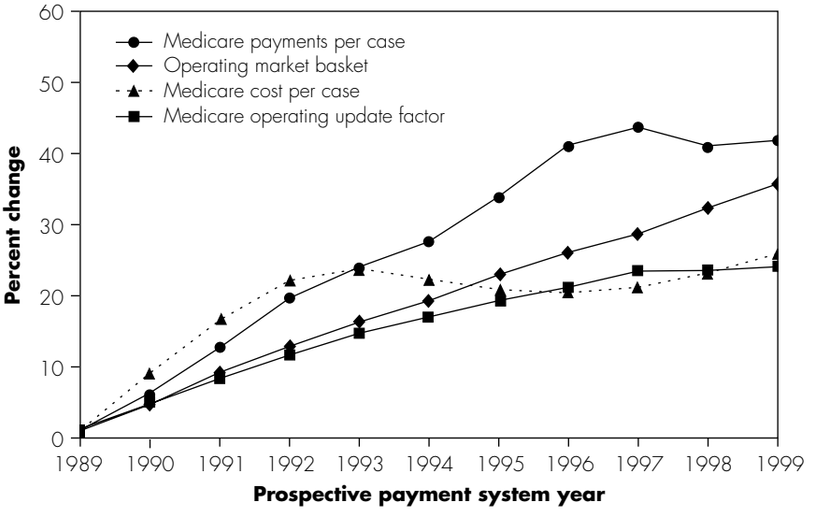
These differences in length-of-stay changes are reflected in the cost per case trend. Growth in cost per case declined through the 1990s for all hospitals, but rural hospitals have always lagged behind their urban counterparts. For the past six years, cost per case growth for rural hospitals has been 1 to 2 percentage points higher than that of urban hospitals. In 1999, rural hospital cost per case increased nearly 4 percent, while urban hospital cost per case increased about 2 percent—the highest rates since 1993 for both groups.

Payment growth for inpatient services is heavily influenced by Medicare payment rates. In fiscal years 1998 through 2000 (the first three years of the BBA), update factors for the PPS operating payment rates were the lowest since prospective payment began (0 percent, 0.5 percent and 1.1 percent, respectively). Focusing solely on the update factor to gauge the adequacy of Medicare payment, however, is misleading. Hospitals have been successful in containing cost growth during this period, mostly through length-of-stay reductions, and the smaller updates were a direct response to that trend. Since the drop in length of stay began in the early 1990s, the cumulative payment increase has been substantially larger than the cumulative increase in hospital costs.

With the lone exception of 1998, growth in Medicare payments per case has exceeded the update factor every year since prospective payment began (Figure 5-2). Based on Medicare Cost Report data, PPS payments per case increased by a cumulative 42 percent between 1990 and 1999; the cumulative payment updates during this period were 24 percent, and the market basket increased a cumulative 36 percent. Much of the difference between payments per case and the update factor reflects a rise in the Medicare case-mix index CMI in the late 1980s through the mid-1990s.[5] However, the CMI fell in both 1998 and 1999, which helped close the gap between growth in payments per case and the update factor. In 1998, payments per case fell by 2.1 percent (relative to an update factor of 0 percent), then increased by 0.7 percent in 1999 (relative to an update factor of 0.5 percent). Low or negative growth in payment per case is largely a result of the BBA but also results from reductions in the CMI, possibly linked to hospital concerns about government "fraud and abuse" investigations into the DRG coding of cases.

FIGURE 5-2

Cumulative changes in Medicare hospital inpatient payments per case and costs per case, and operating update factor, 1989–1999



Note: Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment. The operating update factor applies to operating payments, which account for appoximately 92 percent of Medicare payments. Capital payments make up the remaining 8 percent.

Additional data are shown in Appendix Table B-1.

Source: MedPAC analysis of Medicare Cost Report data.

Medicare inpatient margin

The Medicare inpatient margin is an important measure of the adequacy of Medicare payments to hospitals. This margin compares the payments hospitals receive from Medicare for inpatient services with their Medicare-allowable costs for these services, such that trends in both payments and costs will affect the value.[6]

Trend during the 1990s The PPS inpatient margin was negative in the early 1990s, reaching a low of −2.4 percent in 1991, due primarily to cost increases that

4 Major teaching hospitals are defined by a ratio of interns and residents to beds of 0.25 or greater, while other teaching hospitals have a ratio less than 0.25.

5 The CMI is the average payment weight of the hospital's cases by DRG; an increase in the CMI automatically raises payments by the same proportion.

6 The inpatient margin is calculated (in percentage terms) as the difference between inpatient payments and Medicare-allowable costs (as derived from costs reported on the cost report each hospital submits to HCFA) divided by inpatient payments. The same general approach is used for the other Medicare margins discussed later in the chapter.

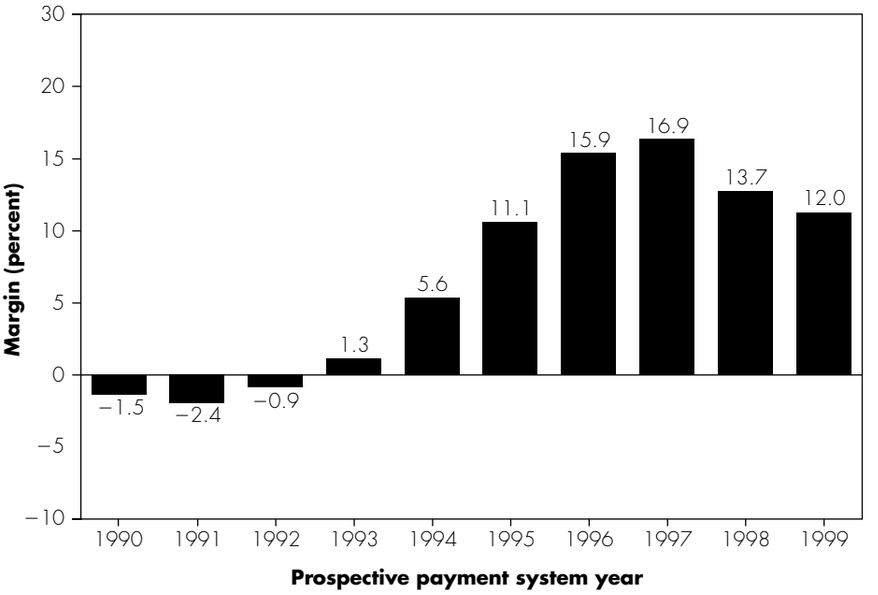
far exceeded the payment updates. Hospital cost containment from the mid- to late 1990s increased the margin, which reached an all-time high of 16.9 percent in 1997 (Figure 5-3). In 1998 and 1999, the inpatient margin fell because of a combination of BBA provisions, a return to positive cost growth for hospitals, and hospital concerns with coding-related "fraud and abuse" enforcement by the Inspector General. Although the BBA went into effect mostly in 1998, certain policies (such as the capital update) began to affect hospitals in 1997 but did not slow the growth in inpatient margin that year.[7] The inpatient margin fell to 13.7 percent in 1998 and to 12.0 percent in 1999. The 5 percentage point drop from 1997 to 1999 still leaves this margin higher than at any time prior to 1996.

The major impact of the BBA has already been felt by hospitals, and the BBRA and the BIPA have eliminated many of the further BBA reductions that had been scheduled for 2000 through 2002. As such, the combined effect of the BBA, the BBRA and the BIPA should not have much of an additional effect on inpatient payment in fiscal year 2002, but if hospital costs continue to increase at rates similar to 1998 and 1999, the inpatient margin could continue to fall.

Despite relatively high inpatient margins in recent years, not all hospitals profit from Medicare inpatient care. As PPS inpatient margins rose in the early 1990s, the number of hospitals with negative margins fell in each year from 1991 through 1996. But even in 1996 and 1997, when inpatient margins were at their highest, nearly one in four hospitals lost money on Medicare inpatient services (Figure 5-4). The drop in the inpatient margin in 1998 and 1999 was accompanied by increases in the proportion of hospitals with negative margins, which reached 34 percent in 1999. The steep climb in the number of hospitals with negative inpatient margins does not bode well for some hospitals, as inpatient payments generally offset hospital losses on other lines of Medicare service.

FIGURE 5-3

Medicare hospital inpatient margin excluding graduate medical education, 1990–1999



Note: Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment. Data for 1999 have been weighted by teaching status to improve predictive accuracy. Margins for all years are based on Medicare-allowed costs.

Additional data are shown in Appendix Table B-4.

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

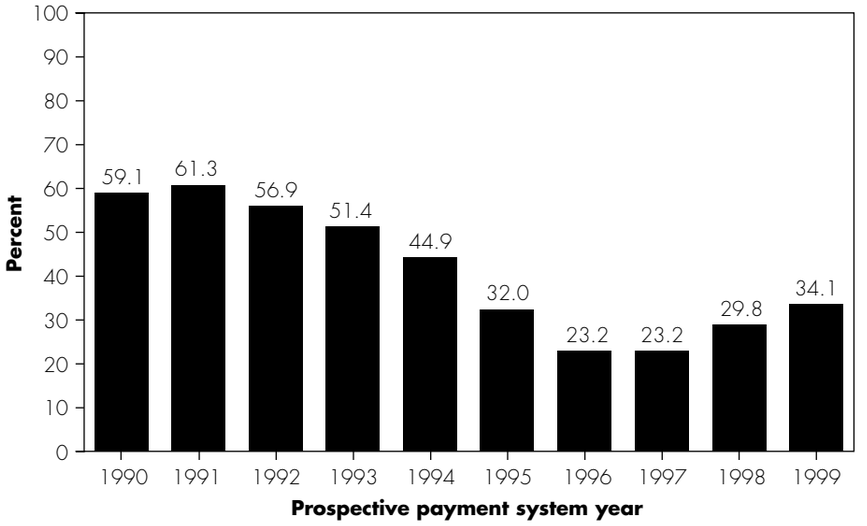
Trend by type of hospital The decline in inpatient margins in 1998 and 1999 varied by teaching status and between urban and rural hospitals. Medicare payments to hospitals are adjusted for a variety of factors that impact these groups differentially, including degree of teaching intensity, location in a large urban area relative to a smaller urban or rural area, and treatment of low-income patients. The trends by teaching status and urban versus rural hospitals are not unrelated; major teaching hospitals are located predominantly in large urban areas, while rural areas have predominantly non-teaching hospitals.

Teaching hospitals—those employing residents—receive additional Medicare payments through the IME adjustment in an effort to compensate for their higher costs. Teaching hospitals tend to have much higher inpatient margins than non-teaching hospitals, due primarily to these teaching-related payments and to DSH payments (Figure 5-5). Although cuts in the BBA applied more to teaching hospitals, major teaching hospitals' inpatient margins in 1999 remained essentially unchanged, while the inpatient margins of other teaching and non-teaching hospitals continued to decline from their 1997 highs. One reason for this disparity is that major teaching hospitals had lower growth in cost per case than other hospitals in 1998 and 1999.

7 The BBA reduced capital rates by 15.7 percent for discharges occurring on or after October 1, 1997, which allowed some of the impact of this provision to appear on 1997 cost reports.

FIGURE 5-4

Percent of hospitals with negative Medicare inpatient margins excluding graduate medical education, 1990–1999



Note: Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment. Margins for all years are based on Medicare-allowed costs.

Additional data for 1999 are shown in Appendix Table B-5.

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

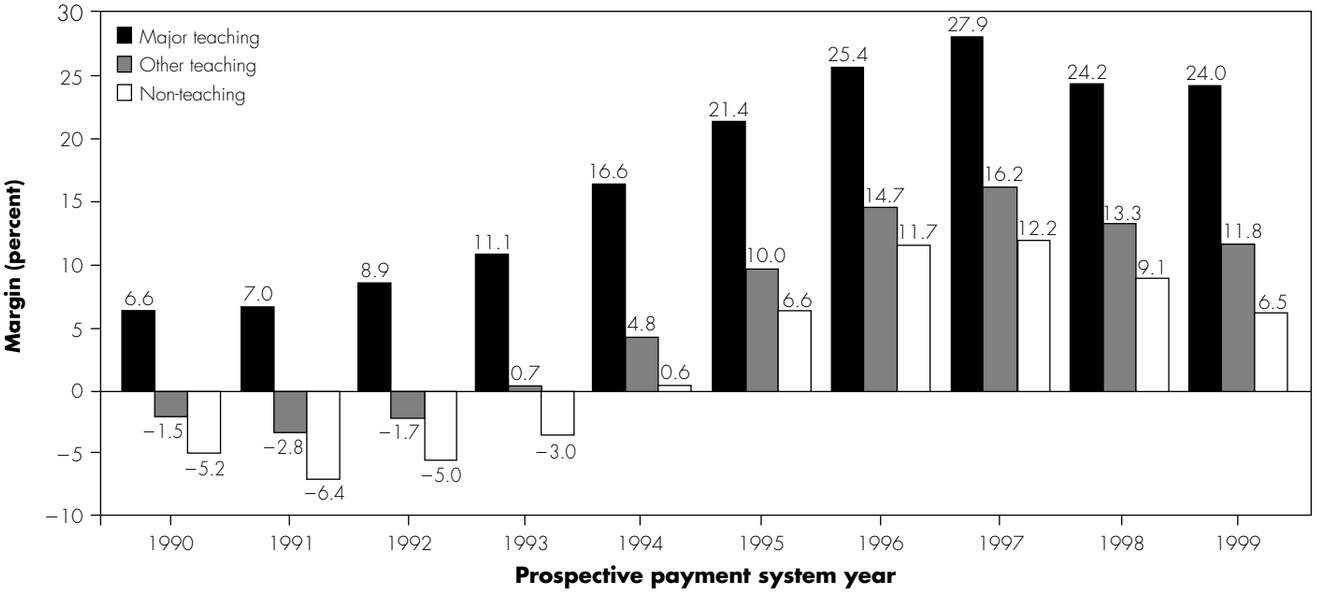
Rural hospitals have consistently had lower Medicare inpatient margins than urban hospitals due to lower IME and DSH payments as well as higher cost growth. From 1992 through 1999, the gap between urban and rural hospital margins widened (Figure 5-6). In 1997, before the BBA, rural hospital inpatient margins fell slightly due to high cost per case growth, while urban margins continued to increase. Rural hospital margins also fell faster than those of urban hospitals after the BBA in 1998, but again this was due to higher cost growth. In 1999, the urban margin fell to 13.2 percent, after reaching an all-time high of over 18 percent in 1997, while the margin for rural hospitals fell to 3.4 percent after peaking at 10 percent in 1996.

Overall Medicare margin

Although the inpatient margin is a useful tool for analyzing Medicare payment policy, it does not provide a comprehensive picture of Medicare's impact on hospitals because virtually all hospitals provide other services to

FIGURE 5-5

Medicare hospital inpatient margin excluding graduate medical education, by teaching status, 1990–1999



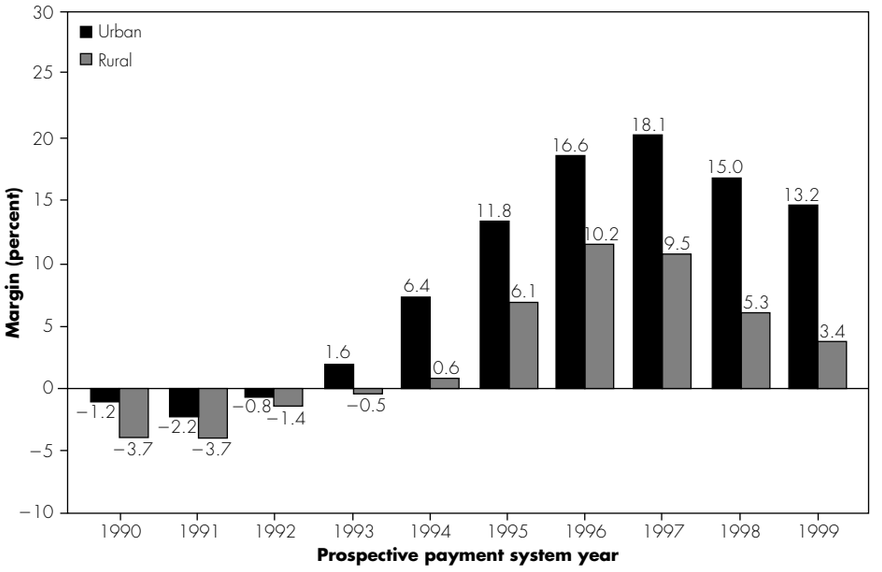
Note: Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment. Margins for all years are based on Medicare-allowed costs.

Additional data are shown in Appendix Table B-4.

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

FIGURE 5-6

Medicare hospital inpatient margin excluding graduate medical education, by urban and rural location, 1990–1999



Note: Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment. Margins for all years are based on Medicare-allowed costs. Additional data are shown in Appendix Table B-4.

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

Medicare beneficiaries. MedPAC created the overall Medicare margin in conjunction with HCFA to provide a comprehensive analysis of hospital Medicare payments and costs for the five largest lines of Medicare service to hospitals paid under the inpatient PPS. The Medicare margin includes payments and costs for PPS inpatient, outpatient, home health, skilled nursing, and PPS-exempt (psychiatric and rehabilitation) services, as well as GME and Medicare bad debt payments, incorporating more than 90 percent of Medicare payments.[8]

The overall Medicare margin allows policymakers to compare Medicare margins among service lines, and to gauge the contributions of each component to the total. Increases in volume and recent policy changes, such as the introduction of new payment systems for outpatient and post-acute care, have increased the policy relevance of these other Medicare services that hospitals provide.

Until recently, many services under Medicare were paid on a cost basis, but Medicare payments often did not cover costs due to discounts or limits on payment. For instance, Medicare paid 94.2 percent of operating costs and 90 percent of capital costs for outpatient services prior to the outpatient PPS. In preparing their Medicare Cost Reports, providers have had a strong incentive to allocate overhead and ancillary costs disproportionately to those services (primarily outpatient, home health, and skilled nursing) for which payments were made on a cost basis, rather than by prospective payment.

A 1993 Prospective Payment Assessment Commission (ProPAC) study found that outpatient costs were overstated by at least 8 percent, and a 1994 HCFA-sponsored study suggested that these costs may have been overstated by more than 15 percent (ProPAC 1993, CHPS Consulting 1994).[9] The incentive to allocate overhead and ancillary costs to cost-reimbursed post-acute services is as strong as for outpatient services. Although no information is available on the extent of the reporting bias, negative margins for these services are due at least somewhat to this over-allocation of costs by providers, and the disparity in margin between inpatient and other services is not nearly as great as the nominal values would suggest.

Trend during the 1990s The margins for each component and the overall Medicare margin have declined from 1996 through 1999 (Table 5-1). The overall Medicare margin fell from an all-time high of 10.4 percent in 1997 to 5.6 percent in 1999. Each component is shown excluding graduate medical education, while the total margin line includes GME (which reduces the overall margin by approximately 0.5 percent a year).[10] Inpatient payments are the key determinant of the overall margin; despite negative margins for most components, the inpatient margin keeps the overall margin well above zero. In 1999, the overall Medicare margin dropped moderately, but the real movement in this margin occurred from

8 In future iterations of this margin, HCFA and MedPAC hope to include other elements of the Medicare program that affect hospitals, including payments and costs for care in comprehensive outpatient rehabilitation facilities, fee-based outpatient services (such as durable medical equipment and laboratory), and hospice and ambulance services.

9 The final report of HCFA's study contains a series of DRG-specific values, rather than an aggregate national figure for outpatient cost overstatement. However, the study's principal investigator has estimated that the national figure is between 15 and 20 percent.

10 The inclusion of GME tends to drive down the measured margin because GME costs are generally higher than payments. GME affects inpatient services to the greatest extent and all other services to a lesser extent. The relationship of GME payments and costs did not change materially under the BBA.

TABLE 5-1 **Overall hospital Medicare margin, 1996–1999**

Component	1996	1997	1998	1999	Component cost share 1999
Inpatient	15.9%	16.9%	13.7%	12.0%	71.2%
Outpatient	−7.8	−6.7	−16.7	−15.4	17.4
Skilled nursing facility	−11.8	−14.5	−25.9	−51.4	2.8
Home health agency	−4.5	−4.5	−24.8	−13.9	4.0
PPS-exempt units	6.2	4.4	0.7	4.0	4.6
Total	9.9	10.4	6.0	5.6	100.0

Note: PPS (prospective payment system). PPS-exempt units include inpatient psychiatric and rehabilitation services. Data are based on Medicare-allowable costs. Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment. Data for 1999 have been weighted by teaching status in order to improve predictive accuracy. Components exclude graduate medical education costs and payments; total includes them.

Additional data are found in Appendix Tables B-4, B-6, B-7, B-8, B-9, and B-10.

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

1997 to 1998, when it fell more than 4 points. The 1998 reduction is evidence that the BBA effectively reduced Medicare payments to hospitals, but also is due to a return to positive nominal cost growth.

The BBA caused large reductions in each component of the overall Medicare margin in 1998, but the margins for all components except hospital-based skilled nursing facilities (SNFs) leveled out in 1999. Home health margins recovered primarily because hospitals closed their unprofitable agencies, but the improved PPS-exempt unit and outpatient margins in 1999 are probably overstated, due to differences in the sample of hospital cost reports available in 1998 and 1999. We believe that these component margin values may drop somewhat when complete data become available.

The hospital-based SNF margin fell substantially in 1998 and 1999, reaching −51 percent. HCFA predicted the impact of the SNF PPS on hospital-based units would be a 20 percent decrease in payments, which would reduce the pre-1997 SNF margin of −15 percent to −45 percent. Thus, the impact of prospective payment was slightly greater than projected by HCFA. However, the SNF margin in 1999, though severe, represents payment of 66 cents on the dollar, not 49 cents on the dollar,[11] and the SNF margin was negative before the PPS was implemented, despite cost-based reimbursement with certain limits. We believe a significant portion of the negative SNF margin reflects the over-allocation of hospital overhead costs to cost-reimbursed units.

Despite the fairly large drop in margin for most non-inpatient components of Medicare payments from 1996 through 1999 and the fact that all non-inpatient components (including GME) had very low or negative margins, the overall Medicare margin remained well above zero in 1998 and 1999. The positive overall margin results from the relative payment and cost shares of the margin components, which are dominated by inpatient services. In 1999, the PPS inpatient cost share was 71.2 percent, the outpatient cost share was 17.4 percent, and the other three components combined were less than 12 percent (Table 5-1).

The trend in component cost shares within the overall Medicare margin suggests a behavioral response to changes in Medicare payment policy. In the early to mid-1990s, the number of hospital-based home health and skilled nursing units increased substantially. Hospitals moved into these services to ensure a continuum of care to patients but also to receive multiple payments for the same beneficiary as they moved through this continuum. As Medicare payments for skilled nursing and home health services were constrained by provisions of the BBA, hospitals have moved away from providing these services and refocused on inpatient care. Consequently, the proportion of total costs for both home health and skilled nursing care was reduced by one-third or more between 1997 and 1999.

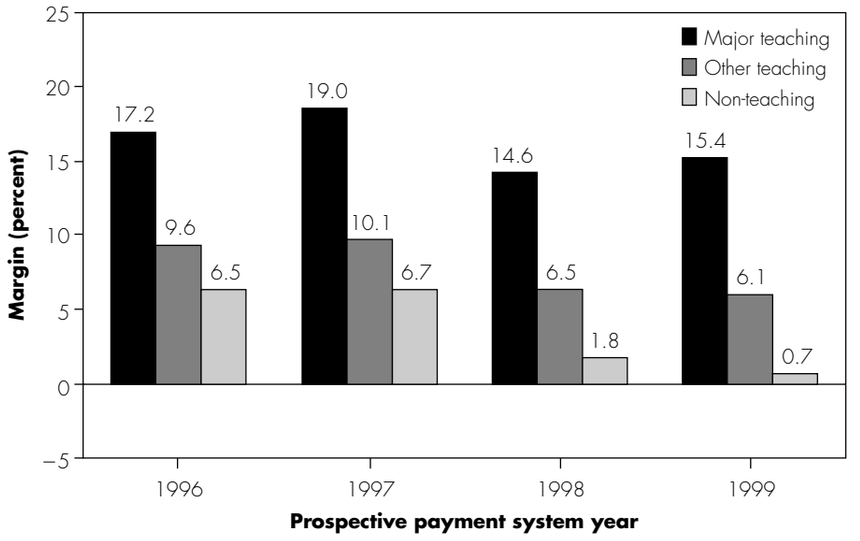
Trend by type of hospital Just as teaching hospitals have higher inpatient margins, they also have higher overall Medicare margins. Although the margins for outpatient, skilled nursing, home health and PPS-exempt services were similarly low for teaching and non-teaching hospitals, the overall Medicare margin for major teaching hospitals was nearly 15 points higher than that of non-teaching hospitals in 1999 (Figure 5-7). This is due almost entirely to high inpatient margins, linked to greater IME and DSH payments. Although the BBA had a proportionately greater impact on teaching hospitals' payments, their Medicare margins have remained high. In fact, the overall Medicare margin for major teaching hospitals actually increased nearly 1 percentage point from 1998 to 1999, accomplished through slower cost per case growth and reduced skilled nursing services.

Similar to the inpatient margin, rural hospitals have lower overall Medicare margins than urban hospitals, and the gap has widened in each of the years for which we have data (Figure 5-8). In 1998, when the BBA payment policies went into effect, the overall Medicare margin for rural hospitals fell 6 percentage points, to

11 Because the denominator of a margin is payments, not costs, reductions in payments have a proportionately larger impact on a margin than a direct ratio of payments to costs.

FIGURE 5-7

Overall hospital Medicare margin including graduate medical education, by teaching status, 1996–1999



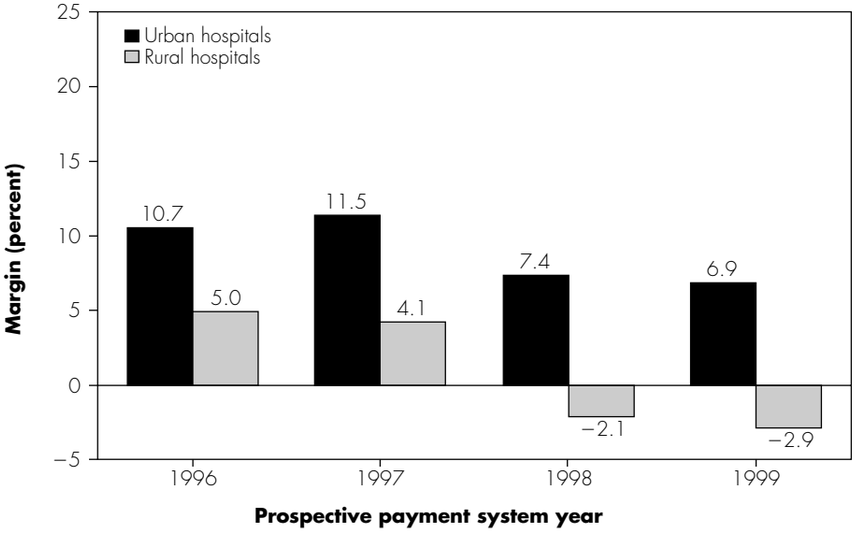
Note: Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment. Margins for all years are based on Medicare-allowed costs.

Additional data are shown in Appendix Table B-10.

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

FIGURE 5-8

Overall hospital Medicare margin including graduate medical education, by urban and rural location, 1996–1999



Note: Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment. Margins for all years are based on Medicare-allowed costs.

Additional data are shown in Appendix Table B-10.

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

−2.1 percent. In 1999, the overall margin fell again for both urban and rural hospitals, and the disparity between the two groups increased. As with the inpatient margin, the disparity in overall Medicare margin between urban and rural hospitals is due mostly to limited IME and DSH payments for rural hospitals, and to larger cost increases in rural areas.

The overall Medicare margin may continue to fall if length of stay continues to stabilize and hospital costs continue to increase. However, both the BBRA and the BIPA improved Medicare payments relative to the BBA reductions.

Under the BBA, the outpatient PPS was projected to increase the aggregate outpatient margin slightly after its implementation, and with the corridor and technology pass-through payments put in place under the BBRA, hospital losses from the outpatient PPS will be limited. A PPS for home health services has been implemented that could affect home health margins, but the interim payment system in place in 1998 already had a significant negative impact and the intent of the PPS is to have a distributive effect but not a net reduction in payments. Many hospitals have scaled back or closed their home health services in response to the interim payment system.

In an analysis based on the BBA and the BBRA payment policy, MedPAC predicted that Medicare inpatient margins would drop to 11.2 percent in 2002 (MedPAC 2000b). However, this analysis did not take into account increased payments in the BIPA relative to the BBA and the BBRA, such as a higher operating update factor and increased disproportionate share payments. Whether the inpatient surplus will be sufficient to offset continued losses in other service lines, with these policy changes and possible behavioral responses of hospitals, remains to be seen.

Financial performance encompassing other sources of revenue

MedPAC monitors the overall financial health of hospitals because we are concerned that they remain able to

provide high-quality care to Medicare beneficiaries and other patients. A significant decline in financial health could impair this ability and create problems of access.

Comparison of payers

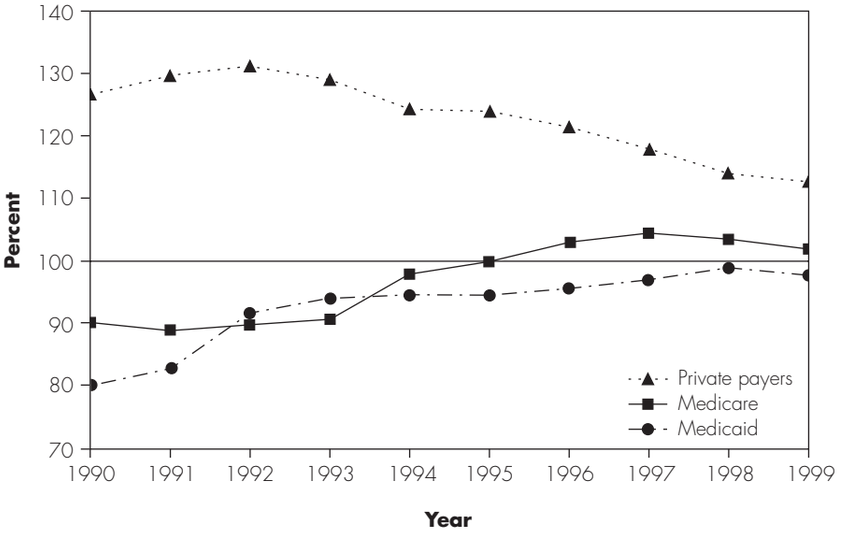
The adequacy of Medicare's payments can be compared with that of other payer groups, both public and private, by calculating each payer's payments as a percentage of the costs of treating its patient load. In 1998 and 1999, the payments of both Medicare and private payers fell relative to costs, but the drop in private payer payments contributed more than that of Medicare payments to hospitals' deteriorating financial performance.

Through the late 1980s and into the 1990s, hospital cost increases were far higher than Medicare's payment increases, such that Medicare's payment-to-cost ratio fell significantly, to 88 percent in 1991. Hospitals were able to recoup the lost revenue during this period by raising prices to private payers in what became known as "cost shifting." The private payer payment-to-cost ratio consequently rose to a peak of 131 percent in 1992 (Figure 5-9).

In the early 1990s, health maintenance organizations (HMOs) and other private payers began to demand lower prices. Hospitals responded by slowing their cost growth, but private-payer payments still fell sharply relative to costs, dropping to 118 percent in 1997. Meanwhile, Medicare's annual payment increases were not much different in the early 1990s than they had been in the 1980s. Steady payment growth coupled with hospitals' markedly lower cost increases resulted in the Medicare payment-to-cost ratio rising from its low of 88 percent to 104 percent in 1997.[12]

FIGURE 5-9

Medicare, Medicaid and private payer hospital payment-to-cost ratios, 1990–1999



Note: Payment-to-cost ratios cannot be used to compare payment levels because the mix of services and cost per unit of service vary across payers. They do, however, indicate the relative degree to which payments from each payer cover the costs of treating that payer's patients. Data are for community hospitals and reflect both in-patient and outpatient services. Imputed values were used for missing data (about 35 percent of observations). Most Medicare and Medicaid managed care patients are included in the private payers category. The costs allocated to Medicare and Medicaid include HCFA's allowed and non-allowed costs.

Additional data are shown in Appendix Table B-11.

Source: MedPAC analysis of data from the American Hospital Association Annual Survey of Hospitals.

In 1998, for the first time in the history of the Medicare program, both the Medicare and private payer payment-to-cost ratios fell, breaking the long-standing inverse relationship of cost shifting. This trend continued in 1999, as the Medicare and private payer payment-to-cost ratios both dropped, Medicare to 101 percent and private payers to 112 percent. These reductions reflect continued pressure on hospitals from both the public and private sectors.

Medicare and private payers' shares of hospital services are nearly equal. The decrease in payment-to-cost ratios for Medicare and private payers caused gains from private payers to fall 1.5 percentage points from 1997 to 1999, while gains from Medicare dropped 1 percent.[13] Thus, private payers contributed roughly 1.5 times as much as Medicare to the drop in total margin over this period. It must be kept in mind, however, that in the AHA data used for this analysis, most revenue from Medicare and Medicaid managed care is booked as private payer revenue. Medicare has no direct control over the level of payments that Medicare HMOs negotiate with hospitals, but shrinking payments made on behalf of Medicare beneficiaries enrolled in managed care has

12 Medicare's 1997 payment-to-cost ratio of 103.6 percent is equivalent to a margin of 3.5 percent. This margin differs from the 1997 overall Medicare margin, 10.4 percent, in three ways: (1) it encompasses all costs rather than Medicare-allowable costs, (2) it reflects all Medicare services hospitals provide, rather than the five largest services, and (3) it is based on a crude allocation of costs between Medicare and other payers, in contrast to the involved cost allocation process of the Medicare Cost Report.

13 Gains are measured as revenues from a payer minus the costs of treating its patients, divided by total (all-payer) expenses. This measure combines the effects of a payer's level of payments (relative to costs) and the share of hospitals' business its patients comprise.

likely contributed to the steep drop in private-payer payments relative to costs.

The effect of non-operating income

Hospitals derive their overall revenue from payments for patient care services, other operating revenue and non-operating revenue. Non-operating revenue, which typically comes from investment income and donations, has little or no associated expense and therefore serves to increase the hospital total margin. In recent years about 50 percent of the hospital total margin has come from non-operating revenue, but this relationship has varied substantially. It reached a low of 30 percent in 1994 through 1996 (when hospital total margins were their highest), but has risen steadily to about 55 percent in 1999, its highest level since 1991.

Non-operating revenue as a share of total revenue has varied less over time. The low point (1.5 percent) came in 1995, but it exceeded 2.5 percent each year from 1997 through 1999, the highest three-year period in the 20-year history of these data. Non-operating revenue reflects both realized and unrealized gains or losses from hospital investments, so this figure will include large gains in stock market investments even if these gains are not cashed out in a given year. Thus, the unusually large non-operating share from 1997 through 1999 is almost undoubtedly linked to the nation's booming stock market. Whether this source of revenue declined in 2000 as the stock market faded remains to be seen.

In 1999, the proportion of non-operating revenue was slightly higher for rural hospitals (2.6 percent) than for urban hospitals (2.5 percent). In prior years, however, urban hospitals had a marginally higher proportion. Rural advocates have suggested that rural hospitals receive less non-operating revenue and that this has had a negative impact on their total margins and abilities to invest in new plants and equipment. In relation to total revenue, however, the difference in non-operating revenue between urban and rural hospitals appears modest.

Hospital total margin

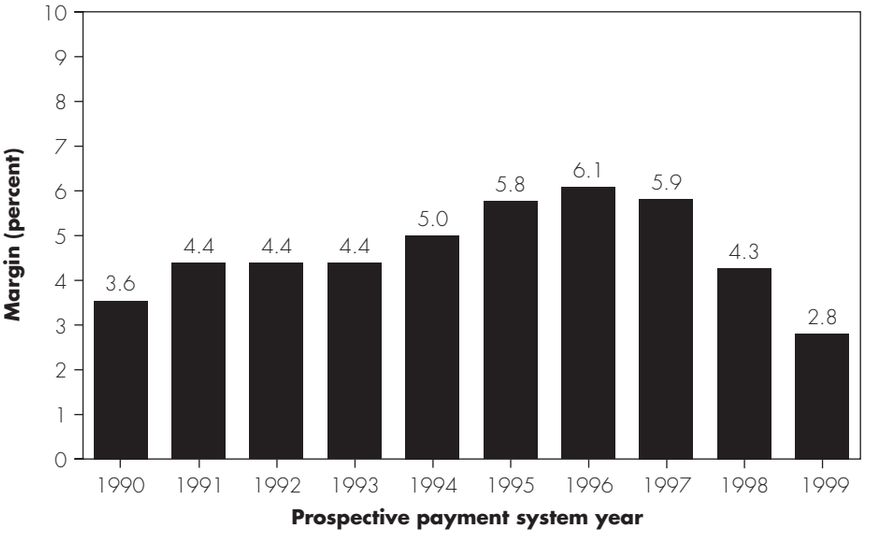
The hospital total margin is the most comprehensive measure of hospital financial performance, calculated as net income from all sources (including both operating and non-operating revenue) divided by total hospital revenues. Total margins have fallen substantially in recent years, due to a number of factors, including slower growth in Medicare payments, continued pressure from managed care and private payers, losses from alternate lines of service and hospital divestiture of these ventures, and a return in 1998 and 1999 to cost increases after an era of very low or even negative cost growth.

Trend during the 1990s Preliminary data suggest a 2.8 percent total margin in 1999, falling from approximately 6 percent in 1995 through 1997 (Figure 5-10). In these preceding years hospital margins had been relatively high—the total margin averaged 4.7 percent from 1990 through 1998. However, we believe that the 2.8 percent margin for 1999 is understated and will likely improve as hospitals with later reporting periods are included in the sample. This will tend to level out the total margin trend and will soften the large drop from 1998 to 1999.

The decline in hospital total margins in 1999 is partly due to hospitals accepting one-time losses by divesting money-losing ventures such as owning and operating physician practices, health insurance subsidiaries, home health agencies and skilled nursing facilities. In the early to mid-1990s, hospitals invested heavily in complementary services, but these ventures have often led to losses due to market pressures, increased competition, and changes in Medicare payment policy. By pruning such services, hospitals may take one-time losses against their bottom line in a given year but will improve their long-term financial performance. A major investment rating service found that much of the poor financial performance of hospitals in 1999 was related to such one-time write-offs, and is more optimistic about hospital performance in future years (Standard and Poors 2000).

FIGURE 5-10

Hospital total margin, 1990–1999



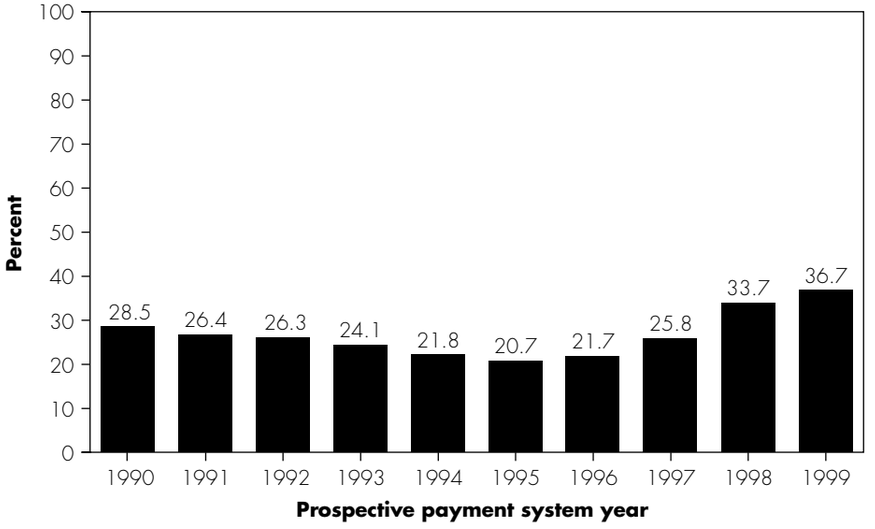
Note: 1999 data are preliminary, based on 50 percent of all hospitals covered by prospective payment.

Additional data are shown in Appendix Table B-18.

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

FIGURE 5-11

Percent of hospitals with negative total margins, 1990–1999



Note: 1999 data are preliminary, based on 50 percent of all hospitals covered by prospective payment.
Additional data for 1999 are shown in Appendix Table B-19.

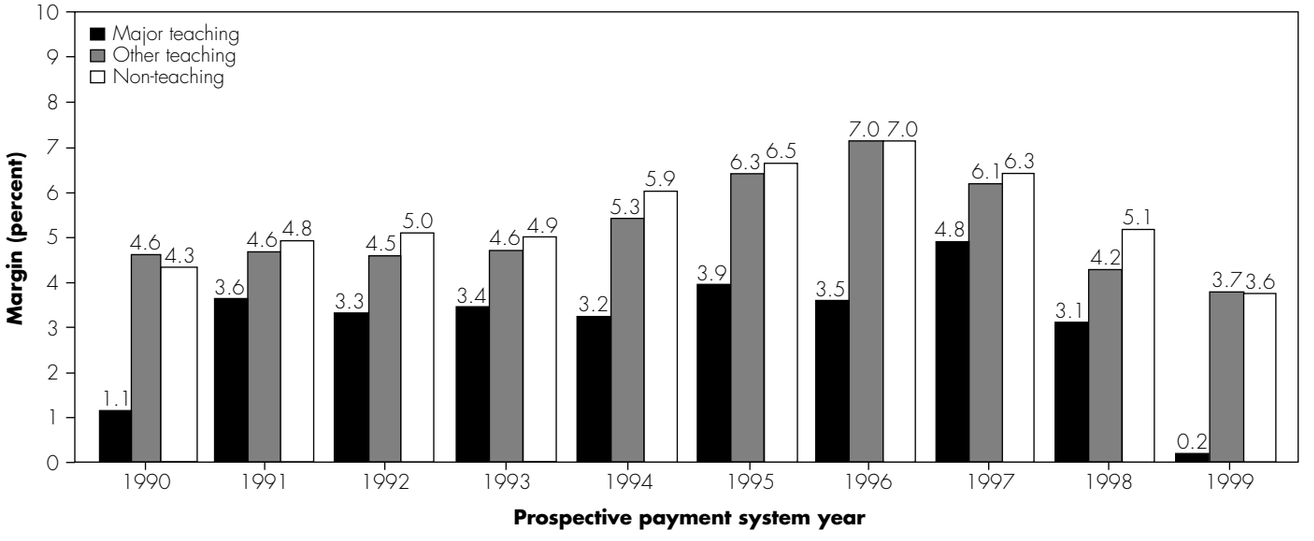
Source: MedPAC analysis of Medicare Cost Report data from HCFA.

The decline in total margins was accompanied by an increase in the proportion of hospitals with negative margins. These hospitals had higher expenses for all purposes than revenue from all sources. As total margins increased in the mid-1990s, the proportion with negative margins fell to a low of 21 percent in 1995, but increased sharply in 1998 and 1999, reaching nearly 37 percent (Figure 5-11). Compared to the era of low total margins in the early 1990s, the distribution of total margins is shifting. Since 1996, when the fewest hospitals had negative inpatient and total margins, the change in the proportion of hospitals with a negative total margin is more pronounced than the change in the proportion with a negative inpatient margin, which suggests greater pressure from the private sector in recent years.

Trend by type of hospital The decline in total margins affected all hospitals, but major teaching hospitals' margins fell the most, from 4.8 percent in 1997 to 0.2 percent in 1999 (Figure 5-12). This group's total margin has long been lower

FIGURE 5-12

Hospital total margin, by teaching status, 1990–1999

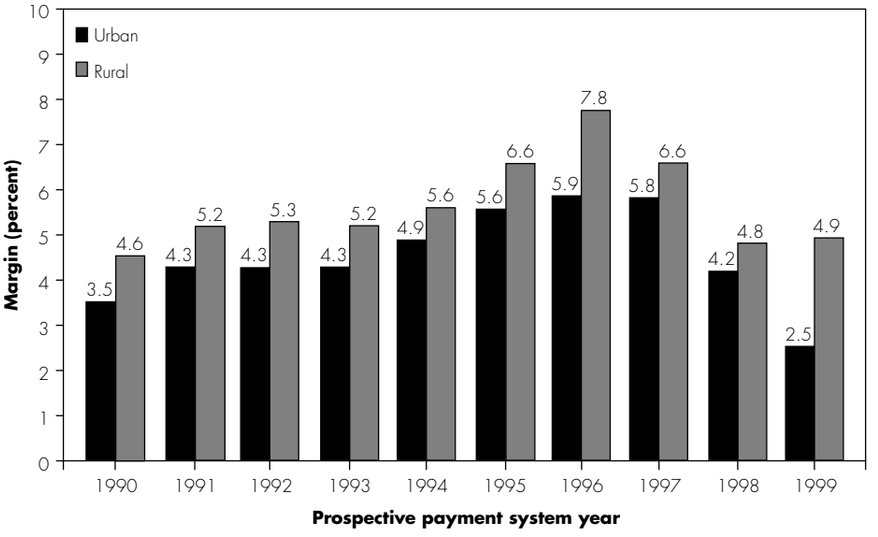


Note: Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment.
Additional data are shown in Appendix Table B-18.

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

FIGURE 5-13

Hospital total margin, by urban and rural location, 1990–1999



Note: Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment. Additional data are shown in Appendix Table B-18.

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

TABLE 5-2

Hospital total margin, 1998–2000

Year	Medicare Cost Report	National Hospital Indicators Survey
1998	4.3%	4.3%
1999	2.8	2.7
2000*		
Actual	NA	5.5
Seasonally adjusted	NA	5.1

Note: NA (not available). Data from Indicators Survey are fiscal year, Medicare Cost Report are prospective payment system year.
* Through second quarter of fiscal year 2000.

Source: MedPAC analysis of data from HCFA and the National Hospital Indicators Survey, which is sponsored by HCFA and MedPAC.

than that of other teaching and non-teaching facilities, despite relatively high PPS margins, reflecting in part the high burden of uncompensated care and other mission-related costs these hospitals carry. It may also reflect difficulty in competing in the private market, given their higher-than-average costs. In comparison, the total margin for other teaching hospitals fell from 6.1 percent in 1997 to 3.7 percent in 1999, and non-teaching hospital total margins fell from 6.3 percent to 3.6 percent over this period.

Since 1989, rural hospitals have consistently had higher total margins than urban hospitals, despite much lower PPS margins (Figure 5-13), chiefly due to higher private-payer payments relative to costs. Throughout the 1990s, private-payer payments to rural hospitals have consistently been above 134 percent of costs, even as rural hospital costs have increased. Margins for both urban and rural hospitals have followed the same pattern—they grew steadily through the 1990s, but began to fall in 1997 and fell steeply in 1998. In 1999 this pattern changed for the first time—rural hospital margins improved slightly to 4.9 percent, while urban hospital total margins declined to 2.5 percent. In addition to maintaining higher private-payer payments relative to costs, rural hospitals also reduced their skilled nursing and home health services to a greater degree than did their urban counterparts.

Early indicator for 2000 total margins Hospital total margins appear to have improved substantially in 2000. The National Hospital Indicators Survey (NHIS), conducted by the Lewin Group for AHA with funding from MedPAC and HCFA, shows a 5.5 percent margin for the first two quarters of fiscal year 2000 (Table 5-2). Because total margins are typically higher in the first half of a fiscal year, however, this figure is probably overstated. We have seasonally adjusted the 2000 results, which suggests that the 5.5 percent half-year margin corresponds to an annual margin of 5.1 percent. In comparison, the average margin for the 1990s was 4.7 percent.

Although the NHIS does not provide payer-level breakdowns, we know that no Medicare payment provisions implemented in fiscal year 2000 could be responsible for aggregate revenue increases exceeding aggregate cost increases. Most likely, the improved financial performance reflects:

- hospitals moving away from money-losing ventures, such as skilled nursing facilities, home health agencies, physician practices, and insurance subsidiaries; and
- hospitals negotiating larger payment increases with private payers. In late 1999 and through 2000, industry analysts suggest that hospitals have been successful in negotiating higher rates in the private sector (Moody's Investors Services, Inc. 2000, Jaklevic 2000, Standard and Poors 2000, Legg Mason 1999).

These preliminary findings for 2000 suggest that the poor financial performance of hospitals had perhaps reached its low point in 1999, and that the hospital industry has begun to return to earlier financial viability.

Updating operating and capital payments

The Commission develops recommendations each year for updates to operating and capital payment rates for PPS inpatient services. We present a recommendation for a combined operating and capital payment update for 2002. With the end of the transition to fully prospective capital payment, both operating and capital prospective payments will be made using standard federal rates adjusted for individual hospital circumstances. Separate operating and capital payments are a relic of the era of cost reimbursement, and MedPAC recommended last year that Congress implement a single, combined payment rate (MedPAC 2000a).

The Commission evaluates its update recommendation in light of its probable impact on beneficiary access to quality care and in light of the financial performance of the hospital industry. However, financial performance is never our primary consideration in setting the update.

The Commission's update recommendation

In developing its update recommendation, MedPAC uses a framework to consider individual factors that affect costs or payments (Table 5-3). The framework includes two sections.

The first section addresses factors that affect the appropriateness of the current year level of payments. It begins by applying a correction for past errors in forecasting the market basket used to set payments on a two-year lagged basis. It then phases in a segment of the Commission's multi-year unbundling adjustment. Next, it addresses the need to adjust for coding changes in the DRG-based case mix system and for complexity change within DRG patient categories. Finally, this part of the update framework considers the effect of Medicare policy changes on hospital's financial status.

The second section of the framework addresses factors affecting cost changes in the coming year. It first applies adjustments to reflect changes in input prices. We then identify new technologies that are expected to increase costs but are not reflected in the market baskets, and we require a modest improvement in hospital productivity to offset some of these costs. We thus calculate the scientific and technological advances adjustment by subtracting a standard for productivity growth from the estimated cost impact of new technologies. When applicable, we include adjustments to reflect one-time factors that increase costs.

The PPS operating update is set in law and the PPS capital update is set at the discretion of the Secretary of Health and Human Services. An appropriate combination of operating and capital updates will help ensure beneficiaries' access to safe and effective inpatient hospital care. Policymakers need to know the combination which meets this goal and is consistent with an analytically informed judgment about how much rates should increase each year. For fiscal year 2002, the operating update is currently set at 0.55 percent less than the increase in the operating market basket, which would result in a 2.45 percent increase in rates if the current market basket forecast holds. If the Secretary were to set the capital update at the rate of increase in the HCFA capital market basket, as was done last year, it would equal 0.8 percent. This would suggest a combined update of 2.3 percent in 2002.

MedPAC studied factors affecting the adequacy of payments in fiscal year 2001 and factors expected to affect hospital costs in fiscal year 2002. We concluded that there is no compelling reason to change current law setting an operating update for fiscal year 2002 of 0.55 percent below the rate of increase in the operating market basket. Our analysis indicates that an appropriate combined update would be between 1.5 and 3.0 percent if current forecasts hold (Table 5-3).

TABLE 5-3

Update framework for inpatient hospital payment rates, combining operating and capital payments, fiscal year 2002

Component	Percent
Factors affecting the current level of payments:	
Correction for FY 2000 market basket forecast error	0.7%
Unbundling of the payment unit	−2.0 to −1.0
Coding changes across service categories	0
Complexity changes within service categories	0
Medicare policy changes affecting financial status	0
Factors expected to affect provider costs next year:	
Forecast of input price inflation	2.8
Scientific and technological advances net of productivity growth and one-time factors	0 to 0.5
Sum of components	1.5 to 3.0 (MB −1.3 to MB + 0.2)

Note: FY (fiscal year), MB (combined market basket). For FY 2002, the combined market basket forecast is based on HCFA's operating market basket forecast (weighted 92 percent) and capital market basket forecast (weighted 8 percent). Applies only to services covered by Medicare's inpatient PPS.

Source: HCFA Office of the Actuary and MedPAC analysis.

RECOMMENDATION 5A

The inpatient PPS operating update of market basket minus 0.55 percent set in law for fiscal year 2002 will provide a reasonable level of payments.

The following sections document our quantification of the seven components of the update framework supporting this recommendation. In addition, we present a recommendation regarding HCFA's methods for collecting the data we use to analyze one of the components, the adjustment for DRG coding change.

Factors affecting the current level of payments

The first four components of the Commission's update framework relate to factors affecting the appropriateness of the current year level of payments.

Correction for previous forecast error

This component adjusts for any error in the market basket forecasts used to set payments in 2000. The value is determined by comparing the forecasts of the HCFA operating market basket (the PPS input price index) and capital market basket (the capital input price index) made two years ago with actual increases. A forecast of 2.9 percent was used for the operating update implemented in fiscal year 2000; the actual increase was 3.6 percent. The HCFA capital market basket was forecast to increase by 0.6 percent in 2000; it actually increased by 0.9 percent. This implies a combined HCFA forecast of 2.7 percent and an actual value of 3.4 percent. Thus, the fiscal year 2002 update is increased by 0.7 percent for forecast error.

Unbundling of the payment unit

It is likely that a substantial portion of the drop in Medicare length of stay discussed earlier has reduced cost growth for inpatient stays. However, this relative reduction in costs was accompanied by increased costs in other settings—such as skilled nursing facilities, rehabilitation hospitals and units, hospital outpatient departments, physicians' offices, and home health agencies—as care was shifted to those settings. Medicare must pay for care in other settings (by reimbursement of costs or prospective payment), at least partially offsetting the savings resulting from reduced length of stay in the acute inpatient setting.

Care for Medicare beneficiaries has shifted out of the inpatient setting in the last 10 years. Medicare length of stay has consistently fallen more rapidly than length of stay for other payers. This is consistent with the incentives facing hospitals under PPS and under the payment systems used by other payers. Medicare pays hospitals a prospectively determined amount per discharge, which encourages hospitals to shift costs to other settings because such shifts will not reduce inpatient payments. Other payers often pay on a discounted charge or flat per diem basis, methods that reduce payments to match cost reductions and therefore eliminate the incentive to shift costs. Although shifting costs may maintain, if not improve, quality of care for Medicare beneficiaries in other settings, it leads to inappropriately high payments for inpatient care, reducing resources available to pay for the other services.

The average length of stay of all hospital patients declined by 20.3 percent from 1989 through 1999. However, results from our National Hospital Indicators Survey suggest that the downward trend has stabilized. Because it appears that the decade long decline in length of stay may be ending, we did not alter the cumulative length-of-stay change we used for last year's unbundling adjustment in developing this year's adjustment. The effect of this length-of-stay decline on costs is less than proportionate, however, because some cost elements (such as those connected with surgery) are fixed, while days of care at the end of the stay have lower-than-average costs (ProPAC 1990, MedPAC 1999b). Based on a prior study of the relationship of length of stay and cost per case, we estimate that this 20 percent drop in length of stay led to about a 14 percent drop in aggregate costs per case (Ashby et al. 2000).

MedPAC has identified other indirect evidence suggesting a shift of care out of the inpatient setting. First, the use of post-acute care services expanded greatly after 1989 as Medicare length of stay declined. Second, length of stay fell most in those DRGs where use of post-acute care is the greatest. Finally, hospitals that operate hospital-based post-acute care services have seen the greatest drops in length of stay for inpatient acute care (MedPAC 1998a, MedPAC 1999b).

The Commission notes that not all of the length-of-stay decline is due to shifts of care out of the inpatient hospital setting. Some may be due to changes in technology and practice patterns that allow patients to undergo tests and procedures that require less acute recovery time, permitting discharge to home with relatively little follow-up care. Such developments represent productivity improvements that benefit both beneficiaries and hospitals. Medicare should not leave the impression that its payment decisions penalize such actions.

The preponderance of the indirect evidence suggests that most length-of-stay decline has been due to unbundling rather than productivity improvement. We estimate that cost reductions of 4 percent out of a total of 14 percent should not be considered to have resulted from unbundling, leaving a 10 percentage point unbundling reduction to be phased in.

ProPAC began to address the shift of care out of the inpatient setting in its update recommendation for fiscal year 1998. MedPAC continued this with its recommendations for 1999 and 2000. We also evaluated changes in length of stay in the recommendation for 2001, but the Commission decided to defer any negative adjustment in that update in light of evidence indicating financial stress in the hospital industry.

Starting with fiscal year 1998, we compare the actual update with that implied by all components of the update framework other than the unbundling adjustment. The difference between the two is the implied adjustment for

unbundling included in the actual updates (Table 5-4). Total implied adjustments were 6.1 percent for fiscal years 1998 through 2001.

The expanded transfer policy provides a partial payment for cases in which patients are discharged to select post-acute settings after a short length of stay (MedPAC 2000b). Our analysis estimates that as implemented, this policy has reduced total payments by 0.7 percent, thereby contributing to the response to unbundling. The implied adjustments for unbundling in the actual 1998 to 2001 updates, plus the reduction in payments due to the expanded transfer policy, sum to 6.8 percent. This is the total response to date (Table 5-4).

With a 10 percent cost reduction due to unbundling and a 6.8 percent payment adjustment to date, 3.2 percent remains for future adjustments. The Commission believes that completing the cumulative adjustment to account for the shift of care out of the inpatient setting remains important. Furthermore, we will adjust the 3.2 percent remaining amount upward if the drop in length of stay should continue.

Prior to the hiatus for fiscal year 2001, we recommended phasing in the negative adjustment for unbundling of the payment unit in annual increments of between 0.9 and 3.0 percent. It is appropriate at this time to continue phasing in the adjustment with a reduction in the update of −1 to −2 percent for fiscal year 2002.

Changes in case mix

Our two case-mix adjustments are intended to ensure that payments reflect the real resource requirements of patients. The complexity of cases treated in acute-care hospitals generally increases at least a small amount from year to year. Under Medicare, case complexity is measured by the CMI—the average DRG weight for all cases paid under the PPS. The CMI reflects the distribution of cases among DRGs; increases in the CMI reflect shifts in the distribution of cases toward more highly weighted DRGs, producing proportionate increases in Medicare PPS capital and operating payments.

An increase in the CMI is appropriate if CMI growth reflects real changes in patient resource requirements. However, changes in coding practices can increase or decrease the CMI without real increases in resource use. At the same time, an increase in the complexity of cases within a DRG can increase resource use without a commensurate rise in payments. When such changes occur, payments should be adjusted accordingly. The Commission's case-mix adjustments modify the next year's payment rates to account for the effects of this year's changes in coding practices and within-DRG case complexity.

CMI growth has decelerated sharply in the last several years, with actual declines of 0.5 percent for fiscal year 1998 and 0.4 percent for 1999. Based on preliminary data, HCFA analysts expect that fiscal year 2000 will show at least a modest further decline.

MedPAC updated research reported last year on the impact of hospital coding on the CMI using more complete 1999 data. Our previous research used information on at least 27,000 discharges in every year from 1996 through 1998 and 7,000 discharges in 1999. These records were reabstracted by a HCFA contractor that employed independent, impartial coders to assign DRG codes to cases, independent of codes assigned by hospitals. The new study uses information on approximately 30,000 discharges in 1999.

In 1996 and 1997, hospitals on average assigned slightly higher-weighted DRGs than appropriate to Medicare cases. In 1998 they shifted to more cautious coding, which contributed to slower CMI growth in the sample of cases. Our analysis indicates that coding change reduced CMI growth by 0.5 percent in 1998 (a practice that could be described as downcoding), possibly in response to federal scrutiny of DRG code assignments. Our new analysis indicates that, in 1999, coding changes alone had a negligible effect, increasing CMI growth by 0.1 percent. MedPAC (1998b) and ProPAC (1996) recommended negative adjustments when DRG coding change led to CMI increase (upcoding). In response to the evidence of downcoding in 1998, we recommended a positive adjustment of 0.5 percent for DRG coding change in the fiscal year 2001 update. In light of evidence that

TABLE 5-4

Implied adjustments for unbundling of the payment unit for inpatient services, fiscal years 1998–2001

Provision adjusting for unbundling	Commission update recommendation without unbundling adjustment	Actual update	Implied adjustment for unbundling
FY 1998 update	MB−0.4%	0	–2.3%
FY 1999 update	MB−0.8	MB−1.9%	–1.1
FY 2000 update	MB + 0.2	MB−1.8	–2.0
FY 2001 update	MB + 0.7	MB	–0.7
Expanded transfer policy	NA	NA	–0.7
Total—current law			–6.8

Note: Implied adjustment for unbundling = actual update−Commission update recommendation without unbundling adjustment.
FY (fiscal year), MB (operating market basket), NA (not applicable).
Current law refers to the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA). FY 2001 update per BIPA: Market basket−1.1 percent for the first half of the year, market basket + 1.1 percent for the second half of the year, averaging full market basket. FY 2001 applies composite market basket consistent with MedPAC's June 2000 recommendation to combine capital and operating payments.

Source: Balanced Budget Act of 1997, Benefits Improvement and Protection Act of 2000, and MedPAC analysis.

coding had no significant effect on CMI change in 1999 the Commission believes that the fiscal year 2002 update should neither be increased nor decreased for coding change.

In past years, MedPAC has included an adjustment for increased case complexity not captured by the DRG classification system. In our first three years (updates for fiscal years 1999, 2000, and 2001), we recommended adjustments for within-DRG case-complexity change of 0.0 to 0.2 percent. In its update recommendations for fiscal years 1996 and 1997, ProPAC recommended adjustments of 0.2 percent and 0.0 to 0.2 percent, respectively. The Commission recognizes that as the DRG classification system matures, it should account for more of the variation in costs by DRG assignment, leaving less within-DRG variation in case complexity and costliness. In light of this consideration and the low adjustments in four of the past five updates, MedPAC believes that the fiscal year 2002 update should neither be increased nor decreased due to within-DRG case complexity change.

RECOMMENDATION 5B

In collecting sample patient-level data, HCFA should seek to balance the goals of minimizing payment errors and furthering understanding of the effects of coding on case-mix change.

HCFA collects the data MedPAC used in this coding analysis to evaluate and monitor the Peer Review Organizations (PROs) with which it contracts to monitor quality and utilization. The data play an important role in HCFA's efforts to minimize errors in payments for inpatient care. Although the sampling plan used in fiscal year 2000 serves this important function well, it does not collect data for analyses of coding changes with adequate statistical efficiency. HCFA uses the same sample size for every state to ensure accurate estimates of PRO performance in even the smallest states. Samples proportional to the number of Medicare discharges in each state would allow for more accurate estimates for most states and for the nation as a whole. The Commission believes that the Secretary should develop a sampling plan that meets both needs for the data, recognizing that this may increase the overall size of the sample.

Hospital coding changes can have substantial effects on the distribution of payments among hospitals. Because HCFA and the Commission consider coding changes in making their annual update recommendations, coding changes may affect the aggregate level of payments as well. The Secretary should consider the benefit of comprehensive, ongoing analyses of coding changes using data of the sort HCFA currently collects. HCFA should consider reallocating and, if possible, adding to the resources devoted to this data collection endeavor.

Medicare policy changes affecting financial status

Several provisions of the BBA, the BBRA, and the BIPA are not reflected in the 1999 data on hospital financial status. Changes in teaching, DSH, and bad debt provisions reduced payments in 2000, but BIPA increases these payments in 2001 and 2002 compared to the BBA and the BBRA. A provision related to sole community hospital payment will also increase payments. It appears that legislated updates will match cost growth, and overall we believe that the net effects of the legislated changes will be small. There appears to be no need for an adjustment in this component for fiscal year 2002.

Factors affecting the level of provider costs next year

The last three components of the Commission's update framework relate to factors affecting how costs are expected to change in the coming year.

Forecast of input price inflation

The Commission develops its estimates of annual increases in hospital input prices using HCFA's market baskets for operating costs (inputs such as staff, medical supplies, and pharmaceuticals) and capital costs (which include depreciation, interest, and insurance). We combine these market baskets to estimate overall change in prices. Operating costs represent about 92 percent of total hospital costs and capital costs the remaining 8 percent.[14] We therefore calculate a combined market basket forecast weighting the operating forecast by 0.92 and the capital forecast by 0.08.

For fiscal year 2002, the HCFA operating market basket is forecast to increase by 3.0 percent and the HCFA capital market basket by 0.8 percent. The combined market basket is therefore estimated to increase by 2.8 percent.

Scientific and technological advances net of productivity growth and one-time factors

The Commission recommends an adjustment that combines an allowance for scientific and technological advances (S&TA), an increase for one-time factors expected to affect costs in fiscal year 2002, and the removal of the adjustment for fiscal year 2000 one-time factors. Each of these three components is discussed in a subsection below. This adjustment should be in the range of 0.5 to 1.0 percent. Adding a productivity offset of 0.5 percent then yields a net allowance for S&TA and one-time factors of 0.0 to 0.5 percent for fiscal year 2002.

The S&TA allowance is a future-oriented policy statement designed to account for emerging uses of technologies that enhance quality but increase costs. It represents MedPAC's best estimate of the incremental increase in costs for a given fiscal year resulting from the adoption of new technologies or new applications of existing technologies (beyond that automatically reflected in the payments hospitals receive). This allowance is intended to encourage facilities to appropriately adopt new technologies that will enhance the quality of patient care.

MedPAC believes that the costs associated with technological advances should be financed at least partly through improvements in hospital productivity.

14 Analysis of National Hospital Panel Survey data on total depreciation, total interest, and total expenses, fiscal years 1994–1998.

This tends to occur in other sectors of the economy as well. We offset our S&TA allowance with a fixed standard for expected productivity growth, and for the 2002 update, the Commission set that standard at 0.5 percent. We annually review anticipated changes in hospital technology to determine whether they include cost-increasing, quality-enhancing technological developments with aggregate costs that will exceed expected productivity improvements.

In addition to incurring costs by adopting technological innovations, hospitals may also incur significant costs for unusual, one-time events. In fiscal years 1999 and 2000, hospitals faced the costs of potential year 2000 (so-called Y2K) computer problems. In fiscal year 2002, they may face costs of major new regulatory requirements. The Commission believes Medicare should help hospitals deal with one-time costs when they are systematic and substantial and when incurring them will improve care for Medicare beneficiaries. We will exercise discretion in making this allowance when we judge factors to be sufficiently major and cost-increasing.

Costs associated with one-time events should not permanently increase inpatient base payment rates. We complete the adjustment by including an adjustment in future updates to remove the effect of one-time events such as costs of year 2000 computer problems.

Scientific and technological advances The S&TA considers only those new technologies that have progressed beyond the initial stage of use but are not yet fully diffused into the inpatient hospital setting. It does not include the costs of investigational technologies (because Medicare does not generally cover them) or fully diffused technologies (because these costs are reflected in the annual recalibration of the DRGs). The allowance does not attempt to identify all cost-increasing technologies, but focuses on the most significant ones from the perspective of cost and diffusion. An overview of the technologies that staff have identified is provided in Appendix A.

MedPAC has been concerned that advances in pharmaceutical technology offer improved treatment options for Medicare beneficiaries but may impose higher costs on hospitals. The impact of increased spending on drugs included in inpatient hospital costs in 2002 is uncertain. On the one hand, prescription pharmaceuticals account for only about 4 percent of PPS inpatient hospital expenses, and inflation in the price of existing drugs slowed to 2.5 percent in fiscal year 2000. This means that the weight for pharmaceuticals in the hospital market basket probably did not lose accuracy in the past year. On the other hand, however, Food and Drug Administration approval of new drugs has continued, with 27 new molecular entities approved in calendar year 2000, only slightly fewer than the 30 and 35 approved in 1998 and 1999, respectively (FDA 1999, FDA 2000, FDA 2001). MedPAC's analysis of expected changes in S&TA for fiscal year 2002 suggests that continued diffusion of new drugs will have at least a modest impact on hospital costs in fiscal year 2002, and we will expand our analysis of the effects of new drugs on hospital costs in the coming year.[15]

Productivity growth The Commission has not been able to develop a single measure of productivity that we believe captures all aspects of input usage, measures a constant output over time, and is not contaminated by unrelated factors. The Bureau of Labor Statistics (BLS) does not publish a productivity measure for the hospital industry or any other medical care service industry. Although it has produced estimates of labor productivity growth for 9 finance and service industries, the results vary widely—from 0.1 percent to 4.0 percent for 1987-1998 (BLS 2000b). Because no individual industry studied appears to be a good proxy for the hospital industry, we use the private nonfarm business sector as a standard for comparison.

The Commission believes that a measure of productivity growth in the general economy is an appropriate standard for the hospital industry. Multifactor productivity measures growth in output not accounted for by growth in labor and capital inputs. Growth in multifactor productivity in the nonfarm business sector of the economy is the most comprehensive measure of productivity growth for that sector. This measure of productivity grew at an annual rate of 1.3 percent from 1995 through 1998, somewhat higher than the rate of 0.7 percent from 1988 through 1998 (BLS 2000a). The Commission's productivity standard of 0.5 percent is consistent with the longer term rate of productivity growth.

One-time factors The costs incurred in complying with new laws and regulations differ from the costs of adopting new patient care technologies in two important respects. First, hospitals may only need to revise existing management practices to comply with new laws and regulations. Second, in many cases the portion of the hospital budget devoted to addressing one-time events may approach zero once the necessary changes are made. The adoption of new technological advancements typically results in a sustained increase in hospitals' operating and capital budgets.

The Commission has studied costs associated with implementation of final rules on coding, transactions, and privacy under the Health Insurance Portability and Accountability Act of 1996 (HIPAA). The Blue Cross Blue Shield Association and the American Hospital Association developed estimates of costs associated with the proposed HIPAA privacy rule (Robert E. Nolan 1999, First Consulting Group 2000). However, the Department of Health and

15 Recent research indicates that drug cost increases continue to be high and to account for a large part of overall health care cost increases through 1999, in large part due to new drugs and new uses for existing drugs (Center for Studying Health System Change 2000; Hogan et al. 2000). However, these findings pertain to costs of outpatient drugs which are not covered by Medicare. They do not provide direct evidence relating to the costs of drugs provided for PPS inpatient services. MedPAC is sponsoring research in the coming year on scientific and technological advances that will attempt to quantify the effects of pharmaceuticals, and other technological advances, on inpatient hospital costs.

Human Services (HHS) has prepared the only comprehensive analysis of both the administrative simplification and privacy rules in their final form. DHHS projected 10-year costs for hospitals to meet these rules of approximately $3 billion (HCFA 2000a, HCFA 2000b). However, it estimates that the administrative simplification rule will produce savings to the overall health care sector of $36.8 billion over the same period.

MedPAC estimates that 20 percent of projected total savings from the administrative simplification rule will accrue to hospitals based on their share of costs of the rule. Hospital savings are thus estimated at $7.4 billion, implying net savings to hospitals of $4.4 billion over 10 years. However, HHS notes that hospitals will incur substantial upfront costs. It estimates that 23 percent of the hospital costs of the privacy rule, $355 million, will be incurred in the first year. These estimates reflect forecasts and are highly uncertain. For both regulations combined they imply first-year costs for Medicare inpatient services of between 0.2 and 0.25 percent of total PPS operating and capital payments.

In light of the substantial upfront costs and the probability that costs will be realized before savings, the Commission has concluded that the HIPAA regulatory requirements should be reflected in the payment update for fiscal year 2002. We recommend that the update include a small increment for the share of first-year costs associated with Medicare inpatient care. However, the magnitude of costs and savings, as well as their timing, are highly uncertain. The Commission intends to revisit this adjustment in future years to adjust for any errors in the forecast of regulatory impacts and to include offsetting adjustments to reflect savings realized.

Completion of past adjustment for one-time events Costs associated with one-time events should not permanently increase inpatient base payment rates. The one-time factors adjustment includes an increase for the fiscal year in which costs are anticipated and an offset to remove this adjustment from the base payment rates for the following years.

In its fiscal year 2000 update, the Commission considered the costs of year 2000 (Y2K) computer improvements by increasing the S&TA allowance. The fiscal year 2000 adjustment was for nonrecurring costs, which the Commission believes should not continue to be reflected in payments for fiscal year 2002 and after. We recommend that the base inpatient payment rate for 2002 be reduced by 0.5 percent, which would offset the increase we recommended in the fiscal 2000 update for year 2000 costs.

Improving disproportionate share payment distribution methods

Medicare disproportionate share payments are distributed through a hospital-specific percentage add-on applied to the basic DRG payment rates. Consequently, a hospital's DSH payments are tied to its volume and mix of PPS cases. The add-on for each case is determined by a complex formula based on the hospital's share of low-income patients, which is the sum of two ratios—Medicaid patient days as a share of total patient days, and patient days for Medicare beneficiaries who receive Supplemental Security Income payments as a percentage of total Medicare patient days.

DSH payments grew rapidly between fiscal years 1989 and 1997, rising from $1.1 billion to $4.5 billion, where they have remained through 1999.[16] As noted earlier in the chapter, the BBA reduced DSH funding in annual increments totaling 5 percentage points, but much of this cutback was restored by the BBRA and the BIPA.

MedPAC has recommended comprehensive reform of the DSH adjustments in each of the last two years (MedPAC 1999b, MedPAC 2000a). The first time, we included a recommendation for the Secretary to collect the data needed to revise the DSH adjustment in accordance with MedPAC's plan. The Congress implemented that recommendation in the BBRA, directing the Secretary to collect data on uncompensated inpatient and outpatient care—including non-Medicare bad debt and charity care, as well as Medicaid and other indigent care charges—for cost periods beginning on or after October 1, 2001.

The BIPA includes a provision that partially implements MedPAC's DSH reform plan, increasing DSH payments for many rural hospitals. Although this was a useful first step, the Commission believes now more than ever that a more equitable and much simplified alternative is needed.

This section begins by reviewing the purpose of the DSH adjustment, and then describes the problems with the current system that prompted MedPAC to recommend changes. Next, we describe the recent BIPA change and estimate its impact on hospitals covered by Medicare's inpatient PPS. The section concludes by reiterating the key recommendation we made last year and explaining how it should dovetail with the BIPA change.

Purpose of the disproportionate share adjustment

The original justification for the DSH adjustment presumed that poor patients are more costly to treat, but ProPAC adopted an alternative objective that had evolved over time: to protect access to care for Medicare beneficiaries, additional funds should be provided to hospitals whose viability might be threatened by providing care to the poor. Although the financial pressure from treating low-income patients can include any extra costs incurred, the primary threats are underpayment or nonpayment. MedPAC data have shown that of the major payer groups, Medicaid payments are the lowest on average. Payments of local indigent

16 This discussion is confined to the DSH adjustment made on operating payments under PPS. There is also a DSH adjustment to capital payments, based on the same underlying measure of low-income share but with a different distribution formula and a much smaller amount of money.

care programs are lower than those of the major payer groups, and uninsured patients generate the least funding, even after accounting for local operating subsidies (also see Appendix Table B-15).

Problems with the current system

The Commission believes that policy changes are needed to ameliorate two key problems inherent in the existing DSH payment system. The first is that the current low-income share measure does not include care to all the poor; most notably, it omits uncompensated care. Instead, the measure relies on the share of resources devoted to treating Medicaid recipients to represent the low-income patient load for the entire nonelderly poor population. However, states have always had different eligibility requirements for Medicaid, and changes implemented under waivers in recent years have created even more inconsistency. As a result, state Medicaid programs cover widely differing proportions of the population below the federal poverty level. Moreover, previous MedPAC analysis has established that even within states, the hospitals with the largest uncompensated care burdens often do not have the largest Medicaid patient loads, and vice versa.

The second problem is that, because of concerns about specific groups of hospitals, the Congress has legislated 10 different DSH formulas. Each includes a threshold, or minimum value, for the low-income patient share needed to qualify for a payment adjustment, but these vary from 15 percent for most urban hospitals to 45 percent for many rural hospitals. Applying differing eligibility standards and payment rates has resulted in a highly complex program and raised questions about the equity of payments. In particular, current policy favors hospitals located in urban areas; before the BIPA, more than half of urban hospitals received DSH payments, compared with only about 15 percent of rural facilities. In rural areas, the payment add-on is somewhat higher for those qualified for special Medicare payments as sole community hospitals or rural referral centers.

These underlying issues have been exacerbated by two recent problems of legal or regulatory interpretation:[17]

- **State Children's Health Insurance Programs (SCHIPs).** Under the legislation enacting SCHIPs, states can increase health insurance coverage for low-income children by expanding Medicaid, establishing a new program separate from Medicaid, or implementing a combination of both. As of 1999, 18 states had expanded their Medicaid program, 17 states had created insurance programs separate from Medicaid, and 16 states had done some combination of the two. HCFA's policy has been to count SCHIP days in calculating a hospital's low-income share only if the SCHIP program is organized within Medicaid. HCFA's interpretation is consistent with the law, but the ruling will unintentionally penalize states that chose the separate program option, thus exacerbating the inequity inherent in the current distribution of DSH monies.
- **State general assistance programs.** A number of states have state-only funded indigent care programs known as "general assistance." In past years, Medicare's fiscal intermediaries counted general assistance days in calculating hospitals' low-income shares, at least partly because they were sometimes administratively indistinguishable from true Medicaid days. In 1999, however, HCFA clarified in a rulemaking that only patient days covered under the jointly funded (state/federal) Medicaid program can be counted in calculating a hospital's DSH payment. Once again, this interpretation is probably correct legally, but it creates additional inconsistency in the way low-income patients are treated among states in determining DSH payments.

The BIPA policy change

The BIPA has made progress in improving the equity of DSH payments by extending the eligibility threshold enjoyed by urban hospitals with 100 or more beds—a low-income share of 15 percent—to all hospitals. We estimate that this will make about 840 additional rural hospitals (40 percent of all rural facilities) and 230 more urban hospitals with fewer than 100 beds eligible to receive a DSH payment. However, the BIPA caps the DSH add-on that a rural or small urban hospital can receive at 5.25 percent, except for those rural hospitals already receiving higher payments as a result of their sole community or rural referral status. Some large urban facilities currently receive far higher adjustments.

The impact of this policy change, by hospital group, is shown in Table 5-5. By design, payments for the currently favored group—urban hospitals with more 100 or more beds—would not change. Total PPS payments would increase by an average of 1.7 percent for rural hospitals and 1.2 percent for urban hospitals with fewer than 100 beds. The largest increases would go to the rural hospitals that currently have the lowest Medicare margins—those with fewer than 100 beds that are not sole community hospitals or rural referral centers.

Continued need for reform

The BIPA significantly improved the equity of DSH payments between rural and urban hospitals and between large and small hospitals, but additional changes are still needed. Before the BIPA, DSH payments comprised 6.4 percent of urban hospital PPS payments, compared with 1.3 percent for rural hospitals. After the BIPA, we estimate that DSH payments will make up 6.5 percent and 2.6 percent of payments, respectively. Thus, the gap between urban

17 Our last discussion of DSH policy (MedPAC 2000a) documented a third legal problem—HCFA's interpretation of a legislative provision providing larger DSH payments for hospitals whose uncompensated care comprised at least 30 percent of total patient revenue had been challenged in court. If the challenge had been successful, it could have dramatically increased the number of hospitals qualifying under this criterion in a way that would worsen the current inconsistency in DSH payments. However, the D.C. Court of Appeals has since upheld HCFA's interpretation of the law.

TABLE 5-5

Effect of disproportionate share policy change on Medicare inpatient payments, by hospital group

Hospital group	DSH payments as a percent of total payments: Current law	DSH payments as a percent of total payments: Per the BIPA	Change in total payments
All hospitals	5.8%	6.0%	0.3%
Urban	6.4	6.5	0.1
Rural	1.3	3.1	1.7
Urban 100+ beds	6.7	6.7	0.0
Urban 1-99 beds	0.9	2.1	1.2
Sole community	1.5	2.3	0.8
Rural referral	2.0	3.6	1.7
Small rural Medicare-dependent	0.3	2.0	1.6
Other rural 100-499 beds	1.2	3.2	2.2
Other rural 1-99 beds	0.4	2.7	2.3

Note: Policy change legislated in the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA). DSH (disproportionate share hospital).
Change in total payments equals BIPA payments minus current law payments, except due to rounding.

Source: MedPAC analysis of Impact File data from HCFA.

and rural hospitals only narrowed from 5 to 4 percentage points. DSH payments as a proportion of total Medicare payments need not be exactly the same between these two broad groups of hospitals, because the distribution of low-income shares differs somewhat. But additional progress can and should be made in rationalizing the distribution of payments, both between urban and rural hospitals and among individual hospitals.

RECOMMENDATION 5C

Although the Benefits Improvement and Protection Act of 2000 improved the equity of the hospital disproportionate share adjustment, Congress still needs to reform this adjustment by:

- **including the costs of all poor patients in calculating low-income shares used to distribute disproportionate share payments, and**
- **using the same formula to distribute payments to all hospitals covered by prospective payment.**

The BIPA provision makes partial progress in meeting one of the two parts of this recommendation. As the two parts are discussed in more detail below, we will clarify how the DSH payment system should extend the BIPA change.

Including the costs of all poor patients in calculating low-income shares

The measure of low-income patient share should include poor Medicare patients and patients covered by any indigent care program, as well as those who receive uncompensated care. Implementing this change will ensure that DSH payments go to the hospitals most needing financial assistance and that the size of the payment add-ons will be proportionate to that need. Improved targeting is equally necessary in rural and urban areas.

Under MedPAC's approach, low-income Medicare patients would continue to be identified by their eligibility for SSI payments. Indigent care programs would include Medicaid and other programs sponsored by city, county, or state governments. All other low-income patients would be represented by uncompensated care (both charity care and bad debts), reflecting the unpaid bills of uninsured patients as well as deductibles and co-payments that privately insured individuals fail to pay.

Adopting MedPAC's approach would also solve the problems presented by SCHIPs and general assistance programs. Our approach would produce a more equitable allocation of payments among states by including all SCHIP patient days, such that it would not matter whether a state chose the Medicaid or the separate program approach. Similarly, because MedPAC's approach would include all indigent care programs, it would no longer matter whether patient days emanated from a jointly funded or a state-only program. Moreover, because our methodology would likely be implemented on a budget-neutral basis, including these programs would not increase overall DSH spending.

Using the same formula to distribute DSH payments to all hospitals

Distributing DSH payments in a consistent manner to all hospitals would help protect access to care for all Medicare beneficiaries, regardless of the size or location of the hospitals they use. BIPA made an important first step in this regard by equalizing the eligibility criterion for all hospitals, but different maximum rates between rural and urban hospitals are not appropriate under a policy based on ensuring access to care. Some of the formula differences in the current system resulted from attempts to indirectly alleviate deficiencies in the low-income share measure, which should not be necessary under MedPAC's proposal. Generally, equal treatment can only be achieved by having a single payment formula that applies to all hospitals.

MedPAC offers three suggestions to guide the development of a uniform distribution formula. First, it is best to avoid creating a payment "notch" at the threshold, as found in each formula under current policy. As an example, an urban hospital with at least 100 beds receives a 2.5

percent add-on to its base PPS payment if its low-income patient share is 15 percent or more, but gets nothing if its share is 14.9 percent. This problem can easily be avoided by making the per case adjustment proportional to the difference between the hospital's low-income share and the threshold. In this way, a hospital just above the threshold would receive only a minimal increment above its base payment, with the percentage add-on rising in smooth progression as low-income share increases.

Second, MedPAC believes that the threshold should be set at the level that would allow about 60 percent of hospitals to receive a DSH payment. A threshold in this vicinity would concentrate payments among hospitals providing the greatest proportion of care to the poor, while moderating the disruption caused by a massive redistribution of payments. The broader definition of low-income patient share proposed by MedPAC shifts DSH payments to public hospitals because they tend to have the greatest uncompensated care levels. Of primary interest is protecting private hospitals with mid-level low-income shares that provide uncompensated care but receive little or no direct government funding. Our simulations show that allowing a larger proportion of hospitals to receive a DSH payment than under current policy best balances the needs of these two groups.

Our third suggestion is to establish a hospital-specific cap on DSH payments expressed as a percent of a hospital's *total patient care revenue*, rather than as a percent of its base PPS inpatient payment as is specified by the BIPA. A given percentage add-on to base PPS payments will have a substantially different impact depending on hospitals' Medicare penetration. The hospitals that would likely have the largest low-income shares under MedPAC's definition are large, inner-city public hospitals. These institutions typically have small Medicare penetration and thus are in the greatest need of a high DSH add-on. HCFA could set the ceiling for DSH payments as a proportion of total patient care revenue based on what a number of these public hospitals currently receive. That ceiling, applied to all hospitals, would prevent windfall-level DSH payments to hospitals with Medicare penetration at the high end of the scale.

Improving the equity of geographic reclassification for urban hospitals

Many of Medicare's prospective payment systems rely on the hospital wage index to adjust national average payment rates to reflect local price levels for labor in 374 labor market areas. Because of weaknesses in the definition of labor markets, however, the Congress has authorized a process known as geographic reclassification to grant the higher wage index of an adjacent market area to qualifying hospitals. The problem addressed in this section is that rural hospitals that are not reclassified are protected from reclassifications reducing their wage indexes, while urban hospitals do not have such protection.

The section begins by describing the hospital wage index system. Then the criteria and process for granting geographic reclassification are reviewed, followed by discussion of the inconsistent rules that HCFA follows in recomputing area wage indexes after hospital reclassifications are approved. The last section of the paper offers a recommendation to remedy this problem.

The hospital wage index system

A wage index is constructed for each of the 325 metropolitan statistical areas (MSAs), and for the combined rural areas of each state. It modifies the labor portion of the base payment rate, which is currently 71 percent. Each area's wage index is constructed as a ratio of the average hourly wage expense for all hospitals located in the area to the national average hourly wage.

The wage index system has a fundamental problem of inadequate labor market definitions. By treating all rural areas in a state as if they were in a single labor market and treating adjacent urban and rural facilities as if they were in different markets, the wage index tends to underestimate the market wage levels of communities near larger urban centers. Although this downward bias has been discussed most frequently for rural hospitals located near urban areas, it may also affect urban hospitals that are adjacent to larger urban areas.

In addition to inadequately defined labor markets, the wage index reflects differences in the mix of occupations providers use in their workforces in addition to differences in average wage levels. This tends to overstate the index values of communities dominated by tertiary care facilities providing sophisticated services and to understate those where hospitals provide more basic services.

As discussed in more detail in Chapter 4, a promising option for solving the bias resulting from differences in mix of employees is to adjust the wage index for occupational mix. To implement this approach, HCFA would have to collect wage and hours data by occupation category from the hospitals in each labor market. The process of collecting data and developing a revised system would probably take at least three years. If and when occupational mix data do become available, it may be possible to simultaneously implement a more sophisticated system of defining labor markets. During the intervening three or more years, however, we will probably be unable to improve the definition of labor markets. That means that geographic reclassification is essentially the only option for offsetting some of the downward bias in wage index values for hospitals located near enough to a higher-wage area that they must compete with that area for labor.

The criteria and process of geographic reclassification

Any hospital covered by the PPS can apply to the Medicare Geographic Classification Review Board to be reclassified to an adjacent area with a higher wage index. Individual hospitals or all hospitals in a county as a group may apply. Although not addressed here, hospitals can also apply for reclassification to receive the higher base payment amount in an adjacent large urban area. Generally, hospitals must meet three criteria to be approved for wage index reclassification:

- they must be less than 15 miles from the border of the adjacent area;
- their average hourly wage must be more than 106 percent of the average in their actual market; and
- their average hourly wage must be at least 84 percent of the average in the adjacent area.The first and third of these criteria are waived for hospitals that qualify for two special payment provisions Medicare maintains for rural hospitals: the sole community hospital and rural referral center programs.

In the past, hospitals had to reapply for reclassification each year, but the BIPA authorizes HCFA to approve reclassification for a three-year period beginning in fiscal year 2001.

Inconsistent rules for recomputing wage index values after reclassifications

Reclassification was originally conceived, in 1989, as a program to help rural hospitals bordering urban areas. For fiscal year 2000, 408 rural hospitals have been reassigned. But urban hospitals can also apply, and 83 such facilities have been reclassified for fiscal year 2000.

When a rural hospital is reclassified, its wage level is typically lower than the average wage of the area to which it is reassigned. But the hospitals in the receiving area are protected to a large extent, as the decline in their wage index resulting from incoming hospitals is limited to 1 percent. Similarly, the average wage of the area in which a reclassified rural hospital is actually located will necessarily go down (since a hospital must have above-average wages to qualify), but rural hospitals have complete protection from this change. Their wage indexes are computed as if no hospitals had been reclassified. All reclassifications must be implemented on a budget-neutral basis, but the reduction in base payment rate for rural hospitals in 2001 was only 0.5 percent. Thus, some rural hospitals gain substantially from reclassification and those that are not reclassified are limited to only small losses.

For urban hospitals, the dampening effect of reclassified hospitals on the wage indexes of the areas to which they are reassigned is limited to 1 percent, the same as for rural hospitals. But non-reclassified urban hospitals do not have the same protection as their rural counterparts. Their wage indexes are recomputed to exclude the above-average wages of hospitals that have been reclassified out of their area, with the size of the reduction limited only by the constraint that an urban area's wage index cannot be lower than the statewide rural average. Thus, while some urban hospitals gain significantly from being reclassified, others can lose substantial amounts of payment. In addition to the drop in their wage index of up to 1 percent from incoming rural reclassifications and a small percent reduction in their base payment rate from the budget neutrality factor, they may face a larger reduction in their wage index from outgoing reclassifications.

In response to the prospect of having their Medicare payments reduced by one or more neighboring hospitals reclassifying out of their area, hospitals in several MSAs have organized to pay qualifying hospitals not to apply. The 22 hospitals in Nassau and Suffolk counties that do not qualify for reclassification to New York City, for example, annually split the cost of giving the 3 hospitals that do qualify the estimated amount of additional payment they would receive (Sullivan 2000). Each non-reclassified hospital's proportionate share of the bill is far less than the loss in payments it would incur if the 3 high-wage hospitals did reclassify and the Nassau-Suffolk wage index was recomputed. Although clearly not envisioned as part of the geographic reclassification program, HCFA considers this a private transaction in which Medicare should not become involved because the plan does not increase overall Medicare outlays.

RECOMMENDATION 5D

The Congress should protect urban hospitals from the adverse effect of nearby hospitals being reclassified to areas with higher wage indexes by computing each area's wage index as if none of the hospitals located in the area had been reassigned.

In addition to making the rules governing geographic reclassification consistent between urban and rural areas and eliminating the need for private transactions to head off the need for reclassification, we believe this approach will provide the most accurate distribution of payments across all urban areas. Because a reclassified hospital is presumed to compete for labor with hospitals in the market to which it is reassigned, its data should be included in computing that area's wage index. But the hospitals in the urban area where a reclassified hospital is actually located also must compete with it for labor, so the reassigned hospital's data should be included in computing this wage index as well.

We believe that this policy will raise the wage index values of 24 urban areas. The largest impact would be in Newark, NJ, where the wage index is currently reduced by nearly 8 percent due to hospitals being reclassified to either New York City or Bergen County, NJ. Other significantly affected areas are Vallejo/Napa outside San Francisco, Allentown outside Philadelphia, and Dayton near Columbus and Cincinnati.

The downside of the proposed policy would be its effect on the budget neutrality factor. But because only 7 percent of the urban areas and none of the rural areas would be affected, the increase in the budget neutrality factor would be quite small.

HCFA appears to have the authority to make this change through regulation. However, because the protection for non-reclassified rural hospitals was enacted legislatively and Congress has not legislated such protection for urban hospitals, HCFA has thus far been reluctant to make the change itself. ■

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CHAPTER 6

Prospective payment for post-acute care: current issues and long-term agenda

RECOMMENDATIONS

6A The Secretary should conduct an empirical study to assess the extent of substitution among post-acute care settings.

***YES: 14 • NO: 0 • NOT VOTING: 0 • ABSENT: 2**

6B While implementing the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 provision to develop patient assessment instruments with comparable common data elements, the Secretary should minimize reporting burden and unnecessary complexity while assuring that only necessary data are collected for payment and quality monitoring.

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

6C The Secretary should develop for potential implementation a patient classification system that predicts costs within and across post-acute settings.

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

6D The Secretary should conduct demonstrations to test the feasibility of including a larger scope of services in the payment bundle.

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

6E The Secretary should develop a new classification system for skilled nursing facility care while continuing to monitor access and quality.

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

6F Until a core set of common data elements for post-acute care is developed, the Secretary should require the Functional Independence Measure as the patient assessment tool for the inpatient rehabilitation prospective payment system.

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

6G The Secretary should require a high-cost outlier policy of 5 percent for the inpatient rehabilitation payment system and study whether a different percentage policy is needed.

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

6H The Secretary should reexamine the disproportionate share adjustment for the inpatient rehabilitation prospective payment system.

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

6I In monitoring the performance of the payment system, the Secretary should pay particular attention to the use of significant change in condition payment adjustments and payments for patients with wound care needs.

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

***COMMISSIONERS' VOTING RESULTS**

CHAPTER 6

Prospective payment for post-acute care: current issues and long-term agenda

In this chapter

- The nature of post-acute care
- Designing prospective payment systems across post-acute care
- Addressing more immediate issues of correct payment within settings

Post-acute care comprises care provided in skilled nursing and rehabilitation facilities, long-term hospitals, and in the home. In response to rapid growth in spending for this type of care during the 1990s, the Congress directed the Health Care Financing Administration to replace cost-based payment methods with new prospective payment systems for all four settings. However, because these new systems focus on the settings in which care is provided rather than the care itself, they raise concerns about whether Medicare's payment policies are appropriate. In this chapter, we recommend the Secretary assess the degree of similarity in services and patients in different settings and test alternative payment systems that could account for such overlap. These steps will take time. Accordingly, we also recommend steps in the short run to improve payment so that Medicare beneficiaries' access to care will be maintained.

Post-acute care, which generally follows an acute hospitalization, is provided in four settings—skilled nursing facilities (SNFs), rehabilitation facilities, long-term hospitals, and the home. In paying for post-acute care, Medicare's intent is to ensure that beneficiaries obtain services in the most clinically appropriate setting based on their needs and circumstances.

Medicare beneficiaries use post-acute care frequently: in 1997, one-quarter of those discharged from acute care hospitals used post-acute care providers within one day of leaving the hospital (Table 6-1). SNFs were used most often, accounting for 13 percent of acute hospital discharges and more than half of all discharges to post-acute care providers. Home health providers accounted for 8 percent of acute discharges, and rehabilitation facilities for about 3 percent.[1]

TABLE 6-1

Post-acute provider use within one day of discharge from an acute care hospital, by type of provider, 1997

Type of provider	Number of discharges using post-acute care	Percent of hospital discharges	Percent of post-acute admissions
Total	2,476,412**	25.3%	100%
Skilled nursing facility	1,320,701	13.5	53.3
Home health agency	799,893	8.2	32.3
Rehabilitation facility	278,073	2.9	11.2
Psychiatric facility*	43,794	0.4	1.8
Long-term hospital	33,951	0.3	1.4

Notes: First post-acute care stays that began in 1997 and ended in 1997 or 1998 are included in the calculations.
* Psychiatric facilities are included because they are sometimes part of a post-acute care episode.
** Cases where the patient died in the hospital or was transferred to another acute-care hospital are excluded from the calculations.

Source: MedPAC analysis of 1997 MedPAR inpatient and post-acute care claims from the Health Care Financing Administration.

This health care sector has grown significantly in the past two decades, particularly in the 1990s. Policymakers expected the use of post-acute care to grow when the prospective payment system (PPS) for inpatient hospital services was implemented in 1983. Indeed, they viewed such growth as critical to the effective functioning of the new payment system because the inpatient PPS created strong incentives for hospitals to discharge beneficiaries who did not need expensive acute care into lower-intensity, less expensive settings. Following major changes in coverage for SNF and home health care, however, use of post-acute care grew much more rapidly than expected; between 1988 and 1994, Medicare spending for post-acute services increased at an average annual rate of 34 percent.[2]

This unexpected growth reflected Medicare's use of cost-based reimbursement for post-acute care, which gave providers of those services no incentive to do so efficiently. With limited constraints on payments, post-acute care providers greatly expanded their capacity to care for Medicare beneficiaries. For example, SNFs increased their capacity to provide ancillary services such as physical, occupational, and speech therapy (GAO 1999b). Home health providers, reimbursed for unlimited visits, used new technology and more highly trained personnel to provide care to patients in their homes that previously had been furnished in institutional settings (Manard et al. 1995).

In response to the rapid growth in post-acute care spending, the Congress directed the Health Care Financing Administration (HCFA) to replace cost-based payment methods with new prospective payment systems for all four post-acute settings. The skilled nursing facility PPS has been in place since 1998, and the PPS for home health services has been in place since October 2000.[3] The prospective payment systems for services in inpatient rehabilitation facilities and long-term hospitals are scheduled for implementation in 2001 and 2002, respectively.

These new systems focus on the settings in which care is provided, rather than the care and the patients who receive it. As a result, Medicare may pay quite differently for the same care when it is furnished to similar patients in different settings, raising concerns that payment policy rather than clinical decisions may drive providers' decisions. In this chapter, we examine the nature of post-acute care and recommend steps that could enable Medicare to implement such policies. We also examine problems with the new prospective payment systems that have emerged since their implementation and recommend remedies.

1 Beneficiaries referred from the community without a hospitalization and those receiving home health services before they were hospitalized are not included in this analysis, but represent a substantial proportion of home health users.

2 Major policies affecting SNF coverage and resulting in increased use were the Omnibus Budget Reconciliation Act of 1987; the Medicare Catastrophic Coverage Act, passed in 1988 and repealed in 1989; and HCFA's clarification of coverage guidelines in 1988. Change in home health coverage guidelines in response to Duggan v. Bowen, a 1988 decision from the District of Columbia district court, allowed more beneficiaries to qualify for more services.

3 The Balanced Budget Act of 1997 (BBA) required two new payment systems for home health services; the PPS, and an interim system, while the PPS was developed.

The nature of post-acute care

In theory, post-acute care should respond to patients' clinical needs irrespective of setting. However, Medicare's current policies are specific to the setting, not to the care. Because we lack clear guidelines as to which setting may be appropriate for any given patient and because different settings may substitute for one another in providing similar care, the possibility arises that placement decisions may be driven (now, or in the future) by financial, rather than clinical considerations. If comparable care were provided in two settings with different prices, placement in the more costly setting would increase Medicare spending. Further, substitution driven by financial incentives also may reduce quality of care. To assess the extent of substitution—and to aid in developing policies to avoid any negative consequences—new research is needed.

Variation in Medicare policy across settings

Medicare's current policies for post-acute care—coverage rules and eligibility criteria, conditions of participation, and payment—vary by setting, making it difficult to assess differences among patients and the care they receive in different settings.

Several examples illustrate differences among post-acute settings in coverage rules and eligibility criteria. Medicare coverage for SNF care (but not home health care) requires a three-day hospitalization in the previous month to trigger Medicare coverage for SNF care. To be admitted to a rehabilitation facility (but not to a skilled nursing facility, which may offer rehabilitation services), patients must be able to sustain three hours of daily therapy—physical, occupational, and/or speech—and have the potential for meeting pre-identified goals. To obtain home health services, patients must be homebound and need intermittent or part-time skilled care.

Post-acute care providers must also meet different conditions of participation. For example, physicians must be integrally involved in care provided in rehabilitation facilities and long-term hospitals, but are required to visit a SNF patient only every 30 days for the first 60 days. Requirements for physician involvement in home health care are even less stringent. The degree of physician involvement in furnishing care is one of several factors that may determine providers' responses to financial incentives (see Chapter 1).

Finally, Medicare's payment policies are different in each setting. Medicare pays on a per diem basis for care in skilled nursing facilities, but plans to pay on a per discharge basis for inpatient rehabilitation services. Medicare pays for home care on the basis of a 60-day episode, but allows for multiple episodes.

Placement decisions

Although experts agree that numerous factors—including clinical needs, functional status, patient and family preferences, family and community support, and the capacity of local resources—play roles in defining which post-acute setting would best serve a patient, there is no consensus on how such factors are appropriately weighted. Therefore, at present, post-acute placement decisions are made in the absence of standardized guidelines below).

Overlap in services across settings

While some observers have concluded that there is some degree of overlap in the care provided among these settings, empirical evidence that settings substitute for one another is weak. One study (Neu et al. 1988) found SNF and home health were substitutes, but that SNF and

Feasibility of developing clinically based indicators of access to skilled nursing facility care

As part of MedPAC's ongoing effort to evaluate the impact of prospective payment on beneficiaries' access to post-acute care, we contracted with Mathematica Policy Research, Inc. (MPR) to study the feasibility of creating indicators of access to needed skilled nursing facility (SNF) care based on clinical evidence of professional consensus, which could also be based on routinely collected administrative data. MPR concluded that it would be difficult to create clinical indicators from existing administrative data because of critical limitations in both data and available standards of care (Schmitz et al. 2001).

MPR considered three types of indicators—appropriate placement, receipt of clinically necessary services, and outcomes sensitive to receipt of needed care—and found barriers to developing each. Barriers to measuring appropriate SNF placement included a lack of standards or guidelines for SNF admission and a lack of administrative data on many of the relevant clinical and nonclinical hospital patient characteristics to assess conformance. Although clinical guidelines exist for treatment of nine types of patients with conditions commonly treated in SNFs (and which represent most admissions), existing guidelines fail to recommend a particular setting in which care should be furnished, and available data identify only some of the services prescribed by those guidelines. The Minimum Data Set (MDS) provides information that can be used to evaluate some SNF patient outcomes, but in many cases those outcomes are not adjusted for risk and in no circumstances are they linked to the provision of specific services or lack thereof. ■

rehabilitation facilities were not; another study (Steiner and Neu 1992) found the opposite. A third study found that the potential for substitution varied by diagnosis, with little potential for substitution among stroke patients but more potential for congestive heart failure patients (Gage 1999). Other analyses using functional status data provided mixed evidence of substitution, which sometimes varied by diagnosis (Kane et al. 2000, Keith et al. 1995, Kramer et al. 1997b, Kramer et al. 2000b, Manton et al. 1994). For example, Kramer (1997b) found that SNFs substitute for rehabilitation facilities for hip fracture patients, but not for stroke patients.

A MedPAC-sponsored study of 7,500 post-acute episodes from Medicare Current Beneficiary Survey (MCBS) cost and use files for 1992-1997 determined that beneficiaries using home health as their only post-acute care had substantially different characteristics, compared with individuals receiving all or part of their post-acute care from skilled nursing facilities (Hogan 2000). Beneficiaries using only skilled nursing facility care were more severely ill than those using home health care (either by itself or following SNF care). Patients with SNF care as their only post-acute care were nearly twice as likely to be readmitted to a hospital or to a hospice and were three times more likely to die, compared with individuals using either a combination of SNF and home health care or home health only. Receiving home health services after a SNF stay appears to indicate recovery: 81 percent of these patients eventually recovered and were discharged.

Some of these studies lack good ways of describing patient characteristics, most are old, and none are based on data following the implementation of prospective payment for skilled nursing facilities and home health care. However, even with limited and contradictory evidence, researchers and policymakers hypothesize that substitution exists to some degree. Because prospective payment introduces new incentives for substitution, it is crucial that new research be undertaken.

RECOMMENDATION 6A

The Secretary should conduct an empirical study to assess the extent of substitution among post-acute care settings.

An empirical study is needed to assess the extent to which overlap of patients and services occurs across settings under the new post-acute payment systems. Such a study could inform policy decisions about the need for consistency of Medicare policies across various sites of care. HCFA should consider studying patients about to be discharged from acute care hospitals to determine whether they plausibly could go to more than one post-acute destination, given their clinical needs. Researchers should also consider non-clinical factors that influence discharge destination, such as patient and family preferences, availability of informal caregivers, and provider availability.

Designing prospective payment systems across post-acute care

Medicare seeks to ensure that beneficiaries have access to post-acute care in clinically appropriate settings without imposing unnecessary financial burdens on them or on the program. Ultimately, this means that Medicare's payment policies should focus on the patient, not on the setting. This section examines steps toward a patient-focused system. The next section examines improving the current system.

The difficulty of designing prospective payment systems for post-acute care

At the heart of a PPS is a unit of payment, which describes the individual service or set of services that Medicare pays providers to furnish, and a classification system, which categorizes cases according to clinical characteristics and resource needs. Specifying an appropriate unit of payment and establishing an effective classification system require understanding the patient care product. However, the variation in patients within and across post-acute care settings means that the product varies as well, in terms of duration and intensity. To gain a better understanding of the post-acute care product, we need better information about who is being treated in the different settings.

For inpatient rehabilitation facilities, the product—therapies during an inpatient stay to maximize function following a debilitating event—is relatively well defined, but the products for the other settings are not. SNFs, for example, may have patients who may require mainly rehabilitation services while others need intensive nursing, and a minority of patients may need both types of services (Fries et al. 2000, White et al. 1998). In addition, some patients are admitted to a SNF to recuperate after a hospitalization before returning home, while others may have lived in the nursing home before hospitalization and will return to being long-term care recipients after they no longer qualify for skilled care.[4] In home health, some patients need short-term nursing or rehabilitation while recuperating from a hospitalization; others need longer-term nursing and supportive services. The long-term hospital product is even less known because these facilities make up a heterogeneous group of providers that furnishes a wide range of intensive services, including trauma and cancer treatment, respiratory therapy for ventilator-dependent patients, pain and wound management, and comprehensive rehabilitation (MedPAC 1999).

Medicare needs a core set of patient assessment data elements

The patient assessment instruments now used in skilled nursing facilities and home health agencies differ significantly in

4 Some patients admitted to a SNF with the expectation that they will be discharged home actually never leave the nursing home. These individuals and those who were hospitalized from the nursing home and return to long-term care after their SNF stay are estimated to make up about 30 percent of the total population of SNF patients (Kramer et al. 1997b)

terms of the aspects of patient status assessed, rating scales and assessment periods used, and specific items included. Even items designed to measure an aspect of common interest have key differences that diminish their comparability.

In past reports, MedPAC has recommended the development of a common core set of patient assessment data elements that can be meaningfully applied across post-acute care settings (MedPAC 1999, MedPAC 2000). Establishing this set which could be augmented for particular subsets of patients or post-acute care settings as appropriate, would increase the ability to assess differences and similarities of patients, service use, and quality of care across settings. It could also facilitate efforts to compare outcomes of patients treated in different settings and enable improvements in systems for payment and quality monitoring.

The Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA) instructs the Secretary to report to the Congress by January 1, 2005 on the development of instruments to assess the health and functional status of beneficiaries using post-acute care and other specified services.[5] The Secretary is also required to make recommendations on the use of patient assessment instruments for payment purposes. In developing the instruments, the Secretary is to consult with MedPAC, the Agency for Healthcare Research and Quality, and qualified provider organizations.

RECOMMENDATION 6B

While implementing the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 provision to develop patient assessment instruments with comparable common data elements, the Secretary should minimize reporting burden and unnecessary complexity while assuring that only necessary data are collected for payment and quality monitoring.

The assessment instruments required by the BIPA are to have readily comparable, statistically compatible, common data elements and include only those elements necessary to meet program objectives. The legislation specifies that the standard instruments developed are to supersede the assessment tools now required.

MedPAC believes this mandate presents the Secretary with an opportunity to build on the strengths of existing patient assessment instruments while addressing their shortcomings. In developing instruments to meet the BIPA mandate, the Secretary should strive for brevity and simplicity. The length and complexity of instruments currently in use may compromise the accuracy of the data collected and pose an undue burden in that not all items collected are currently used in program administration. For example, the MDS, which was developed to guide care planning for nursing home residents and is now used in SNFs, has more than 350 items.

MedPAC has concerns about the suitability of the Minimum Data Set for Post-Acute Care (MDS-PAC) to serve as a basis for developing the patient assessment instruments for post-acute care required under the BIPA. The MDS-PAC was developed by HCFA to be applicable across post-acute settings for payment and quality monitoring purposes. In past reports, we commented favorably on the development of the MDS-PAC because of the Commission's strong belief in the need for a more coordinated approach to patient assessment across post-acute settings (MedPAC 1999). However, we are concerned that the MDS-PAC is notably lengthy and complex, featuring more than 400 items and at least 7 different time frames for patient assessment, ranging from the previous 24 hours to the previous 7-14 days. The fact that the MDS-PAC represents a modification of an instrument designed for use with long-term care patients also provides grounds for further consideration.

In moving ahead to develop assessment instruments to meet the BIPA mandate, MedPAC urges the Secretary to begin with a strong sense of the purposes for which patient assessment data will be used and a goal of defining the minimum set of information needed to accomplish those purposes. To the extent practical and appropriate, the same information should be collected in the same way across settings. Expert consultation will be required to evaluate the extent to which information needs are comparable across settings.

The Commission believes that some common ground will be identified. For example, patient assessment instruments will need to collect information that can be reliably used to predict resource use. Four groups of patient characteristics are known to be important in determining resource use in at least two of the four post-acute settings:

- Functional status is an important factor driving resource use in at least three of the four settings—long-term hospitals may be an exception, although that is being tested.
- Diagnosis is an important predictor of resource use in rehabilitation facilities, long-term hospitals, and SNFs (Cameron 1983, Cotterill 1986, Kramer et al. 1997a).
- Comorbidities are thought to be important in all four settings (Carter et al. 2000, Goldberg et al. 1999, Kramer et al. 1997a).
- Cognitive status also is important in predicting resource use in three of the four settings—long-term hospitals may be the exception.

The new legal requirement for development of common data elements can result in a better understanding of patient characteristics and the care delivered in post-acute care settings. The information gained will have the potential to improve current payment systems and lay a foundation for a more rational and

5 The BIPA also requires development of assessment instruments for beneficiaries using inpatient and outpatient hospital, outpatient rehabilitation, mental health, and end-stage renal disease services.

coherent system across post-acute care. To this end, MedPAC recommends that HCFA pursue two lines of research simultaneously: one on a patient classification system that works across post-acute settings, and another on bundled payments.

The need to pay correctly across settings

The potential for overlapping provision of services across post-acute settings makes crucial the consistency of payments across settings. Consistent payment systems would neither encourage nor discourage care in different settings; inconsistency may lead placement and care decisions to be made on the basis of financial, as opposed to clinical, considerations.

HCFA originally sought to base payment for care in SNFs, rehabilitation facilities, and long-term hospitals on a common unit of payment (per diem) and a common patient assessment tool (the MDS-PAC), and to use staff time costs as the measure of resource use in each setting (Hebrew Rehabilitation Center for Aged 1998).[6] The Congress, however, mandated per-discharge payment and specific classification systems for rehabilitation facilities and long-term hospitals. With payment for home care dependent on a different unit of payment, patient assessment instrument and classification system, Medicare's payment systems for post-acute care are unique to each setting (Table 6-2).

As a result, we have only limited capability to monitor access and quality across post-acute settings or to make comparisons (MedPAC 2000), hampering our ability to assess the impact of new payment systems as they are implemented. For example, before enactment of the Balanced Budget Refinement Act of 1999 (BBRA), which increased payments for some patients, SNFs responded to the new PPS by changing their preferences for patients with certain clinical profiles and some high-acuity patients had difficulty accessing SNF care (GAO 1999b, OIG 1999, OIG 2000b). Although researchers found that such patients received care in alternative settings, they could not determine which settings substituted for SNF care, nor could they determine whether beneficiaries had outcomes similar to those they would have had in SNFs.

TABLE 6-2

Post-acute prospective payment systems

Characteristic	Post-acute care setting: Skilled nursing facility	Home health agency	Inpatient rehabilitation	Long-term hospital
Unit of payment	per diem	60-day episode, with unlimited episodes	per discharge	per discharge
Patient assessment instrument	Minimum data set (resident assessment instrument)	Outcome and Assessment Information Set	Minimum data set for post-acute care or Functional Independence Measure	Unknown
Case-mix classification system	Resource utilization groups, version III	Home health resource groups	Functional independence measure-function related groups	Diagnosis related groups or all patient refined diagnosis related groups
Effective date	July 1, 1998	October 1, 2000	2001*	October 1, 2002*

Note: * estimated date

RECOMMENDATION 6C

The Secretary should develop for potential implementation a patient classification system that predicts costs within and across post-acute settings.

Developing a classification system that works across post-acute care would facilitate consistency of payments across settings and allow Medicare to monitor the quality of care furnished to similar patients in different settings. Although developing one post-acute classification system for all beneficiaries might not be possible, it might be feasible to have a classification system for specific types of care. For example, therapies—physical, occupational, and speech therapy—are furnished in all four post-acute settings. Holding other factors (such as patients' clinical risks) constant, Medicare should pay the same amount for these services regardless of setting.

Designing a system that works across settings will require a thorough exploration of the necessary information about patients who need post-acute care, the factors that need to be measured, and the most efficient ways to measure them. HCFA might benefit from convening a forum of leading experts in health service delivery and research on the best way to proceed with payment and quality monitoring systems across post-acute care. In conducting its research, the agency should also routinely and widely

6 HCFA never planned to use the same instrument or classification system for home health care. The agency decided to use a tool developed for quality measurement as the patient assessment instrument for the home health PPS.

distribute reports with enough detail to facilitate independent replication of results. Independent testing of any classification system developed—for reliability, validity, and administrative feasibility—should take place before implementation.

An alternative to developing a payment system consistent across settings would be to bundle payments and delegate decisionmaking to healthcare providers. Bundling would involve estimating the expected resource needs for patients with particular diagnoses, functional status, or other factors. It could be done by increasing payments for inpatient hospital services to account for expected post-acute care use or by making one payment to a post-acute care provider responsible for all subsequent services. In either case, it could lead to more patient-focused payment because payment would no longer depend on the setting in which care was provided.

At present, the notion of bundling payments remains conceptual. Little is known, for example, about which services should be included in a bundle or how bundling would work in practice. Different models should be explored, and testing the administrative feasibility and the effect of bundling designs on providers' incentives and patient care will be necessary before any implementation.

RECOMMENDATION 6D

The Secretary should conduct demonstrations to test the feasibility of including a larger scope of services in the payment bundle.

A demonstration of the bundling concept could assess several key issues: the entity that would receive payment and be responsible for care, what period of time and services should be included in the bundle, how to facilitate coordination of care, how payments would be designed and how providers would be held accountable.

Addressing more immediate issues of correct payment within settings

Of the four prospective payment systems mandated by the BBA for post-acute care settings, two—for SNF and home health care—have been implemented, and the PPS for inpatient rehabilitation care is scheduled to begin later this year. Because changing from cost-based reimbursement to prospective payment alters providers' financial incentives, each of the new systems raises issues that warrant either changes in Medicare's policies or close monitoring to ensure that beneficiaries have access to needed care.

With respect to SNFs, the Commission is concerned because the new PPS does not appropriately match payments with expected resource costs for certain patients and we do not believe that continuing to refine the current system will be successful. There is no evidence that beneficiaries face problems in accessing SNF care, and increases in payments enacted in the BBRA and the BIPA provide some breathing room until a new payment system can be developed. In the meantime, however, close monitoring of access and quality is necessary.

The key issue for rehabilitation facilities is establishing which assessment instrument has the greatest potential to produce accurate payments and cause the least disruption to beneficiaries or providers. HCFA intends to use the MDS-PAC, the patient assessment instrument the agency originally planned to use in the three institutional post-acute settings. Although using the MDS-PAC would appear to move post-acute care closer to the Commission's stated interest in common assessment data, the limitations of the MDS-PAC indicate that it is not the vehicle to accomplish this goal. Therefore, the Commission believes that HCFA should instead use the Functional Independence Measure (FIM) because it was used to develop the patient classification system and most facilities already use it. The FIM should be used until a tool can be developed that incorporates common data elements applicable across post-acute care settings.

For home health care, the interim payment system put in place following enactment of the BBA was problematic, in part because it did not account for variation in resource use among patients. The PPS, implemented in October 2000, introduces case-mix adjusted payments, and the BIPA put more money into the system by raising base payment rates above those previously in law. Given the changes in incentives that the new system creates, close monitoring is essential to ensure that beneficiaries' access to care is not compromised.

Improving payments for skilled nursing facility care

Two issues matter in assessing whether payments for a particular type of care are appropriate. First, does the distribution of payments across patients match their expected use of resources? A proper distribution of payments is important so that incentives are not created for providers to avoid patients for whom payments are too low. The second issue is whether aggregate payments—which depend on the base payment—are appropriate.

In the short run, making sure that aggregate payments are neither too high nor too low can ameliorate problems with the distribution of payments. This is the case with payments to skilled nursing facilities: significant limitations in how Medicare classifies SNF patients under the new payment system raise the potential for some patients to have difficulty in accessing care. Although there is no current evidence of significant problems with access to SNF care, these limitations must be addressed. MedPAC believes that aggregate payments—taking into account newly enacted payment increases—give the program time to do so.

Fixing the distribution of payment

Under the PPS, skilled nursing facilities are paid according to case-mix adjusted per diem payment rates intended to cover the routine, ancillary, and capital-related costs of furnishing SNF services. The bundle consolidates all post-hospital SNF services covered under Part A, including those services for which payment had been made under Part B before PPS.[7] The case-mix adjustment in the PPS is based on the Resource Utilization Groups, Version III (RUG-III) case-mix groups to which patients are assigned. These assignments are determined by periodic patient assessments using the Minimum Data Set (MDS).

RUG-III is a 44-group hierarchical patient classification system that measures patients' relative resource use on the basis of staff time to provide nursing care and rehabilitation. It does not adequately measure the resource needs of patients who require multiple types of services, such as extensive medical services and rehabilitation, or nontherapy ancillaries (such as pharmaceuticals, laboratory tests, imaging, and transportation) (MedPAC 2000). Without adjustments, such as those in the BBRA and the BIPA, payments for these patients would be too low.

In April 2000, HCFA issued a proposed rule with two models to refine the RUG-III. Both were developed using data from the SNF PPS demonstration and preserved the existing structure of the case-mix classification system. The agency promised to test these models with nationally representative data before issuing the final rule. In July, HCFA announced that neither refinement model worked with national data and that the 20 percent increase in payments for the 15 groups required by the BBRA would remain in effect until refinements are completed.[8]

The failure of the refinement models raises the issue of whether the RUG-III case-mix system can pay correctly for SNF patients. Independent research suggests that it cannot because the limitations are intrinsic to the system. Consequently, MedPAC believes that HCFA should develop a new classification system.

The current classification system has four fundamental problems. First, it is based on a patient assessment instrument that does not collect the information needed to account for the needs of patients who need SNF care. Second, the system is subject to a high rate of error in classifying patients. Third, the system uses only certain staff time costs as a measure of resource use instead of all costs of providing SNF care. Finally, the system is subject to manipulation.

The patient assessment instrument underlying RUG-III—the MDS—was developed to guide care planning for residents in nursing homes. It does not measure variables with which to classify SNF patients appropriately, especially non-rehabilitation patients (Hebrew Rehabilitation Center for Aged 1998, Kramer et al. 1999, Kramer et al. 2000a). Further, the instrument was never tested with SNF patients only and the MDS does not adequately assess the more intensive needs of post-acute patients (Hebrew Rehabilitation Center for Aged 1998).

Two studies of the accuracy of RUG-III assignment have found a high rate of error. One study found that 76 percent of the assignments were not supported by medical records (OIG 2000a).[9] Preliminary results of the other study found that the rate of error (over 60 percent) was consistent across all facilities studied and was higher for Medicare patients than for non-Medicare patients (Moore et al. 2000). The latter researchers speculate that the consistency of error may be due to the length of the MDS assessment or the frequency of administration—SNF patients must be assessed on days 5, 14, 30, 60, and 90. However, they also found that when two individuals assessed the same patient, they frequently obtained different scores. Fewer than one-fourth of RUG-III items had good interrater reliability, which may explain the high error rate.

When RUG-III was introduced in the early 1990s, it explained 55.5 percent of variation in staffing (nursing and rehabilitation) costs for individuals in selected units in 228 nursing homes in seven states, both SNF patients and long-term residents (Fries et al. 1994). However, tests of the RUG-III found very low explanation of variance (9.4 percent and 10 percent, respectively) using costs of caring for SNF patients only (Fries et al. 2000, White et al. 1998). In another study that used staff time as a measure of resource use, researchers found that the range in resource use within groups was very large, but that the difference in resource use among groups was small (Kramer et al. 1999); one objective for a case-mix system is to have little variation within groups and wider variation among groups.

Because the classification of patients in RUG-III rehabilitation groups is based on services provided rather than patient characteristics, and because payment rates are higher for these classes, the system gives SNFs incentives to provide therapies when they may not be beneficial. The evaluation of quality and outcomes for the SNF PPS demonstration found no difference in outcomes (rehospitalizations, urinary tract infections, pneumonia, or discharge to the community) between test and control groups, although provision of therapies increased in the test group, in which payment was based on the RUG-III classification system (Kramer et al. 2000a). Researchers found the largest increase in therapy provision for patients who required the lowest levels of therapy,

7 Services not included in the SNF bundle are physician and certain other services specifically excluded under the BBA and the BBRA but furnished to SNF residents during a Part A covered stay.

8 The 15 groups fall under the categories of Extensive Services, Special Care, Clinically Complex, High Rehabilitation, and Medium Rehabilitation.

9 HCFA maintains the MDS is part of the medical record and does not have to be duplicated in that record.

such as those with the greatest functional ability and medical patients with congestive heart failure (CHF) or chronic obstructive pulmonary disease. Patients with CHF in the test group received almost as much weekly therapy as did patients with hip or pelvis fracture; in the control group, CHF patients received half as much therapy.

RECOMMENDATION 6E

The Secretary should develop a new classification system for skilled nursing facility care while continuing to monitor access and quality.

The Commission believes that HCFA should discontinue attempts to refine the RUG-III and focus its resources on developing a new classification system. Because of the limitations to the current system, HCFA will also need to continue monitoring access to and quality of care. We recognize that these tasks will entail a substantial amount of work on the part of the agency and we recommend that appropriate financial and staffing resources be made available for it.

Aggregate payments to skilled nursing facilities

Changes in Medicare payments to SNFs following the enactment of the BBA and bankruptcy filings by several major nursing home chains have raised concerns among some observers that payment rates may be too low. In view of the problems with the payment rates for certain patients, insufficient aggregate payments would be a particular concern because SNFs could not rely on higher-than-needed payments for some patients to offset lower-than-needed payments for others until a new classification system can be developed. Although the evidence is mixed, MedPAC believes that the spending levels that will occur under the BBRA and the BIPA will provide adequate aggregate resources to maintain beneficiaries' access to care in skilled nursing facilities in the coming year.

Why might skilled nursing facility payment rates be too low? Concerns about the adequacy of payments have focused on two indicators: the decline in Medicare spending for SNF care—aggregate payments to SNFs fell 16.8 percent from fiscal year 1998 to fiscal year 1999, when the PPS was first implemented—and several Chapter 11 bankruptcies among large chains. Industry observers suggest three reasons why payment rates are too low:

- the base PPS rate did not include the costs of SNFs that had been exempt from Medicare's cost limits or that had so-called atypical exceptions;
- the base PPS rate did not include all of the costs for hospital-based facilities; and
- any changes in case-mix intensity between the year on which the base PPS rate was calculated (1995) and the year the PPS was implemented (1998) would not be reflected in payment rates.

The first two of these points reflect policymakers' judgment. The third point is empirically testable and our analysis suggests that case mix did not increase between 1995 and 1998.

Before enactment of the BBA, Medicare exempted new facilities from the program's routine cost limits because they were believed to incur start-up costs. The program also allowed SNFs with above-average costs to qualify for higher reimbursement through exceptions to the routine cost limits, and the number of these SNFs increased rapidly. In excluding the costs associated with exemptions and exceptions from the base PPS rate, the Congress accepted the findings of two government agencies that ensuring access to SNF care could be achieved more efficiently than had been the case under cost-based reimbursement. Because the number of SNFs had increased rapidly, the Prospective Payment Assessment Commission (ProPAC) recommended eliminating exemptions for new providers on the grounds that Medicare no longer needed to help finance the start-up costs of new facilities (ProPAC 1997a). The General Accounting Office (GAO) found that the exceptions policy did not adequately distinguish between facilities with higher-than-normal costs that reflected patient's needs and those that were inefficient (GAO 1996).

The Congress reached a similar conclusion with respect to the higher costs of hospital-based SNFs. The BBA required HCFA to set PPS rates equal to a weighted average of the costs of freestanding SNFs plus 50 percent of the difference between the freestanding mean and a weighted mean of the combined costs for hospital-based and freestanding SNFs. Thus, the costs of hospital-based SNFs were not fully included in the base rate. Congress may have required this method because routine costs for hospital-based SNFs were more than twice as high as those for freestanding SNFs (ProPAC 1997b). Further, costs for the most expensive hospital-based SNFs were almost four times those for the least expensive ones; variation in the costs of freestanding SNFs was less dramatic. Some of the greater variation in costs for hospital-based SNFs may have reflected variation in case mix, but some may also have reflected hospitals allocating overhead costs to their SNFs. Including such costs in the PPS base rate would not be appropriate.

When the SNF PPS was implemented in 1998, the base payment rate was calculated on the basis of 1995 costs, trended forward for inflation. Industry observers have noted that if case mix and concomitant services increased appreciably between 1995 and 1998, the aggregate base rate would be too low (King 2000). For example, the continuing decline in length of inpatient hospital stays and increased patient acuity could have resulted in a more complex case mix than that accounted for in the base payment. Using a measure of case-mix intensity of admissions to SNFs, however, we find that case mix did not change over that period (see text box, p. 98).

The acuity of SNF patients could increase without being reflected in a measure of case mix at admission. But even if that were true, it would not follow that payments in 1998 were too low unless the

Change in case mix upon admission to a skilled nursing facility: 1995-1999

To estimate changes in the resource needs of skilled nursing facility (SNF) patients between 1995 and 1999, MedPAC created a case-mix index (CMI) based on all patient refined diagnosis related groups (APR-DRGs). This index measures the average severity of SNF patients at the time of admission; we use it as a proxy for the resource needs of those patients during their SNF stay. Relative weights were derived for each APR-DRG severity class and a CMI for each SNF facility was calculated based on cases within the skilled nursing facility between 1995 and 1999. A CMI greater than 1.0 implies that more resources are required to treat patients; an index less than 1.0 implies that fewer resources are needed.

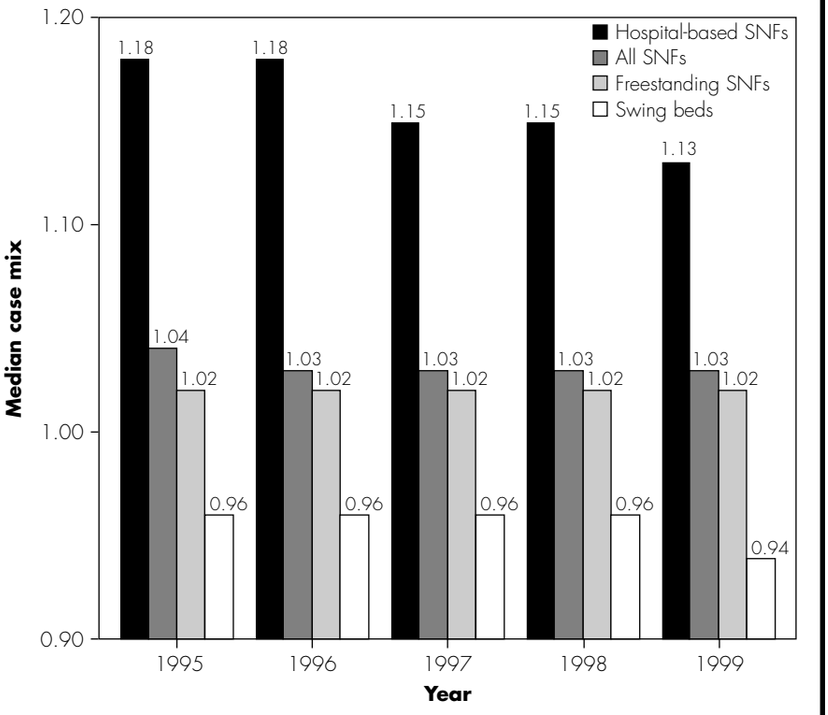
We found that the median CMI among SNFs declined slightly, from 1.04 in 1995 to 1.03 in 1999. This suggests that the clinical acuity of patients admitted to SNFs changed little between 1995 and implementation of the PPS. The median CMI actually declined for hospital-based facilities, falling from 1.18 to 1.13 between 1995 and 1999 (Figure 6-1). During the same time period, the CMI among freestanding facilities remained unchanged at 1.02. The lack of change is noteworthy because freestanding SNFs represent 80 percent of all facilities and provide care to approximately 65 percent of all SNF patients.

These conclusions must be tempered by the limitations of using APR-DRGs at admission as a proxy for patients' resource needs during their SNF stay. These limitations include:

- APR-DRGs account for severity differences associated with complications and coexisting conditions during the hospital stay, which may or may not affect acuity during the following SNF stay.
- The index does not account for the functional status of patients in SNFs.
- There also may be unmeasured differences in patient health status that are unrelated to changes in the hospitalized population or in hospital length of stay.
- We do not know how changes in hospital lengths of stay affect nursing resources and rehabilitation intensity during subsequent SNF stays.
- Changes in International Classification of Diseases, Ninth Edition, Clinical Modification coding over time may reduce the precision of assignments for some cases among APR-DRG severity classes, particularly in the earlier years.
- Part of the decline in the proxy index between 1998 and 1999 may be attributable to a drop in hospitals' case-mix index in reaction to efforts by the Department of Justice and the Inspector General to combat fraud and abuse (see Chapter 5). ■

FIGURE 6-1

Change in median skilled nursing facility case mix at admission, by facility type, 1995–1999



Note: SNF (skilled nursing facility).

Source: MedPAC analysis of 1995–1999 last quarter inpatient and SNF claims.

1995 costs on which they were based were appropriate. Studies by two government oversight agencies indicate that 1995 costs were, in fact, too high, because of unwarranted growth in ancillary expenditures and undetected unnecessary costs or inappropriate billing for services. These studies suggest that base year costs included too many services and that the costs per service were inappropriately high (GAO 1998). Further, unnecessary and undocumented therapy, as well as substantial mark-ups on occupational therapy, were not identified before the implementation of the prospective payment system and thus were included in base year costs (OIG 1999).

Assessing the adequacy of aggregate payments to skilled nursing facilities Notwithstanding the argument that policymakers intentionally excluded certain costs from the base rate for the SNF prospective payment system, the question remains whether the decline in spending and use that followed its implementation indicate a problem. We examined this issue in detail and found no evidence of a critical access problem that would justify an increase in the SNF base payment beyond the increases in payments that were enacted in the BBRA and the BIPA. Our analysis is based on three indicators: changes in spending and use of SNF services between 1996 and 1999, exit and entry into the SNF market, and access to SNFs.

The data on spending and use before and after implementation of the PPS do not indicate an inappropriate aggregate payment level. Medicare's payments to SNFs decreased by 16.8 percent between fiscal years 1998 and 1999, from $11.3 billion to $9.4 billion (Table 6-3). This decline, however, needs to be interpreted in a larger context. Spending in 1999 was still higher than it was in 1996, a year in which HCFA, GAO, and the Office of the Inspector General (OIG) believed payments to be excessive. Spending increased by 19 percent from 1995 ($7.6 billion) to 1999 ($9.4 billion) and the average payment per day increased 11 percent ($190 to $223). The number of discharges from skilled nursing facilities in 1999 was 8.7 percent below the previous year, but still above 1996 levels. And the average length of stay, which had decreased from 1996 to 1998, actually increased slightly (from 28.5 to 29.3 days) after HCFA implemented the PPS.

Following a large increase between 1996 and 1998, the number of certified SNFs decreased slightly between 1998, the year the PPS was implemented, and 2000 (Table 6-4). This decline, which was accompanied by Chapter 11 bankruptcies among large nursing home chains, has raised concerns that patient access may be impaired. These concerns have been mitigated by the payment increases enacted in the BBRA and the BIPA. Moreover, the total number of SNFs in 2000 was greater than it was in 1997. The decrease in the number of hospital-based facilities, however, raises concern about their ability to adjust to the PPS.

Shortly after the PPS was implemented, two studies found that more complex patients were delayed entry into SNFs (GAO 1999a, OIG 1999). These studies found that there were no widespread access problems, however, and concern about the abilities of select groups of patients to access SNF care is mitigated

TABLE 6-3

Payment and use of skilled nursing facilities, by calendar year

Calendar year	Discharges	Payment (billions)	Covered days	Average days/ discharge	Average pay/day
1995	1,228,799	$7.6	40,591,637	32.95	$190
1996	1,318,006	9.3	44,638,581	33.87	206
1997	1,581,734	11.0	47,295,120	29.90	234
1998	1,587,931	11.3	45,240,400	28.49	251
1999	1,449,536	9.4	42,534,503	29.34	223

Note: Data include Puerto Rico, Virgin Islands, and unknown. Data do not include swing bed units.

Source: HCFA.

TABLE 6-4

Number of certified skilled nursing facilities, by type and year

Facility type	1996	1997	1998	1999	2000
Medicare Only					
Hospital-based	965	1,010	1,036	943	803
Freestanding	424	449	428	422	419
Medicare/Medicaid					
Hospital-based	1,115	1,113	1,135	1,131	1,094
Freestanding	11,578	12,120	12,436	12,437	12,519
Totals					
Hospital-based	2,080	2,123	2,171	2,074	1,897
Freestanding	12,002	12,569	12,864	12,859	12,938
All facility types	14,082	14,692	15,035	14,933	14,835

Source: MedPAC analysis of HCFA On-line Survey, Certification, and Recording System (OSCAR) data.

by a more recent study that found fewer access problems (OIG 2000b). This study was completed after the BBRA increases in SNF payment, suggesting that problems in access found in the earlier studies may have been addressed.

Implementing a prospective payment system for inpatient rehabilitation services

The BBA required HCFA to design and implement a PPS for inpatient rehabilitation services. The agency has developed a PPS to pay rehabilitation facilities for beneficiaries' care on a per discharge basis starting in 2001. Payments under the new system will cover all operating and capital costs associated with furnishing covered rehabilitation services (see text boxes, p. 100 and p. 101). MedPAC supports implementing the PPS, but we recommend that HCFA use a different patient assessment instrument than the agency has proposed, increase the pool of funds reserved for outlier cases, and reexamine the payment adjustment for facilities serving a disproportionate share of low-income patients.

Choosing the patient assessment instrument

The Congress mandated use of the Functional Independence Measure-Function Related Group (FIM-FRG) patient classification system as the basis for the inpatient rehabilitation care PPS. Use of the FIM-FRG requires that rehabilitation facilities collect and report the patient assessment data used to classify patients for payment.

The decision regarding which patient assessment instrument to use for Medicare payment and quality monitoring in rehabilitation care has come down to two options: the Functional Independence Measure (FIM) or the MDS-PAC. Based on criteria MedPAC has established for selecting an appropriate patient assessment instrument, the Commission favors use of the FIM pending development of a tool that incorporates common core elements applicable across post-acute care settings.

RECOMMENDATION 6F

Until a core set of common data elements for post-acute care is developed, the Secretary should require the Functional Independence Measure as the patient assessment tool for the inpatient rehabilitation prospective payment system.

The FIM-FRG patient classification system was originally developed and tested using items from the FIM, a tool used for patient assessment by at least 70 percent of rehabilitation facilities, some of which have used the instrument for 10 years or more. The FIM is an 18-item instrument that covers 6 domains and produces motor and cognitive scores. It takes about 20 minutes to administer. Agencies have used the FIM to evaluate and monitor outcomes of rehabilitation care. The FIM is limited primarily in its applicability across post-acute care settings, although it is used to evaluate rehabilitation patients by some SNFs.

MedPAC believes that the FIM can furnish accurate information for patient classification because the FIM-FRGs were originally developed using data from this instrument. Using the FIM also would minimize data collection burden and disruption for beneficiaries and providers because so many facilities are familiar with the instrument.

Inpatient rehabilitation prospective payment calculation

A hypothetical rehabilitation hospital is located in Kansas City, Mo., and has a Tax Equity and Financial Responsibility Act rate of $12,000 and a low-income proportion of 11 percent. The facility will be paid as follows for a patient with a stroke in case-mix group 0107 who has no comorbidities and a typical stay in August 2001.

Payment calculation:

Base rate	$6,024
multiplied by case-mix relative weight	× 1.2630
product	$7,608.312
multiply by labor-related portion	× 0.71301
labor-related portion of rate	$5,424.803
multiply by wage index for Kansas City metropolitan statistical area	× 0.9281
add wage-adjusted amount	$5,034.759
to non-labor amount	+ $2,183.509
wage-adjusted federal total	$7, 218.269
multiply by disproportionate share adjustment (formula applied to 11% low-income share)	× 1.885
total adjusted Federal prospective rate	$13,606.44
divide by 3 to calculate federal portion of payment	÷ 3
federal portion	$ 4,535.479
add to facility-specific portion	+ $12,000 × 2/3
Total payment	$12,535.48

Elements of the inpatient rehabilitation prospective payment system

The inpatient rehabilitation prospective payment system (PPS) is scheduled to begin in 2001 and will pay for services on a per-discharge basis (HCFA 2000). Case-based payment matches the unit of service and the product for inpatient rehabilitation. The PPS bundle is intended to reflect all operating (routine and ancillary) and capital costs associated with furnishing covered rehabilitation services.

The PPS will classify most patients into 1 of 92 groups, based on diagnosis, age, and functional and cognitive statuses. In most groups, patients with one or more comorbidities will be assigned to a subgroup that has a higher weight and results in a higher payment. Simulations indicate that the proposed system explains 62.7 percent of variation in patient-level costs.

The PPS will pay differently for special patients who do not receive a full course of rehabilitation—such as transfer cases, short-stay outliers, and patients who die in the facility—and for interrupted rehabilitation stays. There are different case-mix weights and therefore payment rates for each special case:

- Transfers are defined as patients whose length of stay exceeds three days and who are not discharged to the community. For these patients, facilities will be paid a daily per diem amount equivalent to an average daily payment for the case-mix group. The Health Care Financing Administration (HCFA) does not propose including discharges to home health care, day programs, or outpatient therapy in transfers.

- Short-stay outlier cases include patients whose length of stay is three days or less and who are not transfers.

- HCFA proposes that patients who die in the rehabilitation facility within three days of admission be classified as short stay. For other patients who die in the facility, payment will be based on their length of stay and type of diagnosis (orthopedic or non-orthopedic).

- Interrupted stays are cases in which beneficiaries return to a facility by midnight of the third day following a discharge. Facilities will be paid one payment for these patients, based on the first assessment.

The case-mix-adjusted payment will be further adjusted for geographic wage differences. The labor-related portion of the payment—71.301 percent—will be adjusted using the wage index for acute care hospitals. HCFA proposes two additional facility-level adjustments for the inpatient rehabilitation PPS: an adjustment for rural facilities and a formula applied to the proportion of low-income patients. The agency will make no adjustment for facilities in large urban areas or those that operate graduate medical education programs because researchers found no significant differences in costs for facilities with these attributes.

HCFA proposes increasing payments to rural facilities by 1.16 because researchers have found that rural facilities' standardized cost per case was 15 percent higher than the national average. These facilities tend to have fewer cases and a longer average length of stay than urban facilities.

HCFA-sponsored research found that as a facility's percentage of low-income patients increases, there is an incremental increase in costs (Carter et al. 2000). Under the PPS, low-income patients will be defined as Medicare beneficiaries who also receive Supplemental Security Income (SSI) and Medicaid patients who are not covered by Medicare. The low-income proportion for the facility, or disproportionate share (DSH), will be calculated as the number of SSI days for Medicare patients divided by total Medicare days, plus the number of Medicaid days for non-Medicare patients divided by total days. The payment will be adjusted by the following formula: $((.0001+\text{DSH})^{.0905}/(.0001)^{.0905})$. ■

Rather than mandate use of the FIM, however, HCFA has proposed to require the MDS-PAC, an instrument that the agency originally developed to assess patients across post-acute care settings for payment and quality monitoring purposes. Although MedPAC supports use of an instrument that can provide common information across settings, the Commission has concerns as to whether the MDS-PAC can serve such a role, as discussed above. The Commission also questions whether the MDS-PAC meets other objectives, such as providing an accurate basis for payment and minimizing the burden associated with providing data.[10]

A first key question is whether the MDS-PAC replicates the FIM in producing the rehabilitation classification system. To answer this, HCFA funded a study conducted by researchers from RAND Corporation and Harvard University. Although results from the study are not yet available, concerns have been raised about the potential of the instrument to produce accurate classification.

10 In 1999, MedPAC believed the MDS-PAC was a promising development as a new patient assessment tool across post-acute care (MedPAC 1999). At the same time, the Commission also had more confidence in the validity of the payment groups and weights of the FIM-FRG.

The length and complexity of the MDS-PAC provide one basis for this concern. The MDS-PAC consists of more than 400 items and includes at least 7 different time frames for patient assessment, ranging from the previous 24 hours to the previous 7-14 days. The method for scoring functional status used by MDS-PAC, which is the reverse of that used by the FIM, could also lead to coding error because many scorers may be familiar with the other instrument.

Concerns also have been raised that the MDS-PAC cognitive scale may not accurately assess patients' cognitive status. This domain comes from the MDS and researchers have found that it does not work the same way with both cognitively impaired and intact patients (Casten et al. 1998, Lawton et al. 1998). This scale also had one of the highest error rates of all MDS domains in a recent test (Moore et al. 2000).

In addition to concerns about accuracy of patient classification, MedPAC also has concerns about the burden of data collection posed by the MDS-PAC. Given HCFA's proposed requirement that facilities conduct assessments at 3, 11, 30, and 60 days, as well as discharge, and a 16-day average length of stay, most inpatient rehabilitation patients will be assessed three or more times. A simpler, shorter instrument, such as the FIM, would reduce the burden associated with the frequency of data collection.

Improving the payment system

Medicare generally makes extra payments under prospective payment for cases that have unusually high costs compared with regular payments. These extra payments, called outlier payments, are intended to limit providers' financial risk from extraordinary cases and to reduce providers' financial incentives to avoid patients with especially serious conditions or to stint on their care. Another potential source of financial risk is providing care to low-income patients. Medicare adjusts some facility payments according to the share of low-income patients served.

The BBA restricts the inpatient rehabilitation high-cost outlier pool to a maximum of 5 percent of total payments. Outlier payments are financed by reducing base payments proportionally to the size of the outlier pool. For example, if the outlier policy is 5 percent, the base payment is reduced by that amount. HCFA proposes a 3 percent outlier pool; facilities will be paid the adjusted case-mix group payment plus 80 percent of the estimated cost of a case that exceeds $7,066.

Researchers who developed the payment system recommended a 3 percent outlier policy for two reasons. First, although increasing the outlier pool improves payment accuracy at the patient and facility level and reduces facilities' financial risk, the rate of improvement decreases when the outlier pool exceeds 3 percent. Second, the research showed that although most outlier payments will be for cases that lose money, some cases will receive payments in excess of costs. The greater the outlier pool, the more outlier cases that receive payments in excess of costs; the number of cases with payments in excess of costs under a 5 percent outlier policy would be almost double the number under a 3 percent policy (Carter et al. 2000).

Nevertheless, the Commission is concerned about high-cost patients who may face problems obtaining access to care or stinting on care once they are in a facility. Therefore, we recommend a 5 percent policy for the inpatient rehabilitation PPS until research under the new payment system determines whether a different percentage is needed.

RECOMMENDATION 6G

The Secretary should require a high-cost outlier policy of 5 percent for the inpatient rehabilitation payment system and study whether a different percentage policy is needed.

We are concerned that high-cost beneficiaries will not be protected sufficiently under the 3 percent outlier policy that HCFA has proposed. We believe that a 5 percent policy better protects patients' access to care and protection from stinting. A larger outlier pool will protect more patients and the payment-to-cost ratio for high cost patients will be greater (Carter et al. 2000). Because even a 5 percent outlier policy may not protect patients adequately, HCFA will need to monitor beneficiaries' access to inpatient rehabilitation and study patients with extraordinary costs. Legislative action would be required to facilitate a different policy with a higher percentage.

In developing the PPS, researchers found that rehabilitation facilities' per-case costs rise as their percentage of low-income patients—Medicare beneficiaries who receive Supplemental Security Income and Medicaid patients who are not covered by Medicare—increases. As with the acute care hospital PPS, HCFA proposes to increase payments to facilities that treat a disproportionate share of low-income patients. The formula, however, will result in disproportionate share (DSH) payment shaving a larger effect on payment than either the case-mix or wage indices. Other things being equal, a facility whose share of low-income patients is 0.5 percent will have payments 43 percent larger than a facility with no low-income patients.

RECOMMENDATION 6H

The Secretary should reexamine the disproportionate share adjustment for the inpatient rehabilitation prospective payment system.

We believe the DSH adjustment is larger than appropriate and that HCFA should reexamine it as soon as possible. The agency also needs to determine whether there are strong clinical reasons for the differences in costs for low-income patients and others and whether the magnitude of costs differences is plausible, given any clinical differences. For the acute hospital PPS, researchers did not find a strong relationship between a facility's low-income share and its per case costs. More recently, policymakers have concluded that the primary problem resulting from treating low-income patients is underpayment or nonpayment

(MedPAC 2000). Consequently, DSH policy is designed to address Medicare's share of the shortfall.

Another issue related to DSH is which low-income share to use in calculating the adjustment. For hospital-based units (80 percent of facilities), researchers used the hospital's low-income share to model the DSH adjustment because they did not have unit-specific information available. HCFA needs to examine whether low-income patient shares are the same for the hospital and the rehabilitation unit.

Home health prospective payment system

The prospective payment system for home health care, which was implemented October 1, 2000, is intended to pay for all home health goods and services provided during a 60-day episode of home health care. Home health agencies must bill for all services (except durable medical equipment) provided in an episode, whether they provide the services directly or contract with an external supplier. Medicare beneficiaries may receive an unlimited number of episodes of care, as long as they remain homebound and need intermittent or part-time skilled care.

The episode rate is case-mix adjusted by an 80-category classification system, the Home Health Resource Group (HHRG), based upon the patient's clinical and functional status and the severity of their condition upon admission. The Outcome and Assessment Information Set (OASIS) is used to assess patient status. As with the 60-day episode unit of payment, the assessment instrument is unique to the home health setting.

The PPS is an improvement over the interim payment system (IPS) that was implemented following enactment of the BBA. The IPS was widely criticized because payments were not adjusted for differences in case mix, which may have resulted in some beneficiaries experiencing problems in accessing home health care (Stoner et al. 1999). The PPS introduces case-mix-adjusted payments, which should reduce incentives for providers to avoid beneficiaries with costly needs. Further, the ability of beneficiaries to qualify for unlimited episodes as long as they meet eligibility criteria should benefit patients with longer-term needs for home health services. The BIPA also increased funding of home health services, which should alleviate concerns about widespread access problems. The BIPA increased rates for fiscal year 2001 by 1.1 percent, delayed a scheduled 15 percent reduction in base payments until October 2002, and increased payments for services provided in rural areas by 10 percent for two years, beginning April 1, 2001.

As the changes brought about by the new PPS affect beneficiaries, policymakers need to monitor the system to ensure that Medicare beneficiaries who need home health care have access to it. However, policymakers' ability to evaluate beneficiaries' access to home health is constrained by the imprecise definition of the benefit and the lack of clinical practice standards.

The benefit was initially conceived as short-term, post-hospital recovery care, but a requirement for a hospital stay and a limit on the number of covered days have been removed. The benefit is now available to beneficiaries who have a medical need for part-time or intermittent skilled care and who are confined to their home (homebound).[11] Although home health care is still used by Medicare beneficiaries for short-term recovery, it is also used for longer periods of time by beneficiaries with relatively stable, chronic health conditions. Without a clear goal in mind, it is difficult to place changes in use in the proper context. For example, decreases in the number of visits per beneficiary could reflect a greater focus on educating home health users in self-care, or it could be interpreted as a failure to meet the needs of those with chronic conditions.

The absence of clinical practice standards also constrains our ability to relate differences in service use to failure or success in meeting program goals. Home health use has varied considerably over time and by geographic location. For example:

- More than 100 fee-for-service beneficiaries per 1,000 used home health in 1996; only 80 per 1,000 used the benefit in 1999 (GAO 2000).
- Average visits per user by state varied from a low of 22 in Oregon to a high of 95 in Louisiana in 1999 (GAO 2000).

We do not know whether these variations reflect differences in access, variations in beneficiaries' health, the supply of alternatives, practice patterns, or some other factor. Standards of care are essential to relate changes in the level of service use to changes in access.

The PPS is apt to create some new problems. Possible trouble spots are stinting and access problems for some beneficiaries in underpaid HHRG classifications. Prospective payment introduces financial incentives for providers to stint on services to reduce costs while maintaining revenues. Once patients' HHRGs are determined and they receive five visits, reimbursement remains the same whether patients are visited once a week or twice a day. Some agencies may try to avoid admitting beneficiaries who are likely to fall into certain case-mix groups.

In theory, variations in the adequacy of payments for HHRGs should not pose a problem because losses on patients in an underpaid case-mix group can be offset by gains on patients in overpaid groups. In practice, variations in the adequacy of payment by HHRGs may encourage agencies to avoid patients based upon their likely group classification.

11 Beneficiaries are homebound when they have a normal inability to leave home except with considerable and taxing effort, and when absences from the home are infrequent or for periods of relatively short duration, or are attributable to the need to receive medical treatment.

The case-mix adjuster also does not account for the presence or absence of an informal caregiver, even though this factor can alter the resource needs of a patient. Although many comments to HCFA on the proposed rule addressed this issue, the agency was concerned that a payment adjustment would make the Medicare home health benefit partially dependent on the socioeconomic status of the beneficiary and could introduce new and negative incentives into family and patient behavior. MedPAC supports HCFA's position on this issue, but we are concerned that the lack of a payment adjustment may result in providers not admitting eligible individuals without caregivers.

The PPS also does not adjust supplies for case mix and supply costs are not included in the calculation of outlier payments. Further, providers' responsibility for medical supplies includes all routine and non-routine supplies a patient may need over the course of an episode even when the need is not related to the cause of care. (For example, a beneficiary with an chronic leg ulcer who has been supplying her own dressings could be admitted to home health care to recover from a hip replacement. The provider will be responsible for dressing supplies for that beneficiary even though it is providing care for the hip replacement recovery.) This may create difficulties in paying adequately for complex patients, but judging the impact of putting agencies at risk for all supplies is difficult because estimates of supply costs vary widely, from significant levels to only 1 or 2 percent of the total cost of care.

RECOMMENDATION 61

In monitoring the performance of the payment system, the Secretary should pay particular attention to the use of significant change in condition payment adjustments and payments for patients with wound care needs.

The home health PPS includes a so-called significant change in condition (SCIC) adjustment that allows agencies to reclassify patients to another HHRG in the midst of an episode of care. If the payment system functions well, then patients' resource needs over the episode of care will be adequately predicted by the patients' HHRG. Frequent use of the SCIC adjustment, especially if these changes result in a mix of reclassifications into higher- and lower-paying groups, could thus be an early indication that the HHRG grouper does not account adequately for variation in resource needs. If SCIC adjustments cluster around the end of an episode, it may suggest that the classification system cannot predict resource use over a 60-day period and that the episode length needs to be reexamined.

Under the IPS, the proportion of beneficiaries with wound care needs fell by almost half from 1997 to 1998, from 10.6 percent of all admission diagnoses to 5.8 percent. This drop could suggest payments for wound care patients were not adequate under the IPS or that pre-BBA use was excessive. Although a case-mix adjusted PPS payment is an improvement over a flat case rate unadjusted for relative resource use, costly supplies and the possible need for frequent visits could make patients with wound care needs vulnerable under the new payment system.

In response to public comments on the proposed rule, HCFA adjusted the case-mix system for wound care patients. The adjusted HHRG provides additional points for multiple wounds and for wounds due to trauma. It also allows additional points for early-stage pressure ulcers. Despite these adjustments, the reimbursement for wound care HHRGs may still be low. Because reimbursement for supplies is not adjusted for the patient's diagnosis, the supply costs for wound care may be substantially higher than the supply cost reimbursement for that patient. Further, the reimbursement for the likely HHRGs for wound care patients may not be adequate for the frequent visits a wound care patient may require. HCFA should monitor the number of patients with wound care diagnoses to determine whether or not their use of services recovers under the new payment system and to evaluate whether these case-mix groups have appropriate relative weights.

The Commission's concern about supplies also relates to how agencies will respond to their new responsibility for all covered medical supplies over the course of the 60-day episode, even when some of those supplies are not related to the cause of care. It is not clear what will constitute due diligence on the provider's part to determine the medical supply purchasing habits of beneficiaries or how beneficiaries will be notified regarding the agency's responsibilities. It also is not clear how conflicts between the beneficiaries' choice of medical supplies and the agency's purchasing preferences would be resolved. HCFA should investigate agency behavior and the interpretations of fiscal intermediaries regarding this issue. ■

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CHAPTER 7

Reconciling Medicare+Choice payments and fee-for-service spending

RECOMMENDATIONS

7A The Medicare program should be financially neutral as to whether beneficiaries enroll in Medicare+Choice plans or in the traditional Medicare program. Therefore, Congress should make Medicare payments for beneficiaries in the two sectors of a local market substantially equal, after accounting for risk.

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

7B The Secretary should study variation in spending under the traditional Medicare program to determine how much is caused by differences in input prices and health risk and how much is caused by differences in provider practice patterns, the availability of providers and services, and beneficiary preferences. He should report to the Congress and make recommendations on whether and how the differences in use and preference should be incorporated into Medicare fee-for-service payments and Medicare+Choice payment rates.

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

7C The Secretary should study how beneficiaries, providers, and insurers each benefit from the additional Medicare+Choice payments made in floor counties.

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

7D In defining local payment areas, the Secretary should explore using areas that contain sufficient numbers of Medicare beneficiaries to produce reliable estimates of spending and risk.

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

***COMMISSIONERS' VOTING RESULTS**

CHAPTER 7

Reconciling Medicare+Choice payments and fee-for-service spending

In this chapter

The Congress had observed that when payments to plans were linked to fee-for-service spending in individual counties, payment levels varied widely and beneficiaries in different parts of the country had access to plans with very different levels of benefits—which seemed inequitable. To fix this problem, in the Balanced Budget Act of 1997 and subsequent legislation, the Congress changed the payment mechanism increasing payments to the lower-paid areas of the country and limiting increases in higher-paid areas. Decreasing the differences in plan payments across the country, however, may have introduced a different problem: if payments to plans diverge too much from Medicare fee-for-service spending in a market, that market may become distorted and the Medicare program can end up paying more than it would have before. No matter how payments to plans are manipulated, both problems cannot be solved simultaneously as long as there is significant underlying variation in fee-for-service spending across market areas.

During the early and mid 1990s, the Congress observed that in the Medicare risk-Health Maintenance Organization (HMO) program—where monthly payments to plans were linked to fee-for-service spending in individual counties—payment levels varied widely across the country, and beneficiaries in different parts of the country had access to plans with very different levels of benefits. That beneficiaries in some parts of the country had access to plans with many additional benefits and that others did not seemed inequitable. To address this inequity, the Balanced Budget Act of 1997 (BBA) created the Medicare+Choice (M+C) program, which changed the payment mechanism and lessened the link between payment rates for plans and local fee-for-service spending. Essentially, in the BBA and subsequently in the Balanced Budget Refinement Act and the Medicare, Medicaid, and SCHIP Benefit Improvement and Protection Act of 2000 (BIPA), the Congress has increased payments to plans offering services in areas of the country with low payment rates and limited increases to plan payments in higher-paid areas, thereby compressing the range of payments and progressively unlinking M+C payments and county-level fee-for-service spending.

Increasing equity in payments across markets, however, may have introduced problems in local markets in which payments made to M+C plans diverge significantly from the cost to the program of beneficiaries in traditional fee-for-service (FFS) Medicare. Because health care is delivered in local markets, this divergence can create market distortions. The result may be that in areas in which M+C plans were delivering a generous benefit package to a large number of beneficiaries at roughly the same (non-risk adjusted) cost to the program as the traditional FFS alternative, payments will diverge enough that plans may cut benefits or withdraw from the program. At the same time, payments have been raised in areas that have not been conducive to M+C plans and in which plan entry may not yield more efficient delivery of health care services. As a result, Medicare may pay plans for marketing and administration costs and beneficiaries may receive only slightly better benefit packages. The cost to the program could be disproportionately high.

The path to the current situation started with the observation that there was a significant inequity: some areas had managed care plans available with remarkably generous additional benefits, often at little or no additional cost to beneficiaries, other areas had managed care available but with additional premiums, and other areas had no managed care available at all. Because payment rates were still linked to the local level of FFS spending, this observation illuminated the underlying geographic variation in FFS program spending.

To some extent, these variations can be accounted for by differences in input prices,[1] in the health status of the people in different areas, and in graduate medical education payments to hospitals; in some cases variations can be exaggerated from year to year if counties with small populations are used as the basis for estimating spending and risk. However, even when appropriate adjustments are made, considerable variation remains in program costs per capita in different counties. This remaining variation must be attributed to differing practice patterns, consumer preferences for health care, and accessibility of providers, factors which may or may not represent efficient use of health care resources.

As long as substantial underlying variation in FFS spending exists, Medicare will face one of two problems. If M+C payments are tightly linked to FFS spending, there will be large variation between geographic markets in M+C payments and often in the benefit packages available to beneficiaries through M+C plans. If M+C payments are not linked, there will be large divergence within local markets between FFS spending and M+C payments. In this chapter, we examine whether M+C payments should be linked to FFS spending, consider why FFS spending varies so much between markets, look at the current divergence between FFS spending and M+C payments in local markets, and recommend enlarging some payment areas to better estimate spending and risk.

Minimize divergence between Medicare+Choice and fee-for-service payments within local markets

MedPAC believes that Medicare payment policy should be neutral as to whether beneficiaries enroll in traditional Medicare or in M+C plans. The M+C program should provide a choice of delivery systems and additional value for beneficiaries without costing Medicare more than it would cost to provide the basic Medicare package to enrollees through the traditional FFS program.

In practice, payment neutrality means that some of the other goals policymakers have for the M+C program must be subordinated. While the Commission supports having private sector alternatives to the traditional Medicare program, such alternatives should not be pursued at any cost. Instead, alternatives should be encouraged only when they can be competitive with the traditional Medicare program. Medicare's payments should not attempt to steer beneficiaries into either FFS Medicare or the M+C program.

Because health care is delivered in local markets, payment neutrality needs to be pursued at the local level. Failure to make

1 The relative prices of labor and other resources used in the production of Medicare services can be greater in some areas of the country than others. Calculating the ratio of these input prices can be difficult. See Chapter 4.

payments equal within a local market would give one sector—either M+C or traditional FFS—an advantage over the other. For example, if payment rates were lowered relative to FFS spending in areas that currently support M+C plans, the plans could have trouble attracting providers and offering the benefit packages that once attracted enrollees. If payments to the FFS program were much higher than the payments on behalf of M+C enrollees, M+C plans would not be able to compete effectively with traditional Medicare and would leave the program. Distortions in local markets could thus have the effect of limiting choice for Medicare beneficiaries.

If payments are higher in one sector than the other, beneficiaries will move to the higher-payment sector if higher payment is successfully translated into a higher-value product. This movement of beneficiaries will raise the cost of Medicare. For example, if in areas where plans have not existed, payments to the M+C plans were raised higher than FFS spending, plans might be more likely to participate but Medicare program expenditures will rise for the beneficiaries who choose to enroll in the new plans.

RECOMMENDATION 7A

The Medicare program should be financially neutral as to whether beneficiaries enroll in Medicare+ Choice plans or in the traditional Medicare program. Therefore, Congress should make Medicare payments for beneficiaries in the two sectors of a local market substantially equal, after accounting for risk.

Medicare+Choice payment rates

Before the Balanced Budget Act of 1997 (BBA), county payment rates (per beneficiary per month) were based on the fee-for-service (FFS) costs of Medicare beneficiaries in that county. The BBA established a new payment method, under which the county Medicare+Choice (M+C) rate is the maximum of:

- a floor rate
- a minimum update applied to the previous year's rate
- a blended rate

The **floor rate** was set to $367 for 1998 and is increased by an update factor based on the projected growth in Medicare expenditures per capita each year thereafter. As a result, the floor payment for 1999 was $380 and for 2000 $402. The Medicare, Medicaid, and SCHIP Benefit Improvement and Protection Act of 2000 (BIPA) raised the floor rate to $475 for 2001, and established a new floor rate of $525 for counties in Metropolitan Statistical Areas (MSAs) with a population greater than 250,000.

The **minimum update** is 2 percent, with BIPA adding a one time increase to 3 percent for 2001.

The **blended rate** combines a national rate and the local rate. (The local rate is the 1997 payment rate trended forward by a national update factor.) The intent of blending was to reduce the variation in payments across the country by lowering the highest rates and increasing the lowest rates. Blended rates are phased in over six years. In 1998, the blend was 10 percent national and 90 percent local. As of 2003 and thereafter, the blend is 50-50 national and local.

The actual computation of blended rates is complicated by several factors and the application of those rates is limited by a budget-neutrality provision. The provision limits total payments in the M+C program to what total spending would have been if county payments were based on strictly local rates. Because the floor payment rate and the minimum update percentage are set in law, total projected payments may nonetheless, equal or exceed the budget neutrality limit. When this happens all counties either receive the new floor rate or last year's rate raised by the minimum update and no county receives a blended rate. The budget neutrality provision resulted in no blended rates being applied in 1998 and 1999, some in 2000 and none in 2001.

Other factors that complicate the blend calculation are:

- The graduate medical education (GME) adjustment. Local rates are decreased by a percentage of 1997 GME spending beginning with 20 percent in 1998 and increasing by 20 percent a year to 100 percent by 2002.
- The update factor. Local rates for each year are calculated by multiplying the previous year's local rate and the update factor mentioned above. The BBA decreased the update factor by 0.008 in 1998 and by 0.005 from 1999 to 2002. The Balanced Budget Refinement Act of 1999 changed the reduction to 0.003 for 2002.

The national rate is the average of the local rates weighted by the number of Medicare beneficiaries in each county. According to the phase-in schedule, that national rate is input-price adjusted and blended with the local rates to come up with the blended rate per county. If the budget neutrality provision permits, that rate becomes the blended rate per county that is then compared with the floor rate and minimum update to determine the actual county M+C payment rate. ■

Assuring that payments for beneficiaries in traditional Medicare and M+C are substantially equal will require a reliable risk adjustment system to account for the relative health risks of the two groups of beneficiaries. The Commission is concerned about the reliability of proposed risk adjustment systems because current and proposed methods have not yet been shown to reliably explain the variation in spending due to health status. For purposes of the discussion in this chapter, however, let us posit that a risk adjustment system can be developed that will reliably measure the risk differences between the two sectors.[2]

Examine variation in fee-for-service spending between markets

The varying availability and benefit packages of M+C plans in different local markets has illuminated the geographic inequity in the FFS program.[3] There was tremendous variation in county-level per capita spending in the traditional Medicare program according to the data for 1997, the last time such data were collected. Per capita spending for beneficiaries in the traditional FFS program in the highest-spending county was about three-and-a-half times that of the lowest-spending county. Differences this large are unlikely to be accounted for by differences in health status and input prices; practice patterns, provider availability, and consumer preferences for medical care also play roles.

Some hold that these differences mean that people in different parts of the country effectively receive different benefit packages under the supposedly national traditional Medicare FFS program. Those perceptions are reinforced—but not caused by—the variation in M+C benefit availability. Areas where spending is relatively high in the traditional Medicare sector (and which have relatively high M+C payment rates as a result) are more likely to attract health maintenance organization plans, and the beneficiaries that live in those areas are more likely to have a choice of plans, including zero-premium HMOs and HMOs that offer some coverage for prescription drugs (see Table 7-1). Beneficiaries in rural areas are much less likely to have HMO options.

Through the blended rate mechanism, the Congress has attempted to limit the geographic variation in FFS practice patterns reflected in M+C payment rates. (See text box, page 113.) The fully blended rates, which take effect in 2003, would set county rates at a 50/50 blend of the updated 1997 rate and a national rate (adjusted for county input price levels). County payment rates would also be risk-adjusted for health status differences. Thus, when counties are paid blended rates, half of the payments would be made based on national average practice

TABLE 7-1

Availability of Medicare+Choice HMO plans with selected benefits in 2000, by payment amount and location

	Total eligible beneficiaries (in millions)	Any M+C HMO plan	Zero-premium plan	Plan with prescription drug coverage	Zero-premium plan with drug coverage
National	39	69%	53%	64%	45%
County M+C payment rate (per month)					
$401.61 (floor)	4	15%	3%	12%	2%
$401.62–$449.99	8	47%	18%	40%	14%
$450–$549.99	16	81%	67%	76%	52%
$550+	11	97%	94%	96%	91%
Rural areas	9	21%	9%	16%	6%
Urban areas	30	83%	66%	79%	57%

Note: HMO (health maintenance organization), M+C (Medicare+Choice).

Source: MedPAC analysis of Medicare Compare data from HCFA website January 2000.

2 If such a system cannot be developed, other solutions, such as moving to some form of partial capitation rather than full risk, as is now the case, may be appropriate. For a fuller discussion of the risk adjustment question see our recent report to the Congress on risk adjustment. Whatever the solution to the risk adjustment program, the concept of payment neutrality could be preserved, and the issue of variability in FFS payments remains.

3 Another issue that has become apparent is that many beneficiaries are dissatisfied with the basic benefit package available in traditional Medicare. (Only 15 percent of beneficiaries have no supplemental coverage.) When M+C plans have left some areas, the plans' enrollees complained, particularly about how expensive or impossible it would be to replace the prescription drug coverage. Also, many legislators were interested in attracting plans to their areas so that their constituents might have the opportunity to acquire the drug coverage that many beneficiaries in higher-spending areas had available in M+C plans. The Commission recognizes that the pursuit of the payment principle of equating Medicare payments between sectors within a local market will not address the adequacy of the basic benefit package, but the M+C program should not bear the burden of having to address those concerns for the entire program.

patterns. (Because of budget neutrality, these blended rates may not take effect in many counties for many years, in which case high-payment counties will be limited to the minimum update of 2 percent.)

However, the Congress has not addressed the issue of limiting variation in FFS practice patterns in traditional Medicare. Therefore, there can be divergence between M+C payments and FFS spending in local markets, and ironically beneficiaries may be financially encouraged to seek care in the sector that is the most costly to Medicare. For example, in areas where practice patterns result in relatively high use of health care, M+C plans have often been able to provide generous benefit packages. They have done this by some combination of using a more efficient mix of resources to provide the same product, decreasing excessive use, paying providers less, or enrolling healthier-than-average beneficiaries. If the M+C payment in those high-use areas is lowered toward the national average and health status is taken into account by the payment system, plans will no longer be able to provide as generous a package of additional benefits without raising premiums. Beneficiaries may then move back to traditional FFS, where Medicare will spend more for them than if they remained enrolled in M+C plans. Meanwhile, in low-use areas, Medicare will make higher payments for plan enrollees than for beneficiaries in the traditional program. Plans will be able to use the higher payments to attract providers and enrollees by paying providers more or providing a richer set of benefits than is available in the local version of the traditional program.

The Congress has chosen to address geographic differences in spending by mandating higher M+C rates in lower-payment areas. However, because doing so might increase the divergence of M+C payments and FFS spending within local markets, the Commission recommends addressing the underlying problem: variation in FFS spending.

RECOMMENDATION 7B

The Secretary should study variation in spending under the traditional Medicare program to determine how much is caused by differences in input prices and health risk and how much is caused by differences in provider practice patterns, the availability of providers and services, and beneficiary preferences. He should report to the Congress and make recommendations on whether and how the differences in use and preference should be incorporated into Medicare fee-for-service payments and Medicare+Choice payment rates.

The geographic variation in FFS spending should be examined so Congress can choose an appropriate policy to address it. If a large portion of the difference is due to differences in practice patterns that have no apparent effects on quality of care, then Congress may want to examine whether Medicare payment policy should accommodate that variation, both under the M+C program and under traditional Medicare. The answer will not lie in changing M+C payment policy alone. Policies to limit variation in practice patterns will have to be implemented in the FFS sector as well. Doing so however, will benefit not only M+C payment policy but the Medicare program as a whole.

Limiting variation in fee-for-service practice patterns

Payment policies to limit variation in local practice patterns under the FFS program will be difficult to formulate and even more difficult to implement. Determining what constitutes appropriate practice patterns is a complex undertaking that must take into account variables such as beneficiary population characteristics and health status, provider availability and training, and local market area characteristics. Although MedPAC has not at this time analyzed different options for limiting practice pattern variation, and therefore, does not advocate any particular option, policies that have been proposed include local service use or payment targets, national practice pattern benchmarking, and beneficiary liability modifications.

Local service use or spending targets would seek to tie payment rates for services to the volume of those services or the spending for those services in a local area. National spending targets have been used to determine payment updates for Medicare's physician fee schedule. However, it has not been established that the targets affected individual physician behavior; individual actions do not change the total spending appreciably but have a major effect on individual incomes. In addition, the fairness of an approach that punishes even those who exhibit desired behavior has been questioned.

Medicare could set national benchmarks for practice patterns or implement utilization review. Questions about Medicare's proper role in these areas abound. Should Medicare establish benchmarks based on cost-effectiveness? Should decisions be made on a national basis, or within the context of local medical cultures? Will decisions made at local levels allow more experimentation, which could lead to more effective or efficient care?

Beneficiary cost-sharing could be modified to address differences in use. For example, if the analysis of the geographic variation found that particular services were responsible for a great deal of overuse or underuse, then cost-sharing for those services could be adjusted to discourage or encourage use.

Implementing any of these policy options undoubtedly would be controversial and complex, and evaluation of their value will need to wait until the analysis of the geographic variation in FFS spending has determined the nature of the variation. Discussions of the potential value of these options would also benefit from the development of appropriateness measures and evidence-based practice guidelines. As can be seen by its effect on M+C payment policy, the geographic variation

in FFS practice patterns is a serious problem. Although the policy options noted appear to be blunt tools for attacking the problem, it is hoped that recognition and analysis of the underlying variation will contribute to developing better options for its solution.

Current status of divergence between fee-for-service spending and Medicare+Choice payments in local markets

Today, in most areas with significant M+C enrollment, within-market divergence is still small; that is, M+C payments are close to 100 percent of FFS spending without risk adjustment. Because we do not have current data on Medicare FFS spending for local markets, we analyzed relative M+C and FFS spending levels in aggregate (see text box).[4] Average payments in 2001 for beneficiaries enrolled in the M+C program will be about 98 percent of spending for those in the traditional FFS sector (without risk adjustment), but there is nothing in statute to assure that payments will remain near equality.

Significant divergence within some markets

Although FFS costs and M+C payments are, in aggregate, comparable in areas with high M+C enrollment, there are areas with significant divergence. Updates to the county payment rates under the BBA formula have varied considerably, as Congress intended. From 1997 to 2000, rates nearly doubled in some floor counties. In contrast, rates increased by less than 6.2 percent in about 300 counties where increases were limited to only 2 percent a year. If we assume that Medicare FFS spending rose the same 5 percent in all counties over the 1997–2000 period, we conclude that while counties with the lowest increases still have rates approximately equal to average FFS spending in the county, those with the largest increases have rates close to double the level of FFS spending.

When weighted by the number of Medicare beneficiaries, the average three-year increase was about 11 percent and the median increase was 9 percent. About a quarter of beneficiaries are in counties that received the minimum increase; another quarter are in counties that received increases in excess of 13 percent. These increases were designed by Congress in the BBA to compress the payment rates across the country; thus, we should not be surprised by the differences in updates or the resulting differences in the ratios of M+C payment rates to FFS

Are we far from payment rate equality?

Prior to the Balanced Budget Act of 1997 (BBA), capitated payments to Medicare risk plans were set at 95 percent of average per capita fee-for-service (FFS) spending by county. Despite BBA provisions intended to lower payments to Medicare+Choice (M+C) plans relative to FFS spending, evidence suggests that the rates are on average well over 95 percent of FFS spending. The per capita spending for Medicare beneficiaries grew 4.5 percent during 1997–2000. Also during that period, the average M+C payment rates under Medicare's demographically based system (used as a basis for 90 percent of M+C payments) rose by 8.1 percent when weighted by beneficiaries enrolled in M+C plans. The structure of the rate calculations set up in the BBA ended up prohibiting Health Care Financing Administration (HCFA) actuaries from correcting forecast errors, resulting in 1997 capitated rates 98.1 percent of the United States Per Capita Cost (USPCC), rather than the intended 95 percent. Combining these two factors, payment rates for M+C enrollees were about 1.016 times average FFS spending on Medicare beneficiaries in 2000 {0.981x1.081/1.045 = 1.016}. In other words, the ratio of spending in the M+C program was 1.016 times the spending for demographically similar beneficiaries in the traditional Medicare program.

Two other factors may further increase this ratio. First, there may be non-demographic risk differences in the two populations. If, as the Commission concluded in its recent work on risk adjustment, there is indeed positive selection into M+C plans, the ratio would increase. Second, graduate medical education (GME) payments to teaching hospitals that treat M+C beneficiaries are not currently included on the M+C side of the ledger, although they are a cost to the program for each M+C admission. In calculating the relative spending percentage, that spending should be included with M+C spending, and would thus raise the relative ratio.

For 2001, MedPAC estimates that payment rates for those enrolled in M+C plans will rise about 4.9 percent. HCFA's latest projections were that the USPCC would rise by 9.4 percent in 2001. If those projections bear out, M+C 2001 rates would be at about 98 percent of FFS spending, before accounting for risk differences and GME spending {1.016 × 1.049/1.094 = 0.98}. ■

4 After the BBA, the Health Care Financing Administration (HCFA) stopped computing county-level spending data because those data were no longer required to set payment rates. In the BBRA, HCFA was instructed to begin computing and publishing county-specific FFS spending again. When it does so, MedPAC will analyze county-specific within-market divergence rather than make aggregate assumptions.

TABLE 7-2

Average Medicare+Choice payment rates as a percent of Medicare fee-for-service spending in 2000, by county payment update type for 2000

County update type*	Beneficiaries (in millions)	M+C payment relative to FFS spending (not risk adjusted)
Minimum	11	99%
Blend	25	104
Floor	4	119

Notes: M+C (Medicare+Choice), FFS (fee-for-service).
* The county payment rates for 2000 were updated to the maximum of: 102 percent of the 1999 rate (Minimum), a blend of local and national rates, and $401.61 (Floor)

Source: MedPAC analysis of Medicare Compare data from HCFA website, January 2000.

spending. Counties that received the minimum 2 percent updates had rates approximately equal to FFS spending (Table 7-2). The floor counties in aggregate had rates about 19 percent above FFS costs.

The Congress has continued its effort to reduce rate variation between markets by raising the floor rates significantly. The BIPA raised the floor to $475 from $415 per month and introduced a separate floor of $525 for counties that are part of Metropolitan Statistical Areas (MSAs) containing more than 250,000 people. The act also provided that all counties would see their rates rise by at least 3 percent in 2001.

The increase in the floor rates under BIPA substantially changes the entire nature of the payment rate distribution. About half of Medicare beneficiaries live in the newly expanded set of floor counties. If these high floors are even moderately successful in attracting new plans and enrollees, counties with payments above the floors are likely to receive the minimum update, rather than a blended rate, for several years to come (see text box p. 113 on Medicare+Choice payment rates.)

Raising the floor raises concerns

The Commission is concerned about the divergence between the M+C payment rates and Medicare spending in the FFS sector. If, for example, an insurer were to set up a plan in floor counties that was exactly the same as the traditional Medicare plan, it would receive the higher M+C payments even though it is expected to have about the same medical costs as the traditional Medicare program. The plan could take the difference between its payment and its medical costs (after covering its administrative costs), then take some in profits and provide beneficiaries enhanced benefits, paid for by the Medicare program.

Because large updates have not led to more M+C HMOs in the past (see text box), the budgetary cost of maintaining the floor has been slight. However, increasing payment rates to the new floor rates is likely to attract more plans. A private FFS plan has been approved and has entered disproportionately into floor counties. HCFA is currently reviewing another application for a private FFS plan and one for an M+C Preferred Provider Organization plan. Even HMOs may be tempted to enter the program in floor counties if rates are high enough; above $450 per member per month, there is evidence of greater entry. If the result of higher floors and new plan structures led to M+C enrollment in floor counties proportional to enrollment across the country, then Medicare spending in 2001 would be, on average, 3 percent higher for M+C enrollees than for demographically similar beneficiaries in the traditional Medicare program.

The potential costs of increasing enrollment in floor counties could be substantial. More than 20 million beneficiaries reside in the newly expanded

HMO availability in floor counties

Congress enacted higher rates for areas where payment rates were relatively low to encourage health maintenance organizations (HMOs) to enter those areas. However, Medicare+Choice (M+C) HMOs have not entered these areas. In fact, areas that received higher updates actually lost their plans at a higher rate than areas that received lower updates. Counties with the highest updates (15 percent or more) had the lowest availability of M+C HMOs in both 1998 and 2001, and were much more likely to have lost access to those plans (Table 7-3). Twenty-seven percent of beneficiaries living in counties that received the highest updates and having access to an M+C HMO in 1998 had lost access to HMOs by the beginning of 2001. At the other end of the spectrum, beneficiaries living in counties that received updates of only 6 percent (the minimum 2 percent updated for each of the three years in the period) had the highest access to M+C HMOs, and only 4 percent of beneficiaries lost HMO availability over the period.

Congress hoped that the creation of floor rates would attract M+C HMOs to rural areas, but an analysis shows that even when payment rates in rural counties are similar to payment rates in urban areas, plans are much less likely to be available in rural areas (Table 7-4, p. 118). This bolsters the Commission's view that raising payment rates alone will not bring plans to rural areas. There are other non-payment barriers for HMOs to scale before they will enter rural areas. These barriers will be explored in the Commission's June 2001 report. ■

TABLE 7-3

Percentage of beneficiaries with a Medicare+Choice HMO available for 1998 and 2001 and the percent who lost availability between 1998 and 2001

	Percent of beneficiaries		
Payment update (1997-2000)	HMO available in 1998	HMO available in 2001	Lost availability (1998-2001)
15% or more	35%	26%	27%
10%–15%	64	47	27
6.2%–10%	83	72	14
<6.2%	95	92	4

Note: HMO (health maintenance organization).

Source: MedPAC analysis of Medicare Compare data from HCFA website November 1998 and October 2000.

set of floor counties. The existence of payment rates substantially above FFS costs (the average M+C payment in floor counties for 2001 would be 112 percent of FFS) could easily create opportunities for insurers to receive much higher payments from Medicare than the program would spend on its own beneficiaries; in return, enrollees would get enhanced benefits relative to their neighbors in the traditional Medicare program. While beneficiaries in higher-payment areas may also receive enhanced benefits, the Medicare program in those areas, aside from risk selection differences, is not paying more than FFS spending.

RECOMMENDATION 7C

The Secretary should study how beneficiaries, providers, and insurers each benefit from the additional Medicare+Choice payments made in floor counties.

Because the potential is so large for plans and providers to earn profits above their normal return by taking advantage of higher M+C payments in the floor counties, the Secretary should monitor the extent to which payments in those areas result in higher insurer profits, higher provider payments, and extra benefits for enrollees. The administrative filings that plans make to HCFA and audits of them will provide data for this task. The Secretary may find it useful to analyze the data bearing in mind the relationship between M+C payments and FFS payments in a plan's service area and the level of competition among M+C plans in an area. The focus should be on areas with large divergence between M+C payment rates and FFS spending, and on areas with few plans available.

TABLE 7-4

Percent of beneficiaries who have a Medicare+Choice HMO available for 2001, by Medicare+Choice payment rate in county of residence

	Percent of beneficiaries with an HMO available		
Payment rate (2000)	All counties	Urban counties	Rural counties
$401.61 (Floor)	11%	20%	8%
$401.62—$449.99	30	43	12
$450–$549.99	67	77	25
$550+	96	98	25

Note: HMO (health maintenance organization).

Source: MedPAC analysis of Medicare Compare data from HCFA website, October 2000.

Enlarge some payment areas

Another source of variation in FFS spending, both across counties and within counties over time, is random measurement error attributable to small sample sizes. Many counties have few Medicare beneficiaries, and the presence or absence of a few large claims in a given year can drive the spending that year. While these measurement errors are presumably unbiased—meaning that the calculated averages are equally likely to be too high as too low—the errors are more likely to cause the calculated averages to be farther from the "true" average than would be the case if sample sizes were larger, and thus are more likely to cause payment rates to change more than they should.

To apply the principle of paying equally for coverage of beneficiaries in the M+C and traditional sectors, reliable spending and risk adjustment data are needed. County-level spending data are once again being collected and should be available soon. However, if local market data are again used to set rates, the stability and variation of those data must be addressed.

In its 1997 report, the Physician Payment Review Commission (PPRC), one of MedPACs predecessor commissions, questioned the use of counties as payment areas for Medicare capitated plans and recommended using larger units. The Commission remains concerned that counties are not the best approximation of market areas and that continued reliance on them will cause operational problems if M+C payments

are linked to FFS spending. Some of these problems include year-to-year instability and intra-regional instability.

RECOMMENDATION 7D

In defining local payment areas, the Secretary should explore using areas that contain sufficient numbers of Medicare beneficiaries to produce reliable estimates of spending and risk.

Payment areas should be large enough to provide for stable payments and should correspond to the extent possible, to the markets in which beneficiaries receive care. There are more than 3,000 counties in the United States and M+C payment rates must be calculated annually for each one. Setting payments accurately is especially challenging when the sample size on which the spending and risk factors are based is small. Moving toward basing payments more on the local FFS spending and risk factors raises the importance of assuring that local rates are based on adequate sample sizes to promote stability across areas and over time.

Problems with county-level sample size and spending variation

The smallest county has only 18 beneficiaries, 5 percent of counties have 600 or fewer Medicare beneficiaries, and half of all counties have 4,100 or fewer beneficiaries (Table 7-5). Setting rates based on so few beneficiaries can be problematic.

An alternative to basing payment rates on counties would be to use areas that include with more Medicare beneficiaries. To illustrate the benefits of using payment areas with more beneficiaries, we used the hospital labor market areas which are composed of MSAs and statewide rural areas, and are used to calculate the hospital wage index. Each of the 364 areas contains at least 9,900 beneficiaries. Although we use these areas as an illustration, we would not recommend using them as the basis for payment at this time because of other problems they raise (discussed later in this section).

TABLE 7-5

Distributions of beneficiaries and payment rates, by county and hospital labor market area,* 1997

	Number of beneficiaries		Payment rates, 1997	
	County	Hospital labor market area	County	Hospital labor market area
Maximum	1 Mil.	1.2 Mil.	$767	$748
95th percentile	49,000	356,000	639	622
75th percentile	9,200	136,000	527	525
50th percentile	4,100	50,000	460	460
25th percentile	2,000	23,000	388	391
5th percentile	600	13,700	325	334
Minimum	18	9,900	221	282

Notes: There are 3,126 counties and 364 Hospital labor market areas.
*Hospital labor market areas are defined as Metropolitan Statistical Areas and statewide rural areas.

Source: MedPAC analysis of Medicare Compare data from HCFA website, January 2000, and payment rate calculations from HCFA website, March 2000.

Using areas with greater numbers of beneficiaries will produce more accurate rate estimates and reduce variation in payment rates. The resulting simulated 1997 rates (Table 7-5) show that the distribution of rates is tighter for the larger areas. The ratio of the highest payment to the lowest payment is about 3.5 using county payment areas and about 2.5 using larger payment areas.

Problems with county-level year-to-year stability and cross-boundary differences

Basing payment rates on more populated areas also would result in more stable payment rates from year to year. The distribution of changes is much tighter when the more aggregated units are used (Table 7-6).

Some analysts have been concerned that using larger areas instead of counties could lead to larger differences in rates across counties, particularly between rural counties and those on the fringes of metropolitan areas. MedPAC calculated cross-boundary differences, both for all counties and for rural counties only, under the two systems and found that the differences were smaller under the hospital labor market area system. For example, under the county system 75 percent of people live in counties in which no adjacent county would have a payment rate more than 18 percent above that county's rate (see Table 7-7). Under the hospital labor market payment area system, 75 percent of people live in counties in which no adjacent county would have a payment rate more than 11 percent above that county's rate. This

TABLE 7-6

Percentage change in payment rates, by county and hospital labor market area,* 1997

	County	Hospital labor market area
Maximum	37%	14%
95th percentile	11	9
75th percentile	8	7
50th percentile	6	6
25th percentile	4	4
5th percentile	0	1
Minimum	−40	−3

Note: *Hospital labor market areas are defined as Metropolitan Statistical Areas and statewide rural areas.

Source: MedPAC analysis of historical payment rates from HCFA website, November 2000.

TABLE 7-7

Distribution of maximum payment rate percentage differences across payment area boundaries, by county and hospital labor market area*

	Maximum payment rate differences	
	County	Hospital labor market area
Maximum	106%	68%
95th percentile	36	32
75th percentile	18	11
50th percentile	11	0
25th percentile	2	0
5th percentile	0	0
Minimum	0	0

Note: *Hospital labor market areas are defined as Metropolitan Statistical Areas and statewide rural areas.

Source: MedPAC analysis of historical payment rates from HCFA website, November 2000.

pattern held for urban counties, rural counties, and counties that were not entirely bordered by only other counties in their hospital labor market payment areas.

Problems with more aggregated payment areas

The Commission believes that payment areas should be large enough to produce accurate and stable measurements, but small enough to reflect homogenous market areas. Aggregation in rural areas is essential because rural counties often have small numbers of Medicare beneficiaries. However, using MSAs may lead to grouping heterogenous populations. For example, under an MSA-based payment system, the Baltimore-Washington MSA would have a payment rate of about $600 per month in 2000. That MSA contains some floor counties in West Virginia. Thus, a plan could serve only the West Virginia counties and receive a much higher rate than the population would cost. Clearly, some modification of MSAs that cover large areas would be required for use in a payment rate system, or some other criteria for aggregating urban areas might be preferable. Actuaries at HCFA, and elsewhere, have been working on alternate formulations that may yield more promising ways to aggregate counties and create more homogenous market areas than MSAs.

Conclusion

Payments should be neutral between the M+C and FFS sectors within local markets; if they are not, local markets may become distorted and the Medicare program may end up paying more than it should. At the same time, benefits in M+C must be seen to be equal nationally or policymakers will be called upon to solve the problem through M+C payment policy, which has led to a large divergence between sector payments in some counties. This has come about because it is impossible to simultaneously keep payments neutral and have benefits perceived as equitable nationwide, given extreme underlying variation in FFS spending across market areas. M+C payment policy is not an effective or appropriate means to address underlying variation in FFS spending. Variation in FFS spending is a complex problem in itself and a clearer understanding of the sources of variation must be achieved before effective solutions can be proposed. ■

CHAPTER 8

End-stage renal disease payment policies in traditional Medicare

RECOMMENDATIONS

8A The Congress should instruct the Secretary to broaden the composite rate payment bundle to include widely used services currently excluded from it. The Secretary should continue to emphasize quality monitoring and quality improvement efforts to ensure that patients have access to high-quality dialysis care.

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

8B The Congress should instruct the Secretary to evaluate whether the composite rate's unit of payment—a single dialysis session—should be revised to reflect better the way dialysis is furnished.

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

8C The Congress should instruct the Secretary to revise the outpatient dialysis payment system to account for factors that affect providers' costs to deliver high-quality clinical care, including dialysis method, dose, frequency, and patient acuity.

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

8D The Congress should instruct the Secretary to develop a wage index based on market wage rates for occupations typically used in furnishing dialysis.

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

8E For calendar year 2002, the composite rate for outpatient dialysis services should remain unchanged.

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

***COMMISSIONERS' VOTING RESULTS**

CHAPTER 8

End-stage renal disease payment policies in traditional Medicare

In this chapter

- Design of the outpatient dialysis payment system
- Updating the composite rate for calendar year 2002

Medicare's prospective payment system for outpatient dialysis services does not pay appropriately for outpatient dialysis services because neither payments for services in the payment bundle nor payments for certain services outside the payment bundle accurately reflect providers' expected costs. Refining the payment system would help Medicare achieve its payment objectives of providing incentives for controlling costs and promoting access to quality services. The Congress should require that the Secretary include in the prospective payment bundle services that are frequently used for dialysis but currently excluded from this bundle and account for factors that affect providers' costs, including dialysis method, dose, frequency, and patient acuity. The Secretary should also consider whether the payment system's current unit of payment—a single dialysis session—would be appropriate with an expanded payment bundle. Finally, the current composite rate payment should remain unchanged for calendar year 2002.

End-stage renal disease (ESRD) is a chronic illness characterized by permanent kidney failure. ESRD occurs at the last stage of progressive impairment of kidney function and is caused by a number of conditions, including diabetes, hypertension, glomerulonephritis, and cystic kidney disease. The 1972 amendments to the Social Security Act extended Medicare benefits to people with ESRD, and more than 300,000 patients were enrolled in the program in 1999.[1]

Since 1990, MedPAC and its predecessor commission have been obligated to evaluate the adequacy of the payment rate for outpatient dialysis services (the composite rate) and recommend updates to this payment. The Balanced Budget Refinement Act of 1999 (BBRA) required the Commission to recommend to the Congress how Medicare should pay for home hemodialysis.[2] Currently, Medicare's payment system for outpatient dialysis does not vary payment rates for different methods of dialysis treatment, and it caps payment to an amount equal to three dialysis sessions per week, although dialysis may be given more frequently. (See text box for additional information on home hemodialysis).

The Commission has considered whether the current payment system for outpatient dialysis meets Medicare's payment policy objectives, which include providing cost-effective, quality care to patients using the most suitable modality in the most suitable setting; promoting access to services; and giving dialysis providers incentives to control costs. This chapter explores these issues in two sections.

The first section discusses how Medicare pays for outpatient dialysis in traditional Medicare, as well as the specific question posed by the BBRA on home hemodialysis payment by considering whether the composite rate adequately accounts for predictable differences in the costs of furnishing dialysis while encouraging the efficient provision of services. As with all prospective payment systems, Medicare must get the unit of payment right and provide for appropriate adjustments. We find deficiencies in both the size and content of the composite rate payment bundle, the lack of a classification system, and needed adjustments to the rate. As a result, we recommend that the outpatient dialysis payment system be revised to reflect the services furnished during dialysis and to account for the costs of efficient providers. With respect to the question on home hemodialysis posed by the BBRA, we find that there are justified differences in the costs of providing more frequent and longer hemodialysis sessions compared with thrice-weekly hemodialysis, and that the payment system does not take these differences into account. Revising the outpatient dialysis payment system to account for the costs of efficient providers would address this payment issue.

In the second section, we examine updating payments for outpatient dialysis services in the traditional Medicare program for calendar year 2002. We find that the number of dialysis facilities continues to grow and providers continue to make productivity improvements. Payments for dialysis services included in the prospective payment bundle were lower than providers' costs in 1999, but payments for widely used services outside the payment bundle were significantly greater than providers' costs. From these data, MedPAC concludes that the payment margins associated with services outside the prospective payment bundle have enabled providers to remain profitable, despite a more than 50 percent decline in the real composite rate payment since 1983. MedPAC recommends that the composite rate not be increased in calendar year 2002.

Design of the outpatient dialysis payment system

The composite rate payment system is different from Medicare's other prospective payment systems because it does not adjust payment for factors known to affect providers' costs, other than the variation in local area wages. At issue is whether the design of this payment system promotes the efficient use of appropriate, high-quality care. To address this issue, the Commission evaluated various components of the payment system, using a framework outlined in our March 1999 report (MedPAC 1999b).

Designing a broadened payment bundle

The composite rate was designed in 1983 to include all nursing services, supplies, equipment, and drugs associated with a single dialysis session. Even though several technological advances in the provision of dialysis and drugs have occurred since 1983, HCFA has neither modified the unit of payment nor formally reviewed the payment bundle. Incremental changes to the bundle have been made over time without any formal criteria to determine which services should be included. Consequently, the payment bundle includes many technologies that diffused widely into medical practice after the composite rate was developed, even though the payment rate has not been re-based. In contrast, HCFA has explicitly excluded other services from the payment bundle, and providers receive separate payment for these services. The payment system provides strong incentives for controlling the costs of services included in the payment bundle, but weak incentives for controlling the costs of services billed outside the composite rate. In addition, the current unit of payment—

1 To qualify for the ESRD program, individuals must be fully or currently insured under Social Security or Railroad Retirement programs, entitled to monthly benefits under one of these programs, or the spouse or dependent child of an eligible person.

2 The specific language used in the BBRA is: "Study on Payment Level for Home Hemodialysis: The Medicare Payment Advisory Commission shall conduct a study on the appropriateness of the differential in payment under the Medicare program for hemodialysis services furnished in a facility and such services furnished in a home. Not later than 18 months after the date of the enactment of this Act, the Commission shall submit to Congress a report on such study and shall include recommendations regarding changes in Medicare payment policy in response to the study."

Home hemodialysis

Home hemodialysis has been used successfully to treat ESRD since 1961 (Mackenzie and Mactier 1998). After initial growth in the use of this modality during the early 1970s, the proportion of patients furnished home hemodialysis has declined, from 39 percent in 1972 to 24 percent in 1976, 2.4 percent in 1989, and 1.3 percent (3,100 patients) in 1998 (Blagg 1996, USRDS 2000). Several reasons may explain this trend. Certain patients may either prefer the interaction of in-center care or might not be sufficiently independent to perform home hemodialysis. In addition, rapid growth in the number of dialysis facilities—from 1,786 in 1988 to 3,576 in 1998—has created an incentive to direct patients to treatment in dialysis facilities until use of facilities is high (Nissenson et al. 1993).

In the United States, there is renewed interest by patients, providers, and the Congress in examining the role of furnishing more frequent and longer hemodialysis sessions in patients' homes. Different methods include increasing the length of thrice-weekly hemodialysis sessions or furnishing hemodialysis more frequently. Medicare now pays the same rate for hemodialysis provided in dialysis facilities and in patients' homes. The key question posed by the Balanced Budget Refinement Act of 1999 is: should Medicare pay differently for more frequent and longer home hemodialysis sessions, and if so, how? Medicare's policy of paying for a maximum of three hemodialysis sessions per week has created a barrier to the increased diffusion of more frequent hemodialysis sessions in patients' homes.

Two approaches have been used in prescribing daily hemodialysis (Kjellstrand and Ting 1998). The first—short daily hemodialysis—keeps the total weekly time on dialysis constant but reduces the time for each individual dialysis session. The other approach—nocturnal hemodialysis—consists of slow, long hemodialysis sessions while patients sleep. Prescriptions range from 1 to 3 hours for short daily treatments to 6 to 10 hours for nocturnal treatments. Both forms are furnished five to seven times per week.

The resurgence of interest in the use of daily home hemodialysis stems from clinical evidence of improved outcomes of patients receiving daily hemodialysis compared with those receiving thrice-weekly conventional hemodialysis, and from the anticipated approval by the US Food and Drug Administration in 2001 of an automated personal hemodialysis system specifically designed for home use. ■

a single dialysis session—was most likely selected in 1983 because the predominant method of dialysis at that time was in-center hemodialysis. This unit may be too small and may be inconsistent with how providers think about the product.

RECOMMENDATION 8A

The Congress should instruct the Secretary to broaden the composite rate payment bundle to include widely used services currently excluded from it. The Secretary should continue to emphasize quality monitoring and quality improvement efforts to ensure that patients have access to high-quality dialysis care.

RECOMMENDATION 8B

The Congress should instruct the Secretary to evaluate whether the composite rate's unit of payment—a single dialysis session—should be revised to reflect better the way dialysis is furnished.

The Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA) requires the Secretary to develop a system that includes in the composite rate payment diagnostic laboratory tests and drugs that are routinely used in furnishing dialysis but currently billed separately by dialysis facilities. We believe three reasons justify having the Secretary develop and implement a broadened payment bundle as soon as possible. First, the composite rate payment bundle does not include laboratory tests and drugs which are widely used during dialysis. Second, Medicare is likely paying too much for some dialysis services outside the prospective payment bundle, as evidenced by their large profit margins. Finally, providers are not furnishing certain dialysis services that are outside the payment bundle in the most efficient manner.

Since 1983, the payment bundle has grown to include both new services and services that were once separately billable. These services include labor and supplies associated with administering medications not available in 1983, such as erythropoietin and iron dextran; certain laboratory tests; noninvasive procedures used to monitor patients' vascular access site and cardiovascular conditions; and new scientific innovations, such as high-efficiency and high-flux hemodialyzers and synthetic dialyzer membranes.

Although the payment bundle has grown over time, HCFA has explicitly excluded certain injectable medications, laboratory tests, blood, and blood products from the bundle. The exclusion of these items has little to do with how many patients use them. For example, three separately billable injectable medications—erythropoietin, iron dextran, and vitamin D analogues—are prescribed to more than

half of all in-center hemodialysis patients, and have been commonly used in medical practice throughout the past decade. These medications remain outside of the service bundle primarily because they are relatively costly compared with the composite rate and were introduced to medical practice after the bundle was designed.

The fact that certain services can be billed separately does not in itself mean that they are provided inefficiently. However, the profitability of certain separately billable services has provided incentives for inefficient use. For example:

- Medicare pays $10 per 1,000 units for erythropoietin administered either intravenously or subcutaneously. This policy promotes the use of the intravenous form of this medication, which requires higher average doses (more units) to achieve target hematocrit levels (HCFA 1999). The predominant use of intravenous erythropoietin persists despite the National Kidney Foundation's (NKF) clinical practice guideline for the treatment of anemia, which advocated subcutaneous administration (NKF 1997). The Department of Veterans Affairs (VA) reported that substantial cost savings might be achieved if use of the subcutaneous form increased among patients treated at their facilities. The VA found that the average erythropoietin dose needed to maintain a hematocrit of 30 to 33 percent is one-third lower with subcutaneous administration than with intravenous administration (Kaufman et al. 1998).

- Medicare pays dialysis facilities 95 percent of the average wholesale price (AWP) for other separately billable injectable medications administered during in-center dialysis. Among in-center hemodialysis patients, this policy may have promoted the use of the more costly intravenous forms of certain Medicare-covered medications, rather than oral forms that are neither covered by Medicare as a separately billable services nor explicitly in the composite rate payment bundle. For example, the U.S. Renal Data System (USRDS)[3] reported that about 80 percent of in-center hemodialysis patients prescribed vitamin D analogues received them intravenously, while nearly all (97 percent) peritoneal dialysis patients received them orally (USRDS 1998). The AWP of the oral vitamin D analogues is about $10 per week, while the cost of the intravenous formulations ranges from $40 to $80 per week.

- Medicare pays clinical laboratories for laboratory tests outside the prospective payment bundle according to a fee schedule. The General Accounting Office (GAO) found wide variation in the rate of ESRD-related laboratory tests ordered, suggesting excessive use, with some patients receiving tests too often or receiving unnecessary tests (GAO 1997). The financial incentive to bill for many tests is inherent in this fee-for-service payment arrangement. In addition, several multi-center dialysis companies (chains) own laboratories and have an incentive to increase revenues by directing more tests to the company-owned laboratory. The GAO also noted that facilities can influence the tests physicians order through the use of so-called standing orders, lists of tests periodically performed on all patients unless the ordering physician overrides them. Finally, the Office of Inspector General (OIG) has found that some hospitals and independent laboratories were reimbursed inappropriately for laboratory tests (OIG 1996).[4]

Separately billable services represent an important source of revenue for dialysis facilities (Securities and Exchange Commission 2000a, 2000b, 2000c). MedPAC analysis shows that charges for separately billable injectable medications administered by freestanding dialysis facilities totaled more than $1.4 billion in 1999, representing about 30 percent of total Medicare payments to these facilities. Additionally, MedPAC found that:

- Medicare payments for erythropoietin over the 1996-1999 period exceeded providers' costs by an average of 30 percent.[5] The Commission's finding is consistent with an OIG (1997) finding that the payments for erythropoietin exceeded providers' costs by at least 15 percent in 1996-1997 for half of all freestanding facilities.

- Medicare payments for other separately billable drugs, including iron dextran and vitamin D analogues, exceeded providers' costs by an average of 25 percent over the 1996-1999 period.[6] Although the OIG (2000) did not compare

3 The USRDS is operated by National Institute of Diabetes and Digestive and Kidney Diseases with support from HCFA. It collects, analyzes, and distributes in annual reports and special studies information on the incidence and prevalence of treated ESRD, modality of treatment, causes of death, patient survival, and hospitalization.

4 The OIG recommended that HCFA educate ESRD providers and independent laboratories about proper billing practices, monitor providers' billing for lab tests outside the composite rate, and recover the estimated overpayments.

5 This was calculated by comparing providers' costs to provide erythropoietin to Medicare's payment (derived from dialysis facility cost report data).

6 This fraction was calculated by comparing providers' costs of furnishing separately billable drugs (derived from dialysis facility cost report data) to payments for separately billable drugs (derived from HCFA's institutional outpatient standard analytic file). To determine total Medicare charges for separately billable drugs, we compiled a list of revenue center codes (0630, 0631, 0632, 0633, 0636) representing drugs other than erythropoietin covered by Medicare. Facilities use revenue center codes to define the products or services provided. We then determined the Medicare total charges billed by each freestanding dialysis facility for each of these revenue center codes. Allowed charges were estimated for each freestanding dialysis facility by multiplying total charges for ESRD drugs by the ratio of aggregated allowed charges to total charges reported on the claim.

payments for separately billable drugs to providers' costs, it did determine that Medicare's payments for separately billable drugs other than erythropoietin exceeded the VA contracted prices by 37 to 56 percent and Medicaid reimbursement amounts by 5 to 38 percent.

These findings strongly suggest that the positive payment margins of erythropoietin and other separately billable drugs may be subsidizing the lower margins under the composite rate.

Finally, the Commission considered the potential effectiveness of revising how Medicare pays for services outside the payment bundle without making any other change to the payment bundle. In September 2000, HCFA announced its intent to do this beginning January 2001, using an AWP list compiled by the Department of Justice to determine Medicare payment allowances for 32 drugs and biologicals, including many of the separately billable drugs administered to dialysis patients. The AWPs compiled by the Department of Justice are significantly lower than those used by HCFA. In November 2000, HCFA suspended implementation of this new AWP list, stating that the agency continues to believe that the AWPs reported in commercially available sources exceeded the true wholesale prices charged in the marketplace but would delay action because of anticipated congressional action on this issue. Shortly thereafter, the BIPA was enacted, requiring the Comptroller General to submit a report to the Congress and the Secretary by June 30, 2001 on revising the methods currently used to determine Medicare's Part B payment rates for drugs and biologicals.

Changing the payment for separately billable medications might encourage more efficient use and reduce positive payment margins, but would not by itself address the broader issue of subsidizing services included in the payment bundle with the payments for separately billable services. Modifying payment for separately billable medications without modifying payment for the services in the composite rate bundle could potentially harm patient care. Dialysis facilities might stop furnishing separately billable medications if they became unprofitable, resulting in patients needing to go to other sites of care, such as hospital outpatient departments, to obtain these services.

Implementing a broadened payment bundle

To broaden the payment bundle, the Secretary will need to identify the medications, services, and equipment associated with the provision of dialysis and should try to identify clinical practices that will increase the efficiency of patient care and improve patient outcomes. This complex task should be guided by public and private efforts that have identified optimal renal practices. For example, the NKF has developed clinical practice guidelines on hemodialysis, peritoneal dialysis, anemia, vascular access, and nutrition (NKF 1997). The National Institutes of Health (NIH) has published a consensus statement on dialysis adequacy and dose (NIH 1993).

The Secretary will need to ensure that broadening the payment bundle does not restrict patients' access to available treatment options. One aim of broadening the payment bundle is to afford providers increased flexibility in furnishing renal care by including all treatment options approved by the Food and Drug Administration (FDA), not just the least costly option, in the payment bundle. Patients should continue to have access to all available services and items, even though substantial cost savings might be achieved if the bundle included only the least costly service or item.

The Secretary should consider including in the bundle certain services for which Medicare currently has restrictive coverage policies. For example, Medicare's coverage policy severely limits the number of dialysis patients who qualify for nutritional therapy, despite the fact that malnutrition is a frequent complication of ESRD and is a significant cause of morbidity and mortality in dialysis patients.[7] The guideline on nutrition care recently published by the NKF recommends that individuals undergoing maintenance dialysis who are unable to meet their protein and energy requirements with food intake for an extended period of time should receive nutrition support (K/DOQI 2000).

The Secretary should also consider including certain components of vascular care in the payment bundle. Currently, Medicare does not pay for noninvasive procedures used to monitor patients' vascular access sites when performed at dialysis facilities. Vascular access complications are the second most frequent cause of hospitalization among ESRD patients (USRDS 2000). Including some component of vascular care in the bundle may ultimately improve the quality of dialysis care by decreasing the rate of complications.

Finally, the Secretary should study whether the current unit of payment should be expanded. Ideally, the unit of payment should promote the efficient provision of high-quality care and reflect the way providers think about the product. All patients with ESRD, other than those who undergo kidney transplantation, require a life-long, regular course of dialysis. If providers view patients' care in terms of a continuous stream of care, then a unit of payment longer than a single session should be considered. Changing the unit of payment to either a week or a month would give providers more flexibility in furnishing care. In addition, lengthening the unit of payment would better enable Medicare to include in the payment bundle separately billable services that are not always furnished during each dialysis session, such as certain injectable medications and laboratory tests. A weekly payment rate could correspond with how peritoneal dialysis and daily hemodialysis are furnished; a monthly payment could

7 For this reason, the Commission previously recommended that Medicare determine clinical criteria for ESRD patients to be eligible for oral, enteral, or parenteral nutritional supplements and provide coverage for these supplements (MedPAC 1999a).

correspond with Medicare's monthly capitated payment to physicians furnishing outpatient care to dialysis patients.

Monitoring quality of care

One concern about broadening the payment bundle is the potential for providers to stint on care. This occurred with Medicare's fixed payment policy for erythropoietin from 1989 to 1991. Lower erythropoietin doses were furnished than those suggested by the labeling approved by the FDA, which recommends a starting dose of 3,400 to 6,800 units per treatment (assuming an average patient weight of 68 kilograms). In 1990, the average dose ranged from 2,500 to 2,800 units per treatment (Collins et al. 1998). Consequently, the Congress changed payment from a flat rate to a dose-dependent rate in 1991.

When HCFA implemented the flat rate per dose payment in 1989, there were no clinical performance measures in place to monitor the quality of dialysis care. Since 1993, however, HCFA has monitored certain aspects of the quality of dialysis care in its annual survey of selected intermediate outcomes, including anemia and nutrition levels and dialysis adequacy. In addition, the agency has recently set forth dialysis clinical performance measures. Eighteen network organizations, under contract to HCFA, promote improved quality of care through education and the collection, analysis, and dissemination of data. Finally, the recently implemented Standardized Information Management System, a national information infrastructure that electronically links all the networks with HCFA, is expected to facilitate quality improvement programs and the collection and analysis of information on processes and outcomes of care.

Because the continued emphasis on quality monitoring and improvement is critical to ensure access to high-quality dialysis care, the Secretary should continue efforts in this area. In addition, HCFA's clinical performance measures need to keep up with guidelines published by private renal groups, including the NKF and the Renal Physicians' Association, and other public bodies, including the NIH and the Centers for Disease Control and Prevention.

Developing a classification system

Currently, the composite rate does not account for differences in resource use, including differences attributable to the use of different dialysis methods. In addition, the rate does not account for factors known to affect providers' costs, including dialysis dose and frequency and patient acuity. Patients' access to quality dialysis care, particularly more frequent and longer dialysis, is being impaired because the payment system does not account for these factors.

RECOMMENDATION 8C

The Congress should instruct the Secretary to revise the outpatient dialysis payment system to account for factors that affect providers' costs to deliver high-quality clinical care, including dialysis method, dose, frequency, and patient acuity.

This recommendation concerns dialysis payments generally and also addresses the question posed by the BBRA on home hemodialysis payment methods. The Commission supports payment systems that account for the costs that efficient providers incur in furnishing high-quality care. To account for differences in resource use, including differences attributable to the costs of furnishing more frequent and longer hemodialysis in patients' homes, the composite rate should use a classification system.

In MedPAC's June 1999 report, the Commission recommended that the Secretary examine the feasibility of modifying the composite rate to allow for different payments based on factors related to dialysis adequacy. We believe there is now sufficient evidence for the Secretary to develop a classification system that differentiates payment based on factors affecting providers' costs, including dialysis method, frequency, dose, and patient acuity.

Although different equipment, supplies, and labor are needed for hemodialysis and peritoneal dialysis, the current payment system does not differentiate payment based on dialysis method. In 1998, the mean costs of furnishing in-center hemodialysis were about 10 percent higher than the costs of furnishing peritoneal dialysis. The different types of equipment and supplies used for hemodialysis and peritoneal dialysis account for some of this cost difference rather than the frequency at which dialysis is furnished. Specifically, peritoneal dialysis is less capital intensive than hemodialysis. In hemodialysis, blood is cycled from the patient's body through a dialysis machine which filters out body waste before being returned to the patient. In peritoneal dialysis, a solution is introduced into the peritoneal cavity though a catheter. Excess waste products and water pass through the membrane lining of the peritoneal cavity into the dialysis solution, which is then drained through the abdomen. In addition, the different use of patient care staff employed by dialysis facilities also accounts for some of the cost difference between peritoneal dialysis and hemodialysis. Peritoneal dialysis is generally performed in patients' homes, which reduces the need for facility personnel.

Costs also vary based on dialysis frequency, but the payment system does not account for these differences. HCFA has capped weekly dialysis payments to providers at an amount equal to the cost of providing three hemodialysis sessions per week. MedPAC analysis of 1998 cost report data for dialysis facilities shows that the costs of furnishing thrice-weekly hemodialysis in patients' homes averages $355 per week.[8] By comparison, estimates of the costs of furnishing daily

8 Although the cost report category for home hemodialysis includes the costs for both thrice-weekly and daily dialysis, home hemodialysis is predominantly furnished thrice-weekly.

hemodialysis in patients' homes range from $420 to $460 per week (Project Hope 1999, Lockridge 2000). This cost differential is most likely due to the increased supply and labor costs associated with furnishing home dialysis five to seven times per week versus three times per week.

Similarly, in dialysis facilities, the weekly costs of furnishing more frequent hemodialysis exceed the costs of furnishing thrice-weekly hemodialysis by about 15 to 20 percent (Project Hope 1999, Ting et al. 1998). This difference also is primarily due to the increased supply and labor costs associated with furnishing more frequent dialysis.

The current payment system also does not differentiate payment based on the dose of dialysis even though increasing the dose affects providers' costs. For example, Hirth and colleagues (1999) showed that increasing the length of in-center hemodialysis sessions by 5 percent increased providers' costs by 1.4 percent, and using newer synthetic and modified cellulose dialyzer membranes instead of older cellulose membranes increased providers' costs by about 15 percent. Depending on the method of dialysis, there are alternative methods to increase dialysis dose. For hemodialysis, dose may be increased by using dialyzer membranes with large surface areas, using faster blood or dialysate flow rates, undergoing longer treatment times, or dialyzing more frequently. For peritoneal dialysis, alternative ways to increase dose include increasing the number of exchanges and increasing the volume per exchange.

Finally, payment is not adjusted for patient acuity, which also may affect the costs of furnishing dialysis. Payment regulations allow dialysis facilities to apply for an exception to their payment rate based on atypical patient mix, but the exception policy does not address the issue that different patients need different amounts of staff time. Certain patient characteristics, including age, race, ethnicity, and liver function levels, affect providers' costs (Dor et al. 1992, Hirth et al. 1999).

Patients' physiological, psychological, and sociological needs may also affect the level of care. Results from two studies show that caregivers spent more time with older, functionally dependent patients with multiple comorbidities, (Freund et al. 1998, Sankarasubbaiyan and Holley 2000). Based on an assessment of nursing and technical staff requirements in one ESRD Network, Mapes and colleagues (1983) proposed that five levels of patient acuity be considered in designing a dialysis payment system:

- patient requires continuous direct/indirect nursing assessment or intervention
- patient requires frequent direct/indirect nursing assessment or intervention
- patient requires moderate amount of direct/indirect nursing assessment or intervention
- patient requires minimal amount of direct/indirect nursing assessment or intervention
- patient requires least amount of direct of direct/indirect nursing assessment or intervention.

Implementing a classification system

In designing an effective classification system for the outpatient dialysis payment system, the Secretary should ensure that it meets two essential criteria. First, it should account for a reasonably high proportion of the predictable variation in providers' costs resulting from clinical and other differences among patients and services. Second, the classification variables must be reasonably objective and easily monitored. If this criterion is not met, providers would have incentives to increase their revenues by manipulating the classification variables to assign services or patients to higher-paid categories.

As mentioned above, dialysis method, frequency, dose, and patient acuity have been shown to affect providers' costs. The Secretary should investigate these and other variables to include in the system. Certain demographic and clinical characteristics of ESRD patients have been shown to affect providers' costs. Other patient characteristics that may be related to acuity, such as primary cause of renal failure and other comorbid conditions, have not yet been found to be associated with providers' dialysis costs, but do affect total Medicare payments (Beddhu et al. 2000, Farley et al. 1996, Lewin 2000). The lack of an association between these latter characteristics and providers' costs may reflect inadequate dialysis dosing for patients who are unstable or acutely ill.[9] It is possible that dialysis treatment that appears homogeneous across patients with regard to costs actually may deliver lower doses to certain seriously ill patients. For example, patients with diabetes and heart disease are more likely to experience symptoms and physiological alterations during dialysis. These alterations often require reducing the blood flow rate or interrupting treatment altogether. If the total time on dialysis is not increased for these patients, they may systematically receive lower doses of dialysis than patients without similar comorbidities. Data from HCFA's Clinical Performance Measurement Project show that inadequate dialysis persists in about 25 percent of hemodialysis patients (HCFA 1999).

In addition, the Secretary should consider the need to include the place where patients are dialyzed—in dialysis facilities or in patients' homes—as classification variables. Payments should be adequate to ensure continued access to home dialysis.

9 Two measures of adequacy of dialysis are the urea reduction ratio and Kt/V. The urea reduction ratio is the percent reduction in blood urea nitrogen concentration during a single dialysis session and is usually measured once per month. Kt/V is a dimensionless index based on the dialyzer clearance rate (K), the time spent on dialysis (t), and the volume of fluid completely cleared of urea in a single treatment (V). The NKF, NIH, Renal Physicians Association, and HCFA have advocated a urea reduction ratio of 65 percent or more or a Kt/V of 1.2 or more as a threshold for adequate dialysis.

Home dialysis facilitates patients' rehabilitation goals of continuing or resuming personally and socially valued activities such as employment and volunteer work because it permits more flexible scheduling of the dialysis procedure than does in-center care.

In developing the classification system, the Secretary will need to establish relative values that reflect the expected costliness of specific patients or services compared with the overall average costliness of providing care. To accomplish this task, the Secretary will need to determine the mix of services required to produce dialysis, how the costs of these services vary among classification categories, and the factors likely to affect efficient providers' production costs. Information on current cost reports may not be sufficient to construct relative values because cost report data do not specify the costs of dialysis methods not currently paid for by Medicare. In addition, cost reports do not include information about how costs vary based on dialysis dose or patient acuity. Consequently, information on relative values will need to be obtained from research studies and expert opinion.

Finally, HCFA will have to pay attention to the possibility of upcoding in designing a classification system. Incentives to increase the number of beneficiaries with a characteristic associated with higher payment rates may be high. One way to minimize the potential for upcoding is to use information that is easily amenable to audit. In addition, the Secretary can develop clinical criteria for other variables, such as dialysis dose, for determining which patients would qualify for additional payment for increased dialysis dose. Medicare already uses clinical criteria in paying for other dialysis-related services, such as erythropoietin. Development of such clinical criteria should be done collaboratively with private renal organizations. The NKF and the Renal Physicians Association have led the effort to develop clinical practice guidelines for treating patients with chronic renal insufficiency and failure.

Improving quality of care

A final issue to consider when implementing a classification system is its impact on quality of care. Using a classification system should have a positive effect on patients' quality of care by enabling providers to increase dialysis dose when clinically needed, decreasing the use of other dialysis-related services, and increasing access to different methods of treatment.

Payments accounting for the factors affecting dialysis dose would give providers more flexibility in caring for their patients. For example, providers have expressed interest in increasing the dose of thrice-weekly dialysis for certain patients, either by prescribing a fourth hemodialysis session per week or by extending the length of the thrice-weekly sessions. Medicare's policy limits payment to three hemodialysis sessions and the exception policy does not cover increasing the number of dialysis sessions.

Increasing dialysis dose increases survival in patients receiving inadequate dialysis. Owen and colleagues (1993) showed that patients receiving inadequate dialysis (with urea reduction ratio values below 60 percent) were 1.3 to 1.4 times more likely to die compared with patients receiving adequate dialysis (with urea reduction ratio values of 65 to 69 percent). As mentioned earlier, inadequate dialysis persists in about 25 percent of hemodialysis patients (HCFA 1999). Researchers have shown that one factor contributing to this inadequate dialysis is the underprescription of dialysis dose.

Increasing dialysis dose also reduces patients' morbidity and use of health services. For example, increasing the dose of dialysis for patients with anemia who are receiving inadequate dialysis significantly improves their anemia status (Ifudu et al. 1996). Movilli and colleagues (2001) showed that patients receiving adequate dialysis (with Kt/V levels ≥ 1.4) required lower weekly erythropoietin doses than did patients receiving inadequate dialysis (Kt/V levels ≤ 1.2). Additionally, the improved health status associated with receiving adequate dialysis ultimately translates into lower costs of care. USRDS data show that Medicare spending for hemodialysis patients receiving adequate dialysis (with urea reduction ratios greater than 65 percent) is about 15 percent lower than for patients receiving inadequate dialysis (with urea reduction ratios less than 65 percent) (USRDS 2000).

A classification system that pays based on the method of treatment will enhance patient choice of dialysis methods. It is unlikely that use of daily hemodialysis will diffuse without a change to the payment system. Medicare's current payment system is consistent with the provision of thrice-weekly dialysis. If weekly costs of furnishing daily dialysis exceed Medicare payments, as they appear to do, current policy will act as a barrier to expanding its use. Even given the possible clinical benefits of daily hemodialysis, providers are unlikely to promote this modality if their costs exceed Medicare payments.

Increasing the frequency of hemodialysis to a daily basis, with or without increasing total dose, improves patients' outcomes (Buoncristiani et al. 1999, Hanly and Pierratos 2000, Kooistra et al. 1998, Mucsi et al. 1998, Woods et al. 1999). Patients who switched from thrice-weekly hemodialysis to daily hemodialysis have:

- improved quality of life, including better energy levels, physical functioning, and mental health,
- improved clinical outcomes, including lower blood pressure and serum phosphate levels,
- improved anemia and nutritional status and better management of sleep apnea,
- decreased use of certain health services, including inpatient hospitalization, and
- decreased need for certain medications, including erythropoietin and antihypertensives.

The improved outcomes associated with daily hemodialysis are hypothesized to stem from increased dialysis adequacy and the lack of oscillations in toxin and

fluid levels that result with thrice-weekly hemodialysis. Thrice-weekly hemodialysis results in fluctuations of body fluid volume and solute; in contrast, increasing the dialysis frequency may better mimic the healthy situation, with smaller fluctuations of solute concentrations and body fluid volume (Kooistra et al. 1998).

Making other adjustments to rates

In revising the payment system for dialysis, the Secretary will need to consider other rate adjustments for factors that affect an efficient providers' costs and are beyond providers' control, including differences in input-prices. Given variation in the price of inputs among market areas, accounting for differences in prices is essential to paying fairly in specific market areas. In the current payment system, the labor portion of the composite rate is adjusted using two dated wage indexes not specific to the labor mix employed by dialysis facilities.

RECOMMENDATION 8D

The Congress should instruct the Secretary to develop a wage index based on market wage rates for occupations typically used in furnishing dialysis.

Chapter 4 addresses the issues to be considered in developing effective wage indexes.

A related issue for the Secretary to consider is whether to continue using "floor" and "ceiling" payments, as is now done in paying for dialysis. Currently, areas with labor costs less than 90 percent of the national average are raised to the 90 percent level (the payment "floor"), while those with costs exceeding 130 percent of the national average are lowered to the 130 percent level (the payment "ceiling"). In 1998, about 15 percent of facilities were at the payment floor and 2 percent were at the ceiling. Three-quarters of the facilities receiving floor payments were in rural areas.

In implementing the outpatient dialysis payment system in 1983, the Secretary used these lower and upper limits out of concern that the hospital wage index overstated the amount of variation in the costs of the labor inputs for ESRD services (HCFA 1983). However, Hirth and colleagues (1999) found that facilities receiving floor payments do not spend more on patient care, while facilities receiving ceiling payments incur substantially higher costs than would be expected given their actual payment.[10]

Finally, when revising the payment system for outpatient dialysis, the Secretary should consider the need for other rate adjustments, such as an adjustment for the type of dialysis facility. Under the current payment system, hospital-based facilities receive a payment that is on average $4 more than freestanding dialysis facilities. This stems from the Omnibus Budget Reconciliation Act of 1981, in which the Congress mandated separate rates for these types of facilities. Based on 1977-1979 cost report data, the Secretary established a base composite rate of $127 per treatment for hospital-based facilities and $123 per treatment for freestanding facilities. HCFA attributed the higher costs incurred by hospital-based facilities in providing outpatient dialysis to overhead, rather than patient case-mix or complexity, and no current evidence suggests different practice patterns in hospital-based facilities or that these facilities treat patients of higher acuity than freestanding facilities do. If higher costs result from treating a more severely ill patient population, then adjusting outpatient dialysis payments to account for patient acuity will appropriately ensure that payments match providers' costs.

Setting and updating the base payment rate

In addition to determining the payment bundle, classification system and payment adjustments for a revised outpatient dialysis payment system, the Secretary will need to set a base payment amount, which represents the amount Medicare pays for a standard service. At issue is how to calculate an initial value for this payment amount that reflects the costs efficient providers incur in providing the bundle of services. The Secretary will need to consider the merits of using information from providers' cost reports for services currently covered in the composite rate bundle, information from claims data for services that are currently separately billable, and other information from research or demonstration projects.

When HCFA developed the current payment system, it used information from dialysis facility cost reports for the 1977-1979 period. As mentioned earlier, information from more recent cost reports may not be sufficient to set payment amounts for the revised payment system outlined in this paper. Medicare cost reports for dialysis facilities provide information on the costs of in-center and home hemodialysis and peritoneal dialysis but they do not provide separate cost categories based on the dose and frequency of dialysis.

Further, the cost reports may not reflect the efficient costs of quality care. On the one hand, current costs may be lower than dictated by patients' resource needs because of constraints from the payment system. For example, more than 80 percent of dialysis facilities have adopted the practice of reusing synthetic dialyzer membranes in an attempt to contain costs. Several observational studies suggest that patients treated in certain facilities that reuse dialyzers have higher hospitalization and mortality rates (Feldman et al. 1996; Feldman et al. 1999). Cost reports do not include the costs of certain dialysis services, such as the labor associated with administering separately billable medications. Cost reports do not include information on the costs of daily hemodialysis, as this method of dialysis is not currently paid for by Medicare. Finally, even supplementing cost reports with claims data may give an inaccurate picture of the cost of providing care. Some costs may not be accounted for, such as oral drugs for which Medicare does not

10 Using a wage index based on a provider's occupation mix should minimize distortions in the wage index and should obviate the need to use payment upper and lower limits.

pay for. On the other hand, cost reports may overstate patients' resource needs because payment rules have led to the overuse of some relatively costly items. As a result of all of this, the Commission urges the Secretary to evaluate alternative data sources in setting the base payment rate.

A final issue to consider in designing a new payment system is the method for updating the base payment amount to account for changes in the cost of providing dialysis over time. The updating process will take on added significance if the new system uses an expanded payment bundle that includes services subject to fee schedules that have historically been updated more frequently than the composite rate. The BIPA requires the Secretary to develop by July 2002 update methods for the current composite rate payment system that account for the projected inflation of input prices, anticipated scientific and technological advances, practice patterns, and market conditions, and to recommend to the Congress whether updates should be done annually or periodically.[11] To ensure access to quality dialysis care, the Commission believes that the update should be considered on an annual basis.

Updating the composite rate for calendar year 2002

Since it was first set in 1983 at $127 per session for hospital facilities and $123 per session for freestanding facilities, the composite rate has been changed on only four occasions by the Congress: it was decreased by $2 in 1986, increased by $1 in 1991, increased by 1.2 percent in 2000, and increased by 2.4 percent in 2001, consistent with MedPAC's update recommendation for calendar year 2001 (MedPAC 2000).[12]

RECOMMENDATION 8E

For calendar year 2002, the composite rate for outpatient dialysis services should remain unchanged.

In recommending an annual update to the payment rate for dialysis services, MedPAC considers: 1) changes in input prices, 2) productivity improvements, 3) the availability of new scientific and technological advances, and 4) market conditions.

The input price component of the Commission's update framework is based on the projected increase in a market basket index for dialysis facilities that is intended to measure the effect of changes in the prices of inputs for producing dialysis treatments. HCFA has not developed a dialysis market basket, so MedPAC constructed one by using input categories that reflect the full range of goods and services that dialysis providers purchase. Four cost components—capital, labor, other direct costs, and overhead—are used to develop the market basket, using data from the 1999 cost reports for freestanding facilities. Each component is weighted according to its share or proportion of total costs. The price change for each component is based on components of HCFA's input price indexes for PPS hospitals, skilled nursing facilities, and home health agencies. These price indexes for other providers were used because information specific to the dialysis industry are not available. MedPAC's analysis indicates that the prices dialysis facilities pay for their inputs will rise an estimated 2.6 percent between calendar years 2001 and 2002.

Second, the Commission estimated the productivity gains dialysis facilities can reasonably be expected to attain in the coming fiscal year by examining trends in a number of performance indicators. As shown in Table 8-1, we considered six measures: the number of treatments per full-time equivalent employee, staff mix as measured by the ratio of registered nurses to all direct patient care staff, staff mix as measured by the ratio of technicians to all direct patient care staff, the number of in-facility hemodialysis treatments per station, and the number of times hemodialyzers are reused.

TABLE 8-1

Trends in productivity for freestanding dialysis facilities, 1995–1999

Characteristic	Year				
	1995	1996	1997	1998	1999
Number of dialysis treatments per FTE	726	721	705	745	749
In-facility hemodialysis treatments per station	665	651	659	657	665
Nurse-to-staff ratio	0.36	0.37	0.37	0.37	0.36
Technician-to-staff ratio	0.49	0.51	0.52	0.53	0.54
Number of times dialyzers are reused	14.6	14.6	16.1	17.0	17.1
Hemodialysis session length (min)	203	208	210	212	NA

Note: The calculations represent mean values, weighted by the number of dialysis sessions at each facility. FTE (full-time equivalent employee), NA(not available). Nurse-to-staff ratio and technician-to-staff ratio refer to the ratio of registered nurses and technicians, respectively, to direct patient care staff (including registered and licensed practical nurses, nursing assistants, and technicians).

Source: Data compiled by MedPAC, HCFA 1999.

11 Prior to the BIPA, the Secretary was not required to consider an update to the composite rate payment. In our March 2000 report, MedPAC recommended that the Congress require HCFA to review the composite rate payment annually.

12 BIPA increases the composite rate payment by 2.4 percent plus an additional transitional percentage allowance equal to 0.39 percent effective April 1, 2001. This transitional percentage allowance continues only until December 31, 2001.

TABLE 8-2

Clinical performance indicators, 1994–1998

Performance indicator	Year				
	1994	1995	1996	1997	1998
Percent of hemodialysis patients receiving inadequate dialysis	51	41	32	28	26
Percent of hemodialysis patients with anemia	45	37	28	21	17
Percent of hemodialysis patients who are malnourished	21	17	19	17	17

Note: Patients receiving inadequate dialysis are those with urea reduction ratios of less than 65 percent. Patients with anemia are those with hematocrit levels less than 30 percent. Patients malnourished are those with serum albumin levels less than 3.5 gm/dL.

Source: HCFA 1999.

Between 1995 and 1999, freestanding dialysis facilities continued to improve productivity, although not to the extent they did between the mid-1980s and the mid-1990s (Held et al. 1990, IOM 1991). Although these productivity measures show how facilities use labor and other resources, they do not provide information regarding the extent to which facilities furnish high-quality care. For this reason, we also report information on intermediate clinical outcomes. As shown in Table 8-2, recent data show improvement in certain intermediate outcomes of dialysis. Unlike the labor and resource measures, these quality-of-care measures show whether facilities are making improvements in how they furnish dialysis care. Adequacy of dialysis and patients' anemia status have improved during the mid-1990s, despite an aging ESRD cohort that includes a greater proportion of individuals with diabetes, compared with the 1980s. This improvement in the quality of dialysis care suggests that the productivity gains of facilities may be even greater than indicated by the measures reported in Table 8-1.

The Commission's update framework also considers the costs facilities will incur to adopt new technologies that will enhance the quality of patient care but increase costs. MedPAC believes that the costs associated with technological advances should be financed in part through improvements in productivity. To identify new and emerging dialysis technologies, the Commission reviewed numerous data sources, including peer-reviewed literature, newsletters, newspapers, periodicals, and trade journals. This review suggest that the costs associated with quality-enhancing, cost-increasing technologies will be offset by the savings associated with expected productivity improvements.

In considering market conditions, we examined the growth of the provider community. The number of dialysis facilities in the United States continues to grow, keeping pace with the growth in the number of dialysis patients. Between 1993 and 1998, the number of dialysis units and the number of dialysis patients grew at about an 8 percent average annual rate of growth. Freestanding and for-profit facilities grew at the expense of hospital-based and not-for-profit facilities. Freestanding facilities increased from 74 to 81 percent of all dialysis facilities, while for-profit facilities increased from 62 to 73 percent. The number of freestanding for-profit facilities increased from 60 percent of all facilities in 1993 to 72 percent in 1998.

Dialysis chains are also consolidating. In November 2000, the largest for-profit dialysis chain (in terms of patients and facilities) announced that it is acquiring the sixth largest dialysis chain. MedPAC estimates that in 1998 three-quarters of all for-profit facilities were affiliated with a chain. The number of dialysis patients receiving care from the largest chains increased from about 10 percent of all dialysis patients in 1989 to about 60 percent of all dialysis patients in 1998 (Fresenius 1999, IOM 1991).

Cost report data from 1999 indicate that larger facilities have greater economies of scale than smaller facilities (Table 8-3). These data confirm an earlier study that found economies of scale by facility size (Dor et al. 1992).

TABLE 8-3

Productivity of freestanding dialysis facilities, by facility size, 1999

Type of facility	Number of dialysis treatments per FTE	In-facility hemodialysis treatments per station	Nurse-to-staff ratio	Technician-to-staff ratio	Hemodialysis shifts per week
Small	708	463	0.40	0.47	9.8
Medium	726	611	0.37	0.53	11.6
Large	781	761	0.34	0.56	14.1

Note: The calculations represent mean values weighted by the number of dialysis sessions reported at each facility. Facility sizes are defined in each year based on the 25th and 75th percentile of dialysis sessions. Small facilities are those reporting dialysis sessions less than or equal to the 25th percentile of all dialysis sessions, medium facilities are those reporting dialysis sessions greater than the 25th percentile but less than the 75th percentile of all dialysis sessions, and large facilities are those reporting dialysis sessions greater than or equal to the 75th percentile of all dialysis sessions. FTE (full-time equivalent employee). Nurse-to-staff ratio and technician-to-staff ratio refer to the ratio of registered nurses and technicians, respectively, to direct patient care staff (including registered and licensed practical nurses, nursing assistants, and technicians).

Source: Data compiled by MedPAC.

Another measure that the Commission considered was the adequacy of the prospective payment associated with services included in the composite rate bundle. Using cost report data from freestanding facilities for the most recent four-year period available, calendar years 1996 through 1999, we evaluated the adequacy of composite rate payments by calculating a Medicare payment-to-cost ratio, which compares the composite rate payments facilities receive from Medicare for dialysis treatments with the facilities' Medicare-allowable costs (Table 8-4). We also calculated broader payment-to-cost ratios by comparing the payments facilities receive from Medicare for dialysis treatments, erythropoietin, and other separately billable drugs with their Medicare-allowable costs.

TABLE 8-4

Payment-to-cost ratios for composite rate services and separately billable drugs for freestanding dialysis facilities, 1996–1999

	1996	1997	1998	1999
Composite rate services for in-center hemodialysis				
all facilities	1.02	0.99	0.98	0.97
urban	1.02	1.00	0.99	0.97
rural	1.01	0.99	0.96	0.96
not-for-profit	0.97	0.94	0.93	0.89
for-profit	1.03	1.00	0.99	0.98
small	0.92	0.90	0.88	0.87
medium	1.00	0.99	0.96	0.95
large	1.05	1.02	1.02	1.01
Composite rate services for in-center and home dialysis				
all facilities	1.03	1.01	0.99	0.98
urban	1.03	1.01	0.99	0.98
rural	1.01	0.99	0.96	0.97
not-for-profit	0.99	0.96	0.94	0.90
for-profit	1.04	1.01	1.00	0.99
small	0.93	0.91	0.90	0.88
medium	1.01	0.99	0.97	0.96
large	1.07	1.04	1.03	1.02
Composite rate services, erythropoietin, and other separately billable drugs				
all facilities	1.09	1.08	1.07	1.07
urban	1.09	1.08	1.08	1.07
rural	1.09	1.09	1.06	1.07
not-for-profit	1.07	1.03	1.05	1.00
for-profit	1.10	1.09	1.08	1.08
small	1.01	1.00	0.99	0.99
medium	1.08	1.08	1.06	1.05
large	1.12	1.10	1.10	1.10

Note: The calculations represent mean payment-to-cost ratios, weighted by the number of dialysis sessions at each facility. See notes on Table 8-3 for the definition of facility size. These ratios may understate providers' costs because only Medicare-allowable costs are taken into account. While our analysis shows how well Medicare does in covering the costs it is legally obligated to pay for, this approach does not measure how much providers actually gain or lose, on average, from caring for Medicare patients.

Source: Data compiled by MedPAC.

Data from 1999 cost reports indicate that the composite rate payments to freestanding facilities did not cover the costs of providing dialysis services covered under the composite rate in that year. The payment-to-cost ratios for in-center and home hemodialysis and the two major forms of peritoneal dialysis fell from 1.03 in 1996 to 0.98 in 1999. Payment-to-cost ratios vary considerably based on facilities' size and profit status. For example, the average cost per dialysis treatment incurred by small facilities is 10 percent greater than that incurred by large facilities.

Including the payments and costs for erythropoietin and other separately billable drugs increases payment-to-cost ratios for all types of facilities by 5 to 10 percentage points during the four-year period. Medicare's payments exceeded costs by at least 5 percentage points in 1999 for all facilities other than small and not-for-profit facilities.

Three caveats associated with the payment-to-cost ratios presented in Table 8-4 are as follows. First, providers' costs may be underestimated because nonallowable costs are not taken into account. While our analysis shows how well Medicare does in covering the costs it is legally obligated to pay for, this approach does not measure how much providers actually gain or lose, on average, from caring for Medicare patients. Second, providers' costs for separately billable services may be underestimated because they cannot claim bad debt for separately billable drugs.[13] Lastly, the payment-to-cost ratios in Table 8-4 do not reflect the effect of price increases for separately billable drugs that occurred last year. For example, the price of erythropoietin was increased by 3.9 percent in February 2000.

13 Hospital-based and freestanding facilities are paid 100 percent of their allowable ESRD Medicare bad debts for composite rate services, up to their Medicare reasonable costs.

TABLE 8-5

Estimated payment-to-cost ratios for composite rate services and separately billable drugs for freestanding dialysis facilities, 2002

	1999 (actual)	2002 Without market basket increase (estimated)	2002 With market basket increase (estimated)
Composite rate services: in-center and home dialysis modalities			
all facilities	0.98	1.02	1.05
small	0.88	0.91	0.93
medium	0.96	1.00	1.02
large	1.02	1.07	1.10
Composite rate services, erythropoietin and other separately billable drugs			
all facilities	1.07	1.07	1.09
small	0.99	1.00	1.02
medium	1.05	1.06	1.08
large	1.10	1.11	1.12

Note: The calculations represent mean payment-to-cost ratios, weighted by the number of dialysis sessions at each facility. See notes on Table 8-3 for the definition of facility size. These ratios may understate providers' costs because only Medicare-allowable costs are taken into account. While our analysis shows how well Medicare does in covering the costs it is legally obligated to pay for, this approach does not measure how much providers actually gain or lose, on average, from caring for Medicare patients.

Source: Data compiled by MedPAC.

The Commission modeled expected payment-to-cost ratios in 2002, taking into account the effect of increased costs for separately billable drugs and composite rate services, as well as recent increases in composite rate payments. To estimate payments in 2002, each facility's 1999 composite rate payment was increased by 1.2 percent in 2000 and 2.4 percent in 2001, as mandated by the BBRA and BIPA, respectively. In both scenarios, 1999 payment rates for erythropoietin and other separately billable drugs were used. We modeled two scenarios, one providing for a market basket increase to the composite rate in 2002, and one assuming no increase in that year.

Providers' costs in 2002 were estimated by: 1) inflating providers' costs for services in the composite rate payment bundle by the market basket estimates for 2000, 2001, and 2002; 2) inflating providers' costs for erythropoietin by 3.9 percent, the announced price increase in 2000[14]; and 3) inflating providers' costs for other separately billable drugs by the projection in the skilled nursing facility market basket for pharmaceuticals in 2000, 2001, and 2002.

The data in Table 8-5 suggest that payment-to-cost ratios for dialysis services will remain less than 1.0 for small facilities, even with the composite rate payment increases mandated by the BBRA and the BIPA. When considering both the payments and costs of services included in the composite rate payment bundle and payments and costs for separately billable drugs, however, payment-to-cost ratios are equal to or exceed 1.0 for all types of facilities, even without the market basket increase to the composite rate payment in 2002.

Consequently, MedPAC recommends no update to the composite rate for calendar year 2002. In making this recommendation, the Commission paid special attention to evidence on the current state of market conditions, which shows continued growth in the industry, and the apparent subsidization of services included in the composite rate bundle by positive margins for separately billable services. The results of the update analysis also support our recommendation to revise the current outpatient dialysis payment system so that its prospective payment bundle includes the full range of services generally provided during dialysis, as well as the Commission's general principle of setting payment rates to account for the costs of efficient providers.

14 Because there were no price increases announced by the manufacturer of erythropoietin in 2001 or 2002, its costs were not inflated in these years.

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CHAPTER 9

Reducing beneficiary coinsurance under the hospital outpatient prospective payment system

RECOMMENDATION

Congress should continue the reduction in outpatient coinsurance to achieve a 20 percent coinsurance rate by 2010.

***YES: 13 • NO: 0 • NOT VOTING: 0 • ABSENT: 3**

***COMMISSIONERS' VOTING RESULTS**

CHAPTER 9

Reducing beneficiary coinsurance under the hospital outpatient prospective payment system

In this chapter

On August 1, 2000, the Health Care Financing Administration implemented prospective payment for hospital outpatient services. Under the new payment system, beneficiaries' share of total payments, which had reached 50 percent, will slowly decline. Beneficiaries' coinsurance liability is variable, with a few beneficiaries facing high levels of coinsurance, including those receiving repeat services (such as chemotherapy) and individuals in poorer health. MedPAC has estimated that achieving a 20 percent coinsurance rate under the August 2000 policy would take decades. Given concern over the higher level of coinsurance for outpatient services compared with other Medicare services and the potential for coinsurance to pose a financial barrier to access, MedPAC has previously recommended that the Congress accelerate the rate at which beneficiary coinsurance is reduced. The Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 modified Medicare policy to phase in a reduction of coinsurance to 40 percent by 2006. The Commission recommends continuing the reduction to achieve a rate of 20 percent coinsurance in 2010. We estimate that in 2010, the incremental cost of our recommendation would be about 15 percent of total payments for hospital outpatient services, before accounting for offsetting increases in Part B premiums.

Before the outpatient prospective payment system (PPS) was implemented, beneficiary coinsurance for outpatient services was based on 20 percent of the hospital's charges, while the Medicare program based its own payments on the lower of the hospital's costs and charges or a blend of the lower of costs and charges with the applicable fee schedule, depending on the service provided. Over time, hospitals' charges grew more quickly than costs, so that the share of total payments paid by beneficiaries grew to about 50 percent. In this context, coinsurance is the portion of the bill for which the beneficiary is responsible. Beneficiaries may have supplemental insurance to cover these costs, or they may pay them out of pocket.

To address the growing share of outpatient payments paid by beneficiaries, the Balanced Budget Act of 1997 (BBA) directed the Health Care Financing Administration (HCFA) to implement a gradual decrease in beneficiaries' share of total payments for outpatient services through the PPS. The outpatient PPS classifies services into ambulatory payment classification (APC) groups for purposes of payment. In the new payment system, coinsurance is set at 20 percent of historical national median charges for all services in the group. For all APC groups with coinsurance rates greater than 20 percent of total payment, the existing coinsurance amounts are frozen. Thus, as payment rates are updated each year, the percentage that is coinsurance declines. As soon as coinsurance represents 20 percent of the total payment, coinsurance will increase together with Medicare's payment amounts according to the annual update. This so-called buy-down process will be achieved at a different time for each APC group, depending on the initial coinsurance percentage. MedPAC has estimated that achieving a 20 percent coinsurance rate will take 30 to 40 years, on average, with the process taking even longer for certain services (MedPAC 2000a). The Balanced Budget Refinement Act of 1999 (BBRA) also limited coinsurance somewhat by placing a dollar cap on coinsurance for a given service equal to the inpatient deductible ($792 in 2001). This provision affects about 20 APC groups.[1]

MedPAC has previously recommended that the Congress accelerate the rate of beneficiary coinsurance buy-down and that the Congress specify a date certain for achieving a 20 percent rate of coinsurance. The Commission has not suggested a date by which to achieve 20 percent coinsurance due to lack of information about the impact of such a policy on beneficiaries and on program costs.

This chapter presents evidence of the distribution of beneficiaries' existing outpatient coinsurance liability and evaluates a policy to accelerate the buy-down of coinsurance similar to that included in the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA), which phases in a reduction of beneficiary coinsurance to 40 percent in 2006. We also analyze a continuation of that policy until a rate of 20 percent coinsurance is achieved. In light of these analyses, we recommend that:

RECOMMENDATION

Congress should continue the reduction in outpatient coinsurance to achieve a 20 percent coinsurance rate by 2010.

The Commission's concern is motivated by a number of factors. First, the high rates of coinsurance pose a disproportionate financial liability on beneficiaries using outpatient services. The 50 percent rate of coinsurance is out of line with the 20 percent or less charged for other Part B services. It is also distinct from the cost-sharing for inpatient hospital services, where a deductible is charged for all admissions occurring during a spell of illness. In 1999, beneficiaries paid only about 8 percent of total allowable Medicare inpatient costs.[2] Finally, coinsurance is charged for every covered outpatient service received, with no limits on the amount of coinsurance that a beneficiary can be charged per visit or per year. This lack of a cap on out-of-pocket costs is characteristic of the Medicare program, but distinct from most private insurance policies.

The disproportionate coinsurance liability for outpatient services interacts with two trends: increased use of outpatient services and the use of more expensive technologies on an outpatient basis. The migration of services from inpatient to outpatient settings may result in savings in the cost of providing care, while increasing the coinsurance liability for beneficiaries. As the proportion of Medicare beneficiaries without supplemental insurance increases, this could lead to significant financial burdens on beneficiaries and potential barriers to accessing care. Even for those with supplemental insurance, the increase in premiums caused by the disproportionately high outpatient coinsurance adds appreciably to their total out-of-pocket costs.

Assessing beneficiary coinsurance

This section investigates the determinants of coinsurance liability, the distribution of coinsurance across beneficiaries, and the distribution of coinsurance by demographic characteristics (sex, age, race), supplemental insurance status, income, and health status.

Determinants of coinsurance liability

Two factors influence beneficiaries' coinsurance liability: the volume of services received and the coinsurance amount for each service. Policies to reduce coinsurance address only the coinsurance amount, or price; they influence volume only indirectly. To increase our understanding of the

1 MedPAC analysis of the November 13, 2000 outpatient PPS interim final rule (HCFA 2000a).

2 MedPAC analysis of 1999 Medicare cost reports.

Analytic methods

MedPAC's analysis of outpatient coinsurance for Medicare beneficiaries is based on data from three sources: the outpatient prospective payment system (PPS) fee schedule, outpatient claims, and the Medicare Current Beneficiary Survey (MCBS).

Analysis of outpatient claims

We combined coinsurance and payment rates under the outpatient PPS for calendar year 2001 with the 5 percent standard analytical file of outpatient claims for 1999 based on reported HCFA Common Procedure Coding System (HCPCS) codes.[3] We attempted to account for changes to HCPCS codes between 1999 and 2001. The 1999 claims were also edited for outliers.[4] The sample size was 790,410 beneficiaries.

The results reported in this chapter should be considered indicative rather than predictive, as they are based on 1999 claims and the associated volume and service mix. Previous analyses (HCFA 2000b, Mohr et al. 1999) have noted that outpatient claims submitted before implementation of the outpatient PPS are subject to missing, and perhaps inaccurate, codes. Historically, payments were based on charges and did not require accurate coding at the level of individual services, although the codes were required by law.[5] Given the historical undercoding of claims, it is likely that this analysis underestimates beneficiary coinsurance.

In addition, we would expect volume and service mix to change in the future, both in reaction to the new PPS and as technology changes. For example, hospitals may improve their coding for outpatient services as payment is tied more closely to correct coding. As coinsurance rates change, beneficiaries may react by increasing use. Also, trends toward more sophisticated outpatient procedures may result in higher-intensity case mix in coming years. Modeling those changes is beyond the scope of this analysis. Finally, the analysis captures only those beneficiaries with at least one outpatient visit, limiting our ability to measure differences in use and non-use of outpatient services.

Analysis of Medicare Current Beneficiary Survey

The analysis of coinsurance by income, health status, and supplemental insurance status merges the 2001 outpatient PPS fee schedule and the 1997 MCBS cost and use file, the latest available. This analysis allows us to look at the proportion of beneficiaries receiving any outpatient services, as well as the coinsurance liability for those having at least one outpatient visit. The sample excludes beneficiaries enrolled in Medicare managed care. We attempted to account for changes to HCPCS codes between 1997 and 2001. Results were weighted to account for the MCBS sampling frame. The analysis is based on a sample of 10,675 beneficiaries, including 5,045 with outpatient claims that map to the 2001 outpatient PPS fee schedule.

Despite the caveats regarding the accuracy of the claims data and our volume and service mix assumptions noted above, this analysis provides a snapshot of the services covered by the outpatient PPS, the level of beneficiary coinsurance liability, and the distribution of coinsurance liability across sub-groups. It also provides an estimate of the impact of the policy to reduce beneficiary coinsurance on beneficiaries and the program. ■

3 The analysis does not include devices approved for pass-through payments, as the pass-through payments are not subject to coinsurance. It also excludes partial hospitalization services.

4 Both the unit and total annual coinsurance variables are characterized by a highly skewed distribution with extreme upper values. We limited the analysis to line items with units of 30 or less to remove outliers.

5 Some types of services, such as those paid under blended payment systems, had greater accuracy than others.

interplay of volume and price in determining coinsurance liability, this section briefly examines the most common services provided under the outpatient PPS. We also look at which services account for the greatest coinsurance liability.

Although there are over 1,000 APC groups (including pass-through items), volume is concentrated in relatively few. Based on 1999 claims, 27 APC groups account for 75 percent of the volume of outpatient services (Table 9-1). The three most frequently performed services—simple x-rays, low-level clinic visits, and electrocardiograms—make up 30 percent of total volume. As might be expected, many of these common procedures are relatively low-tech and fairly inexpensive. They account for only 9 percent of total payments (program payments plus coinsurance). Overall, the services accounting for 75 percent of volume make up 51 percent of total payments.

TABLE 9-1 **Ambulatory payment classification groups accounting for 75 percent of total volume**

APC group	Title	Percent of total volume	Payment rate	Percent of total payment
260	Level I plain film except teeth	13.4%	$39	4.3%
600	Low-level clinic visits	11.2	49	4.4
99	Electrocardiograms	5.1	19	0.8
343	Level II pathology	4.0	22	0.7
283	Level II computerized axial tomography	3.8	243	7.5
601	Mid-level clinic visits	3.2	50	1.3
610	Low-level emergency visits	3.1	66	1.7
611	Mid-level emergency visits	2.6	105	2.2
602	High-level clinic visits	2.5	82	1.7
325	Group psychotherapy	2.4	77	1.5
95	Cardiac rehabilitation	2.2	32	0.6
301	Level II radiation therapy	2.1	110	1.9
269	Echocardiogram except transesophageal	1.9	218	3.5
120	Infusion therapy except chemotherapy	1.8	82	1.0
612	High-level emergency visits	1.6	158	2.0
300	Level I radiation therapy	1.4	98	1.1
367	Level I pulmonary test	1.4	41	0.5
77	Level I pulmonary treatment	1.4	21	0.2
266	Level II diagnostic ultrasound except vascular	1.3	89	1.0
346	Transfusion laboratory procedures level II	1.3	25	0.3
267	Vascular ultrasound	1.2	135	1.4
261	Level II plain film except teeth, including bone density	1.1	68	0.6
100	Stress tests and continuous electrocardiograms	1.1	84	0.7
286	Myocardial scans	1.1	361	3.1
143	Lower gastrointestinal endoscopy	1.0	396	3.3
271	Mammography	1.0	35	0.3
284	Magnetic resonance imaging	0.9	398	3.0
	Total:	75.1		50.6

Note: APC (ambulatory payment classification).

Source: MedPAC analysis of 1999 Medicare claims and the 2001 outpatient fee schedule.

The distribution of APC groups by total coinsurance liability is also fairly concentrated—35 groups account for 75 percent of the total coinsurance (Table 9-2). Many of the services that contribute the most to beneficiaries' coinsurance are relatively expensive technologies and procedures, such as computerized axial tomography (CAT), which accounts for 12 percent of total coinsurance; cataract removal (8 percent of coinsurance); and magnetic resonance imaging (MRI, 4 percent of coinsurance). Both cataract procedures and MRI represent less than 1 percent of the volume of services. However, a few low-cost but high-volume procedures also account for a large share of the coinsurance liability. For example, the highest-volume service, simple x-ray, accounts for 5 percent of total coinsurance, even though the coinsurance amount for this service is only $22. X-rays have a coinsurance rate of 49 percent. Similarly, low-level clinic visits, which have a $10 coinsurance amount and a 20 percent coinsurance rate, account for 2 percent of total coinsurance liability.

There is considerable overlap between high-volume services and the services that contribute the most to coinsurance liability. Of the 27 APC groups that make up 75 percent of total volume, 22 also appear on the list of APC groups that make up 75 percent of coinsurance liability. These 22 groups account for 67 percent of total volume and 51 percent of total coinsurance. These comparisons show that neither volume nor price is the primary driver of coinsurance liability. However, high coinsurance amounts lead some services, such as CAT scans, to comprise a large share of total coinsurance liability.

Profile of beneficiary coinsurance liability

To determine the impact of outpatient coinsurance on beneficiaries, we developed a profile of annual coinsurance liability at the beneficiary level. This analysis uses calendar year 1999 claims and the 2001 outpatient PPS fee schedule to tell us what the outpatient coinsurance liability would be in 2001 if the volume and service mix were the same as in 1999. Because undercoding has historically occurred in the outpatient claims files, the coinsurance liability reported here is likely to be underestimated (see text box, p. 143). The results presented below reflect coinsurance liability, not out-of-pocket costs.

The shift to a fee schedule with set coinsurance amounts changed the coinsurance charged by individual hospitals. To understand how coinsurance changed upon implementation of the outpatient PPS, see the text box, p. 146.

Average coinsurance liability

Based on 1999 volume and service mix, the average Medicare beneficiary who used the outpatient department would pay $409 in coinsurance for outpatient services in 2001. Coinsurance would account for, on average, 48.2 percent of total payment for services.[6] On average,

6 This estimate of beneficiary share is based on the coinsurance charged for individual services. It does not factor in outlier payments, pass-through payments for medical devices, or transitional corridor payments. The aggregate beneficiary share including those payment adjustments would be lower.

TABLE 9-2

Ambulatory payment classification groups accounting for 75 percent of total coinsurance

APC group	Title	Coinsurance amount	Coinsurance rate	Percent of total coinsurance
283	Level II computerized axial tomography	$179	74.0%	11.5%
246	Cataract procedures with intraocular lens insert	624	47.4	8.5
260	Level I plain film except teeth	22	56.2	5.0
284	Magnetic resonance imaging	257	64.7	4.1
80	Diagnostic cardiac catheterization	792	50.6	3.8
269	Echocardiogram except transesophageal	114	52.2	3.8
286	Myocardial scans	200	55.4	3.6
143	Lower gastrointestinal endoscopy	199	50.3	3.4
141	Upper gastrointestinal procedures	185	52.1	2.1
280	Level II angiography and venography except extremity	380	51.2	2.0
301	Level II radiation therapy	53	47.9	1.8
600	Low-level clinic visits	10	20.0	1.8
267	Vascular ultrasound	80	59.3	1.7
611	Mid-level emergency visits	36	34.8	1.6
292	Level II diagnostic nuclear medicine excluding myocardial scans	127	58.6	1.6
612	High-level emergency visits	54	34.2	1.4
100	Stress tests and continuous electrocardiograms	72	84.9	1.3
266	Level II diagnostic ultrasound except vascular	57	64.6	1.3
99	Electrocardiograms	15	77.9	1.3
154	Hernia/hydrocele procedures	557	50.1	1.2
300	Level I radiation therapy	48	48.6	1.1
120	Infusion therapy except chemotherapy	43	51.8	1.1
610	Low-level emergency visits	21	31.1	1.1
41	Arthroscopy	592	48.6	1.0
88	Thrombectomy	679	51.7	0.9
131	Level II laparoscopy	792	38.2	0.9
343	Level II pathology	12	54.5	0.8
325	Group psychotherapy	20	26.0	0.8
261	Level II plain film except teeth, including bone density	39	56.6	0.7
237	Level III posterior segment eye procedures	792	47.0	0.7
602	High-level clinic visits	16	20.0	0.7
28	Level I incision/excision breast	304	49.5	0.7
95	Cardiac rehabilitation	17	53.5	0.6
81	Non-coronary angioplasty or atherectomy	711	49.8	0.6
162	Level III cystourethroscopy/other genitourinary procedures	427	49.3	0.6
	Total:			75.2

Note: APC (ambulatory payment classification).

Source: MedPAC analysis of 1999 Medicare claims and the 2001 outpatient fee schedule.

beneficiaries would have 3.1 encounters with the outpatient department, receiving a total of 6.9 services (Table 9-3).[7]

These average values mask considerable variation across beneficiaries. The distribution of outpatient use and coinsurance liability is highly skewed; a few beneficiaries receive a large number of services and face high levels of coinsurance liability. Although the mean annual coinsurance burden is $409, the 95th percentile value is $1,435. Thus, the 5 percent of beneficiaries with the highest coinsurance liability are responsible for more than three times the average liability for outpatient services (Table 9-3). Protecting those with the highest costs is an important goal of insurance; thus, beneficiaries at the upper end of the distribution should be of special concern. High outpatient coinsurance liability could lead to access problems.

7 An encounter is defined as all services occurring on the same day. Due to missing data regarding the date of service, this variable was calculated on a smaller set of services than the other variables.

Changes in coinsurance liability upon implementation of the outpatient payment system

Before implementation of the outpatient PPS, beneficiaries were liable for 20 percent of hospital charges for outpatient services. The coinsurance amounts in the new fee schedule are also based on charges, but set at a specific rate based on 20 percent of historical national median charges. Therefore, beginning August 1, 2000, coinsurance amounts were changed from a local calculation to a national average. For some services in some hospitals, coinsurance amounts increased; for other services, either in the same hospitals or elsewhere, coinsurance amounts decreased.

The difference between the old and new coinsurance amounts depends on the level of a hospital's charges relative to the national median for a given service. The shift in direction is not necessarily the same for all services provided. In general, however, where a hospital has higher charges than the median, coinsurance rates decreased. Where a hospital has lower charges than the median, coinsurance rates increased. No current data are available to systematically assess which services and which beneficiaries saw their coinsurance rates rise or fall. However, the Health Care Financing Administration's state-by-state analysis of projected changes in coinsurance suggests that in the aggregate, coinsurance will go up in some states and down in others, with substantial rural and urban differences, even within states (American Academy of Actuaries 2000). Our analysis of Medicare cost reports indicates that rural hospitals and public hospitals tend to have lower charges, which would lead to increased coinsurance liability for beneficiaries using these facilities. In addition to the impact on beneficiaries, increased coinsurance liability that is not paid will increase hospitals' bad debt.

The differential changes in coinsurance are a transitional phenomenon due to movement from hospital-specific charges to national median charges as the basis for setting coinsurance amounts. Over time, coinsurance liability will decrease for all beneficiaries. In addition, increased coinsurance burdens may be softened if hospitals choose to lower coinsurance amounts voluntarily, as allowed by the Balanced Budget Refinement Act of 1999, although few hospitals have elected to do so to date. ■

Coinsurance liability for repeat services

An analysis of coinsurance liability for beneficiaries receiving services that require repeated visits illustrates how the lack of per visit or per year limits on coinsurance can lead to high levels of coinsurance. Table 9-4 shows the coinsurance liability and use for beneficiaries who received radiation therapy, chemotherapy, and cardiac rehabilitation. Summing all outpatient services and coinsurance amounts for the year (including services other than the repeat service), beneficiaries undergoing radiation therapy are responsible for an average of $2,876 in coinsurance, with the 95th percentile reaching $5,598. For those receiving chemotherapy, the average annual coinsurance burden is $2,664, with a 95th percentile value of $6,588. Cardiac rehabilitation services engender lower coinsurance burdens, with a mean value of $939 and a 95th percentile value of $2,454. These three groups of beneficiaries receive a high volume of services, each of which incurs coinsurance.[8]

Coinsurance liability for vulnerable groups

The Commission and its predecessors have historically been concerned with the Medicare program's impact on vulnerable groups, including women, the oldest old, and racial minorities. MedPAC reports on access have shown that these groups face more barriers to access and have lower levels of supplemental insurance (MedPAC 2000a). A recent study (Pourat et al. 2000) also shows less supplemental insurance coverage for these groups. To evaluate whether the outpatient PPS would impose disproportionate financial liability on vulnerable beneficiaries, we analyzed outpatient use and coinsurance liability by sex, age and race.

Differences in coinsurance liability among groups of beneficiaries reflect differences in their average service use and case mix. Some small differences by sub-group do emerge. On average, men had levels of coinsurance liability 18 percent higher ($449 per year) than women ($382 per year), resulting in part from higher use. Men had an average of 7.5 services per year, while women had an average of 6.6 services per year—a difference of 14 percent (Table 9-3).

Looking at the distribution by age group shows no clear pattern. Those under age 65 are liable for, on average, $413 of coinsurance for outpatient services, while those between ages 65 and 74 have the highest coinsurance liability ($427). However, those under age 65 consume, on average, a higher volume of services (8.5 per year) than those age 65 to 74 (6.8 per year). This suggests that those under 65—and therefore eligible for Medicare due to a disability—use a different mix of outpatient services, with lower average

8 The mean values presented here likely underestimate the coinsurance liability associated with these treatments due to the use of one year of data. Those whose first service occurred in the beginning or end of the year will not have their full coinsurance liability for the course of treatment reflected because coinsurance liability for services in the preceding or following year is not counted (censoring). Analysis of coinsurance by the quarter in which the first repeat service appears shows lower mean values for the group whose first service occurred in the first quarter for all three categories. Fourth quarter censoring is also apparent for radiation therapy.

coinsurance amounts, than do older beneficiaries. The oldest old—those aged 85 and over—have the lowest coinsurance liability and the lowest utilization of any group. Their average annual liability of $312 is 24 percent lower than the average for all beneficiaries, and they receive, on average, 19 percent fewer services. This finding may reflect the increased frailty of older beneficiaries, who may therefore receive fewer services on an outpatient basis.

Disaggregation by racial category shows that non-white beneficiaries receive slightly more services than their white counterparts, but have a lower coinsurance liability. While the mean coinsurance liability for whites was $414, it was $390 for blacks and $373 for other racial groups. Blacks and other minorities received more outpatient services than whites, although they had lower coinsurance burdens. On average, whites received 6.8 outpatient services during the year, while blacks had 7.5, and other minorities had 7.0. These findings suggest that blacks and other minorities receive a different, lower-intensity mix of services than do white beneficiaries. This may reflect greater use of outpatient departments for primary care by these groups (Forrest and Whelan 2000).

While there are some notable differences in use and coinsurance liability by beneficiary group, no large-scale variation appears. The lack of major differences between beneficiaries is reassuring. Unfortunately, it is not possible now to do more than speculate on the reasons for the observed differences among groups of beneficiaries. We do not know the extent to which differences in health status, income, supplemental insurance coverage, and other factors may account for the observed variations. In addition, we cannot tell if the differences in use reflect access problems, or if they have consequences for health status or quality of care. Finally, the analysis is limited to beneficiaries who had at least one outpatient visit in 1999. Thus, if limited access for a vulnerable group translates into no use of outpatient services at all, the impact is not reflected here. The next section presents results using Medicare Current Beneficiary Survey (MCBS) data to show differences in the probability of using any outpatient services, suggesting that this is indeed an important indicator of access.

TABLE 9-3

Outpatient coinsurance liability and service use, overall and by sub-group

Beneficiary	Percent of sample	Mean coinsurance	95th percentile	Services per person	Encounters per person*
All beneficiaries:	100%	$409	$1,435	6.9	3.1
Sex:					
Male	40	449	1,578	7.5	3.2
Female	60	382	1,340	6.6	3.1
Age:					
Under 65	14	413	1,509	8.5	4.1
65–74	40	427	1,511	6.8	3.1
75–84	34	423	1,441	6.8	3.1
85+	12	312	1,098	5.9	2.6
Race:					
White	86	414	1,441	6.8	3.1
Black	9	390	1,418	7.5	3.7
Other	5	373	1,347	7.0	3.7

Note: *An encounter is defined as all services occurring on the same day. Due to missing data regarding the date of service, this variable was calculated on a smaller set of services than the other variables. Total sample was 790,410 beneficiaries.

Source: MedPAC analysis of 1999 Medicare claims and the 2001 outpatient fee schedule.

TABLE 9-4

Outpatient coinsurance liability and service use for beneficiaries with repeat services

Type of service	Sample size	Mean coinsurance	95th percentile	Services per person	Encounters per person*
Radiation therapy	9,293	$2,876	$5,598	55.5	14.5
Chemotherapy	3,858	2,664	6,588	69.6	15.6
Cardiac rehabilitation	6,183	939	2,454	27.5	11.4

Note: * An encounter is defined as all services occurring on the same day. Due to missing data regarding the date of service, this variable was calculated on a smaller set of services than the other variables. Statistics are for all outpatient services received in the calendar year, not just the repeat service. Volume can include multiple units of a single item, including multiple doses of a drug. The following ambulatory payment classification groups were used as markers for the repeat services: radiation therapy (0300, 0301, 0302); chemotherapy (0116, 0117, 0118); cardiac rehabilitation (0095).

Source: MedPAC analysis of 1999 Medicare claims and the 2001 outpatient fee schedule.

Role of supplemental insurance, income, and health status

The previous analyses used outpatient claims to look at coinsurance liability. This approach does not allow consideration of important factors likely to affect outpatient use, such as

TABLE 9-5

Outpatient coinsurance liability and service use, Medicare Current Beneficiary Survey analysis

Beneficiary group	Percent with any outpatient use*	Among those with any use: Mean coinsurance	95th percentile	Services per person	Encounters per person**
All beneficiaries:	61.2%	$365	$1,288	7.0	2.7
Supplemental insurance status:					
Medicare only	44.8	324	1,065	6.5	2.6
Employer-sponsored or individual supplemental insurance	60.9	383	1,434	6.6	2.5
Medicaid	71.7	321	1,171	8.4	3.5
Income:					
$10,000 or less	64.5	306	1,106	7.2	3.0
$10,001–25,000	62.0	392	1,324	7.1	2.7
$25,001–40,000	59.0	364	1,324	6.5	2.3
$40,000 or more	55.3	421	1,550	7.0	2.4
Health status:					
Excellent/very good	53.0	296	1,190	5.3	2.1
Good	60.6	385	1,332	7.1	2.6
Fair/poor	68.5	428	1,426	8.3	3.3

Note: *This variable includes use of clinical lab and other services not paid under the outpatient prospective payment system.
**An encounter is defined as all services occurring on the same day. Due to missing data regarding the date of service, this variable was calculated on a smaller set of services than the other variables.

Source: MedPAC analysis of the 1997 Medicare Current Beneficiary Survey Cost and Use File and 2001 outpatient fee schedule.

supplemental insurance status, income, and health status. To consider these variables, we matched the 1997 Medicare Current Beneficiary Survey Cost and Use File with the 2001 outpatient PPS fee schedule (see text box, p. 143). As with the outpatient claims analysis, the MCBS analysis discusses coinsurance liability, not out-of-pocket costs, and is limited to beneficiaries in traditional Medicare. The MCBS results show slightly lower coinsurance liability than the 1999 claims do, suggesting a different mix of services in 1997. The differences may also be due to editing done to construct the two data sets.

Supplemental insurance

Supplemental insurance coverage (for example, Medigap, Medicaid, or employer-sponsored insurance) will pay the outpatient coinsurance for most beneficiaries; however, such coverage is not universal. In 1998, 14.4 percent of beneficiaries in the traditional Medicare program had no supplemental coverage and would, therefore, be responsible for the full coinsurance liability discussed in this chapter (MedPAC 2000b). Further, the percent of beneficiaries without supplemental insurance has been increasing annually and is expected to continue to grow. For those with supplemental insurance, the cost of outpatient coinsuance is reflected in increasing premiums. A recent report estimates that one-fourth of recent increases in Medigap premiums are due to the costs of outpatient coinsurance (American Academy of Actuaries 2000).

MedPAC analysis of the MCBS has shown that out-of-pocket expenditures that include the costs of supplemental insurance premiums are, on average, higher for those with supplemental insurance than those without such coverage, primarily due to the premium costs (MedPAC 2000a).

Supplemental coverage correlates strongly with any use of outpatient services (Table 9-5). Among enrollees in traditional Medicare with no supplemental insurance, 44.8 percent received at least one outpatient service in 1997. Among those with individual or employer-sponsored health insurance, 60.9 percent had outpatient use. Those with Medicaid coverage had the highest use. Thus, those with private supplemental coverage are 36 percent more likely to use outpatient services than those with Medicare only, and those with Medicaid coverage are 60 percent more likely than those with only Medicare coverage to receive outpatient services. The high rate of use by those with Medicaid may reflect poorer average health status and greater use of hospitals as a primary care provider, as well as the impact of supplemental insurance.

Among beneficiaries who do use outpatient services, the use of those with only Medicare coverage is similar to that of those with private insurance, but lower than for those with Medicaid. The mix of services varies, however, as shown by the higher average coinsurance liability for those with private supplemental insurance ($383) compared with those with only Medicare ($324) or Medicare and Medicaid ($321).

These findings suggest that supplemental insurance coverage is associated with increased use of outpatient services. However, drawing conclusions based on this finding is difficult because we do not know the optimal rate of service use. Those without supplemental coverage may be receiving too few services, or those with supplemental coverage may be receiving too many. Given the strong correlation between supplemental

insurance status and measures of access to care such as having a regular source of care, having a physician visit, and delaying care due to cost (MedPAC 2000b), some beneficiaries without supplemental insurance may not be receiving outpatient services that might be beneficial.

Income

Lower-income beneficiaries are more likely than those with higher incomes to use outpatient services, perhaps reflecting greater use of outpatient departments as sources of primary care among the low-income population (Forrest and Whelan 2000). Among those who do use the outpatient department, no pattern emerges relating income to the volume of services or coinsurance liability.

Health status

Beneficiaries in poor health are more likely to use the outpatient department than those in better health. Both volume of services and coinsurance liability increase as self-reported health status declines. Those in fair or poor health are 30 percent more likely to receive outpatient services than those in excellent or very good health (with 68.5 and 53.0 percent of beneficiaries receiving services, respectively). Among beneficiaries who use the outpatient department, those in fair or poor health use 57 percent more services than those in excellent or very good health (8.3 and 5.3 services, respectively). Consequently, their coinsurance burden is 45 percent higher ($428 and $296, respectively).

Reducing beneficiary coinsurance

This section describes the beneficiary coinsurance reduction policy included in the BIPA and presents MedPAC projections of the impact of a similar, but extended, coinsurance reduction policy on beneficiaries and the program.

Coinsurance reduction under the Benefits Improvement and Protection Act

In the BIPA, Congress reduced beneficiary coinsurance liability under the outpatient PPS by phasing in a cap on the percent coinsurance for each service provided. Starting on April 1, 2001, coinsurance for a single service cannot exceed 57 percent of the total payment amount for the service. The cap will be 55 percent in 2002 and 2003, and will be reduced by 5 percentage points each year over the 2004-2006 period until coinsurance is limited to 40 percent of the total payment for each service. As the proportion of payment paid by the beneficiary decreases, program spending increases. Total payments to hospitals are not affected by the policy, except to the extent that bad debt is reduced. This policy moves toward the Commission's recommendation of reducing coinsurance to 20 percent, but does not achieve it fully.

The underlying process for decreasing coinsurance will continue during the time of this policy. For services not subject to the coinsurance cap, coinsurance rates will continue to be frozen at 20 percent of historical median charges while total payment rates increase over time by the annual update amount. This allows coinsurance as a share of total payment to decrease gradually each year. In addition, the dollar amount cap equal to the inpatient deductible (introduced in the BBRA) continues to apply.

Although this policy begins to reduce coinsurance, it does not achieve a 20 percent coinsurance rate in a reasonable time period. Assuming a 3 percent annual update, getting to 20 percent coinsurance would take 23 years beyond 2006 for services at the 40 percent coinsurance rate. The Commission's goal of 20 percent coinsurance for all services would not be achieved until 2029. According to our analysis of Medicare claims, in 2006, 261 APC groups, making up 77 percent of volume, would still have coinsurance rates above 20 percent.

Continuing the coinsurance buy-down

MedPAC modeled a policy similar to that contained in the BIPA, but allowed the annual changes to continue until a coinsurance rate of 20 percent was achieved. The policy modeled limits coinsurance to 60 percent of total payment in 2002, and decreases the cap by 5 percentage points every year through 2010, when coinsurance would be limited to 20 percent. As with the BIPA policy, the cap is 40 percent in 2006, but the annual 5 percentage point reduction is extended for an additional four years. To model the impact of this policy, we combined the coinsurance and payment rates under the outpatient PPS with outpatient claims for 1999. We assumed a 3 percent annual update to total payment rates for the outpatient PPS. Therefore, we are modeling the incremental impact of this policy beyond the underlying process which leads to a lower coinsurance rate as the payment rate is increased through annual updates. The analysis is based on volume and service mix in 1999.

The policy enacted by the Congress and the similar modeled policy both significantly impact coinsurance. The first step, limiting coinsurance to 60 percent of the total payment in 2002, will affect 15 APC groups that account for 14.4 percent of the volume of outpatient services and decrease total coinsurance liability for outpatient services paid under the outpatient PPS by 3.0 percent (Table 9-6). The savings to beneficiaries represent 1.4 percent of total payments under the outpatient PPS in 2002 (Table 9-7).[9] Under the policy, total payments to hospitals remain the same, with program spending increased to cover the savings to beneficiaries.

By 2006, when the 40 percent limit is phased in (according to current law), the policy will affect 161 APC groups that account for 64.3 percent of the services provided. Total coinsurance liability in 2006 will be 13.9 percent lower than it

9 The estimates of the cost of the policy to the program presented here cannot be compared to cost estimates provided by the Congressional Budget Office or other actuarial agencies. They do not, for example, consider baseline estimates, project changes in volume and service mix, or calculate premium offsets.

TABLE 9-6

Impact of modeled coinsurance reduction policy, 2002–2010

Year	Percent cap	Number of APC groups affected	Percent of volume affected	Percent reduction in coinsurance
2002	60%	15	14.4%	3.0%
2003	55	22	19.1	4.1
2004	50	48	38.8	5.7
2005	45	92	51.9	8.7
2006	40	161	64.3	13.9
2007	35	202	65.7	21.0
2008	30	227	66.6	28.8
2009	25	247	71.3	37.4
2010	20	258	74.7	47.1

Note: APC (ambulatory payment classification).

Source: MedPAC projections based on 1999 Medicare claims, the 2001 outpatient fee schedule, and the Benefits Improvement and Protection Act of 2000.

TABLE 9-7

Modeled coinsurance reduction as percent of total payment, 2002–2010

		Reduction as percent of total payment	
Year	Percent cap	Compared with BBA policy	Compared with BIPA policy
2002	60%	1.4%	NA
2003	55	1.9	NA
2004	50	2.6	NA
2005	45	3.8	NA
2006	40	5.9	NA
2007	35	8.7	3.7%
2008	30	11.6	7.5
2009	25	14.7	11.3
2010	20	18.0	15.2

Note: BBA (Balanced Budget Act of 1997), BIPA (Benefits Improvement and Protection Act of 2000), NA (not applicable). These estimates do not reflect offsetting increases in Part B premiums.

Source: MedPAC projections based on 1999 Medicare claims, the 2001 outpatient fee schedule, and the BIPA.

would have been prior to passage of the BIPA. These savings to beneficiaries represent 5.9 percent of total payments to hospitals. The greatest impact on beneficiary coinsurance comes in 2005 and 2006, when the policy affects a large number of services with coinsurance rates of 40 to 50 percent.

Continuing the decline in coinsurance beyond 2006 would yield even greater reductions in coinsurance. When a coinsurance rate of 20 percent is achieved in 2010, coinsurance amounts would be lower for 258 services that account for 74.7 percent of outpatient volume, reducing beneficiaries' liability by 47.1 percent.

We also examined the reduction in coinsurance for beneficiaries by their level of coinsurance burden in 2001 (data not shown). All groups benefit from the policy. Those with the lowest coinsurance liability—$0-250 in 2001—receive the smallest percent reduction in coinsurance in each year (13.1 percent in 2006, rising to 39.9 percent in 2010). The highest percent reduction in coinsurance occurs for those with moderate coinsurance—$251-$500 in 2001 (18.1 percent in 2006, rising to 50.3 percent in 2010). Those with the highest levels of liability—$1,251 or higher in 2001—receive average percent reductions over time (12.7 percent in 2006, rising to 48.2 percent in 2010).

As coinsurance decreases, program spending must increase so that total payments to hospitals remain the same. The 47.1 percent reduction in coinsurance in 2010 represents 18.0 percent of estimated total payments for outpatient services in that year (Table 9-7).[10] This is the amount by which program costs must increase. This cost estimate compares 20 percent coinsurance with the BBA policy of a gradual decrease in coinsurance as payment rates are updated. It does not factor in the BBA percent coinsurance cap. The incremental cost of decreasing coinsurance beyond the BIPA limit of 40 percent is 15.2 percent of total payments in 2010, before accounting for offsetting increases in Part B premiums. HCFA actuaries project total outpatient PPS payments of $41.5 billion in 2010, including payment adjustments. ■

10 The total payments referred to here are the payments for individual services. They do not include payment adjustments such as outlier payments and pass-through payments. Including these adjustments in the total payments would result in a lower estimate of cost as a percent of total payments.

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CHAPTER 10

Treatment of the initial residency period in Medicare's direct graduate medical education payments

RECOMMENDATION

The Congress should eliminate the weighting factors that currently determine Medicare's direct graduate medical education payments and count all residencies equally through completion of residents' first specialty or combined program and subspecialty if one is pursued. Residents training longer than the minimum number of years required for board eligibility in a specialty, combined program, or subspecialty should not be included in hospitals' direct graduate medical education resident counts. These policy changes should be implemented in a budget-neutral manner through adjustments to the per resident payment amounts.

***YES: 12 • NO: 0 • NOT VOTING: 0 • ABSENT: 4**

***COMMISSIONERS' VOTING RESULTS**

CHAPTER 10

Treatment of the initial residency period in Medicare's direct graduate medical education payments

In this chapter

- Medicare's payments for direct graduate medical education costs for residents
- Programs with training beyond the initial residency period
- Revising the initial residency period

Medicare makes direct graduate medical education payments to hospitals that operate residency training programs based on predetermined per resident amounts. Hospitals' receive a full payment for residents who are within the initial residency period for their specialty—the minimum number of years required to qualify for board certification up to five years—but only half for residents training past the initial period. The Balanced Budget Refinement Act of 1999 required the Medicare Payment Advisory Commission to make recommendations on the appropriateness of the initial residency period, especially whether it should be changed for combined residency training programs or those that require preliminary years of training in another specialty. The payment differentials between training programs may influence hospitals' decisions on the types of residents they train. The Commission believes, however, that Medicare should not be involved in setting health workforce policy and therefore recommends that these weighting factors be eliminated in a budget neutral manner. If this policy were adopted, Medicare's direct graduate medical education payments would cover the minimum training period for the first specialty residents plan to complete, and, if chosen, that for the first subspecialty.

A well-trained supply of physicians and other health care professionals is essential to providing high-quality care for Medicare beneficiaries. This raises the question of what role the Medicare program should play in ensuring an appropriate supply and distribution of health care professionals. The Commission has concluded that although Medicare spending for health care services influences the health workforce in many ways, hospital payment policy is too blunt an instrument on which to rely to achieve specific workforce goals.

In our August 1999 report to the Congress on Medicare's payment policies for graduate medical education and teaching hospitals, we concluded that residents bear the cost of their training by accepting lower wages than they might otherwise earn and, therefore, that Medicare payments for direct graduate medical education (GME) costs should be considered patient care expenses (MedPAC 1999). Consequently we recommended folding costs for inpatient direct GME into prospective payment system rates through a revised indirect medical education (IME) adjustment to teaching hospitals' payments (MedPAC 2000). We also recommended that federal policies intended to affect the number, specialty mix, and geographic distribution of health care professionals be implemented through specific targeted programs rather than through Medicare's payment policies.

For this report, the Congress asked the Medicare Payment Advisory Commission (MedPAC) to examine only one aspect of Medicare's current payment polices for direct GME costs: whether the initial residency period should be extended for residencies requiring prerequisite years of training or for combined programs. Because we believe the broader question of whether Medicare's payment policies should be used to influence the specialty distribution of residents is the key to considering the Congress's question, this chapter presents a brief discussion of both issues.

Medicare's payments for direct graduate medical education costs for residents

Medicare currently provides over $2 billion in direct GME payments to hospitals for training allopathic, osteopathic, dental, and podiatry residents. The program provides payments to hospitals for residents in approved training programs, regardless of specialty or whether the residents' care is for Medicare beneficiaries. Direct GME payments are based on hospital-specific per resident costs in a base period, updated for inflation. A hospital's payment is the product of three factors:

- its per resident payment amount,
- a weighted count of full-time equivalent (FTE) residents training in the facility, and
- the hospital's Medicare patient share; the ratio of Medicare patient days to total patient days in the acute inpatient setting.[1]

The weighting of FTE residents is based on the length of a resident's initial training period. A full-time resident in the initial residency period is counted as 1.0 FTE, whereas any resident training past this period is counted as 0.5 FTE. These weighting factors, though, do not apply to the resident counts used for calculating Medicare's IME adjustment. Because many residents train beyond the initial residency period, a weighting factor of less than 1.0 may influence hospitals' decisions on the types of residents they train.

The initial residency period

The Accreditation Council for Graduate Medical Education (ACGME) is responsible for accrediting post-MD medical training in the United States. In concert with individual specialty boards, the ACGME defines the minimum training standards, including minimum length of training, for the different allopathic specialties and subspecialties. Medicare uses these published standards to establish the length of the initial residency period for particular specialties. Similar processes exist for accrediting and setting training standards for post-doctoral training programs in the osteopathic, dental, and podiatric medical professions, which the Health Care Financing Administration (HCFA) uses to determine the initial residency period for the various residency programs in these medical professions. The accrediting and approval bodies for these residency training programs are the Council on Postdoctoral Training of the Bureau of Professional Education of the American Osteopathic Association (AOA), the Commission on Dental Accreditation (CODA), and the Council on Podiatric Medical Education (COPME).

For most specialties, the initial residency period is the minimum number of years of formal training necessary to satisfy the specialty's requirements for board eligibility, up to five years.[2] The initial residency period is determined based on the specialty program a resident first enters after completing medical school. For example, the initial residency periods for residents entering internal medicine and general surgery programs are three and five years, respectively. (See Appendix C for information on the lengths of initial residency periods for other specialties.) Residents who pursue subspecialty training (such as cardiology or vascular surgery) or training in a second specialty, are considered to have completed their initial residency period.

1 The Balanced Budget Act of 1997 and the Balanced Budget Refinement Act of 1999 made several changes to Medicare direct GME payments that affect both the per resident payment amounts for individual hospitals and the resident counts used to determine total payments in a given year. Hospitals currently face hospital-specific caps on the number of allopathic and osteopathic residents Medicare will support and the resident count used to calculate payments is based on a three year rolling average instead of a single year resident count.

2 Before July 1, 1995, the initial residency period was one year longer than the minimum training period, also up to a maximum of five years.

The Health Care Financing Administration adjusts the initial residency periods to reflect changes in training requirements adopted by the different approving bodies (ACGME, AOA, CODA, and COPME).

Development of and modifications to the initial residency period

In enacting current policy, the Congress directed that Medicare would pay its full share for a resident's first program, but not a second one. Some members of the Congress also wanted to encourage training in primary care and discourage subspecialization. (At the time, an overwhelming majority of residents in internal medicine subspecialized, today it is about half.) The Congress also limited the total amount of training fully supported for any individual to five years, discouraging specialties from lengthening training periods and residents from pursuing more than one specialty.

The Congress has made several exceptions to the initial residency periods for specific specialties. In the 1986 legislation establishing the current payment system, up to two years of training in approved geriatric residency and fellowship programs were exempted from the initial residency period. In 1993, a similar exemption was extended to residents pursuing additional training in approved preventive medicine training programs. Residents in approved geriatric or preventive medicine programs who have completed their initial residency period, therefore, continue to be counted as 1.0 FTE for up to two years of training, so long as the minimum period for board eligibility is two years.

The Balanced Budget Act of 1997 extended the initial residency period for combined primary care programs (such as internal medicine / pediatrics) by one year, to cover the full length of training required in such programs. (Primary care specialties include allopathic and osteopathic family practice, general internal medicine, general pediatrics, preventive medicine, and geriatric medicine.) The Balanced Budget Refinement Act of 1999 changed the initial residency period for child neurology training programs to the number of years for pediatrics plus two years, lengthening the initial residency period to cover the full training period required in this specialty.

The Congress also enacted policies differentiating payment rates based on residents' specialties. In the Omnibus Budget Reconciliation Act of 1993, it updated the per resident payment amounts for 1994 and 1995 only for residents in primary care and obstetrics and gynecology training programs. As a result, per resident payment amounts are about 6 percent higher for these specialties.

Programs with training beyond the initial residency period

Three types of residency programs may require training beyond the initial residency period (see text box, p. 158). These programs include:

- programs with prerequisites requiring one or two years of prior training in another specialty;
- combined programs, which allow residents to be certified in two specialties; and
- subspecialty programs, in which residents who have completed training in a specialty are trained further in one aspect of that specialty (for example, gastroenterology or vascular surgery).

Hospitals receive lower direct GME payments for at least a part of the training period for residents in most of these programs. For programs with prerequisites, the initial residency period varies depending on how the preliminary year of training is accomplished. For combined programs in which the specialties are not both primary care, the initial residency period is that for the specialty that has the longest training period. All subspecialty training takes place outside of the initial residency period.

The initial residency period definitions and weighting factors also affect payments for residents pursuing a second specialty or those who switch specialties during training. Residents pursuing a second specialty are counted as 0.5 FTE in the second specialty. The initial residency period for residents who change their specialty is based on the specialty they first entered after medical school. For example, residents who switch from general surgery to internal medicine after two years of training would have three years remaining in their initial residency period and would be counted as 1.0 FTE throughout this training. On the other hand, residents who switch from internal medicine to general surgery after two years would have only one more year in their initial residency period and thus would be counted as 0.5 FTE for the last four years of general surgery training (assuming five years to complete the new program).

Revising the initial residency period

As discussed in detail in MedPAC's August 1999 report on Medicare's payment policies for graduate medical education and teaching hospitals, we believe that Medicare's payment policies should not be used to influence the specialty mix of the physician workforce. However, the current set of weighting factors for direct GME payments may do just that. We believe these differential weighting factors are inappropriate, and therefore recommend that they be eliminated.

Specialties with training beyond the initial residency period

Three types of specialties require training beyond the initial residency period.

Programs with prerequisites

A number of specialty programs require one or two years of prior general training in another specialty before receiving training in the specific specialty; these include anesthesiology, dermatology, pathology, radiology, child neurology, and ophthalmology. Prerequisite years of training can be taken in a preliminary program in another specialty (such as internal medicine or general surgery), in a one-year transitional program, or in the actual specialty if a first-year position is offered. If the preliminary year or years of training are taken in another specialty, the initial residency period is determined based on the training required to become board eligible in the preliminary specialty. Residents therefore will not be in the initial residency period for the final year(s) of training if the initial residency period for the preliminary specialty is shorter than the training period required in the final specialty. (See Appendix C, Table C-1, for more detail on the different specialty programs with prerequisites.)

A similar issue pertains to osteopathic training. All specialty programs in the osteopathic profession require completion of a one-year internship as a prerequisite for entering osteopathic residency. However, when an osteopathic physician seeks to enter an Accreditation Council for Graduate Medical Education (ACGME)-approved residency program, the ACGME-approved program frequently does not recognize the American Osteopathic Association internship year as a requirement for the first year in that residency program. Therefore, under present policy, the osteopathic physician would be counted as 0.5 FTE for the last year of the training program.

Combined programs

Combined programs allow residents to seek certification in two specialties, such as internal medicine and psychiatry. Residents cannot become board certified in either specialty until they complete the combined program. The total length of training in combined programs generally is less than if the two programs were taken separately, but at least one year longer than the training required in the longest of the specialties. The initial residency period for combined programs is based on the training period required for the longest of the two specialties, although when the programs are both in primary care specialties (or primary care and obstetrics and gynecology) the initial residency period is extended by one year to cover the full length of training. Residents in combined programs that are not both primary care specialties are counted as 0.5 FTE during the one or two years of training beyond the initial residency period. (See Appendix C, Table C-2, for more detail on the different combined training programs.)

Subspecialty programs

Subspecialty programs require residents to complete training in a specific specialty, such as internal medicine, pediatrics, or general surgery, before starting the subspecialty program. Examples of subspecialty programs include cardiovascular disease, critical care medicine, gastroenterology, hand surgery, and thoracic surgery. Because residents entering these programs have completed their initial residency periods, they are counted as 0.5 FTE for the full length of training in the subspecialty. (See Appendix C, Table C-3, for more detail on the different subspecialty training programs.) ■

RECOMMENDATION

The Congress should eliminate the weighting factors that currently determine Medicare's direct graduate medical education payments and count all residencies equally through completion of residents' first specialty or combined program and subspecialty if one is pursued. Residents training longer than the minimum number of years required for board eligibility in a specialty, combined program, or subspecialty should not be included in hospitals' direct graduate medical education resident counts. These policy changes should be implemented in a budget-neutral manner through adjustments to the per resident payment amounts.

The Commission recognizes that the Congress asked a narrower policy question regarding use of the initial residency period for combined programs and specialties with prerequisites. The policy changes we recommend would allow hospitals to receive full funding for residents through completion of the minimum period of training required for board certification in a specialty and subspecialty making Medicare's GME payments policy neutral.

For training programs that require preliminary years of training before residents enter the chosen specialty, the changes we recommend would provide full funding for the entire length of training. For example, a resident who completed an anesthesiology residency program after a preliminary year of internal medicine training would be counted as a full FTE for four years instead of three, as is the case under current policy.

Current policy allows for full funding of combined programs in which both specialties are considered primary care

(including in this definition obstetrics and gynecology), but the program provides only partial support for the last years of training if the combined specialties are not both primary care. The current policy therefore provides somewhat of a disincentive for dual certification in these combined programs. Our recommendation would extend Medicare's payments to cover the full training period required by all combined training programs.

Hospitals receive lower direct GME payments for residents pursuing subspecialty training. This policy may inappropriately influence hospitals' decisions on supporting such training. Our recommendation would remove this disincentive and make Medicare policies neutral with regard to subspecialty training. Residents who decide to enter an approved subspecialty training program would be counted as 1.0 FTE for each year of approved training rather than 0.5 FTE as under current policy.

We believe Medicare's direct GME payments should be limited to the minimum training period required for residents to receive board certification in the first specialty they plan to complete, and if chosen, the first subspecialty. Training in a second specialty or second subspecialty should not be supported unless it is part of a combined training program. The additional years of training required for residents who decide to switch specialties partway through their training also should not be supported. These limitations should discourage any unnecessary lengthening of training by individual residents and residency programs as well as multiple specialization and perpetual training.

Other things being equal, eliminating the weighting factors currently in place for subspecialty training programs would potentially increase Medicare's direct GME payments by roughly 5 to 8 percent. We believe these changes should be implemented in a budget neutral manner, so that total direct GME funding for residency training does not change. Even if implemented on a budget neutral basis, our recommendation would likely have a relatively small impact on total hospital payments. Hospitals that do not have any subspecialty training would likely see a small drop in payments. Hospitals with substantial subspecialty training (those at which more than 15 percent of residents are in a subspecialty) would likely see a small increase in payments. Further research would be necessary to more accurately estimate the quantitative impact of adopting our recommendations. ■

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APPENDIX A

Overview of new hospital technologies for fiscal year 2002

APPENDIX A

Overview of new hospital technologies for fiscal year 2002

To encourage hospitals to adopt new technologies that enhance quality of care for Medicare beneficiaries but increase costs, MedPAC includes an allowance for scientific and technological advances in its hospital update framework. In determining the magnitude of the allowance, we consider only those new technologies that have progressed beyond the initial experimental stage of development but are not fully diffused in the inpatient hospital setting. Payment for fully diffused technology is subsumed in the base.

Current approach

The allowance for scientific and technological advances (S&TAs) represents MedPAC's best estimate of the incremental increase in costs for a given fiscal year that will result from hospitals adopting new technologies or new applications of existing technologies beyond that automatically reflected in the payments hospitals receive. To derive the fiscal year 2002 allowance, we are using a qualitative method similar to our approach for fiscal years 2000 and 2001. First, we reviewed the technologies included in fiscal year 2000 and 2001 updates that continue to diffuse and estimated changes in their overall use and costs predicted for fiscal year 2002 (MedPAC 1999; MedPAC 2000). Next, we attempted to identify new technological advances for this year's update by reviewing select medical literature, trade journals and popular press; approvals of drugs, devices, and biologics by the Food and Drug Administration (FDA); and information from other federal and private organizations. As in prior analyses, we did not attempt to identify all cost-increasing technologies, but focused on the most significant medical and scientific advances from a cost and potential diffusion perspective. Finally, we included only those quality-enhancing technologies that met the following criteria as best as we could determine:

- The technology was approved by the FDA as appropriate.
- At least an estimated 5 percent but no more than 75 percent of relevant Medicare beneficiaries (patients whose medical condition warrants use of the technology) would receive the technology.
- Substantially higher net treatment costs would result from use of the new technology.

We divided new technologies into five broad categories that we believe encompass virtually all of the advances expected to contribute significantly to increased costs:

- information systems;
- drugs and biologics;
- devices and diagnostics;
- imaging technology; and
- surgical/procedural techniques and other technological advances.

These categories are similar to those we used for the 2000 and 2001 allowance except that we have grouped drugs with biologics and devices with diagnostics and have added a category for surgical and procedural techniques. While advances in cardiology continue to increase costs significantly, we have generalized the categories of drugs and biologics and devices and diagnostics to include advances in all specialties.

In some cases, the new technology would replace a less expensive older technology. In addition, the cost of new technologies may be partially offset by productivity increases. For the purpose of determining the S&TA adjustment, we attempt to

estimate the net of the new and old technology costs. In calculating the adjustment, it is also important to keep in mind that the use of these new technologies is limited to a fraction of patients in certain diagnosis related groups. Thus, while the list of S&TAs appears impressive in scope, the S&TA contribution to total hospital costs remains relatively minor.

The following sections contain categorical listings of FDA-approved scientific advances since our last review of this topic in June 2000 as well as recently developed technologies which were identified in our two previous reviews of S&TAs (MedPAC 1999, MedPAC 2000) but which continue to diffuse.

Information systems

Coordination of health care across different providers is critical to ensuring quality of care, and delivery of coordinated health care is dependent on the availability of integrated information systems. In light of the trend for more coordinated care delivery by hospitals, information systems will probably continue to account for a significant proportion of increased costs in fiscal year 2002. This will encompass multisite, integrated information systems that capture, store and tabulate financial, pharmacy, radiology, patient care, and laboratory data. In particular, recent emphasis on reduction and elimination of systematic medical errors will prompt hospitals to invest further in information systems that can detect medication errors and diagnostic inaccuracies (IOM 2000). As hospitals continue to develop clinical and financial data repositories and electronic medical records, technology to standardize, aggregate, integrate, and transfer information through secure channels across multiple providers within a network as well as to parties outside a health care system, including Medicare, becomes a high priority expense.

The Balanced Budget Act of 1997 (BBA) required Medicare to cover interactive telemedicine consultations in areas designated as health professional shortage areas. Telemedicine—the electronic delivery of health care information and services—continues to diffuse into underserved areas. Rural hospitals continue to expand existing and implement new uses of telemedicine, which will increase access to care for Medicare beneficiaries but will require continued investment in this technology.

Video-conferencing, which uses the internet and web-based diagnostic software, may enable physicians to care more efficiently for patients, especially in the intensive care unit (ICU). Using this technology, nurses will be more effective in communicating with and transmitting data to intensivists and other physicians who are not physically present in the ICU.

Drugs and biologics

MedPAC believes that continued diffusion of new drugs and biologics will have at least a modest impact on total costs for hospitals in fiscal year 2002. Stunning advances in molecular and genetic medicine have yielded innovative yet costly approaches to treating certain diseases. For example, drugs and biologics recently approved by the FDA include:

- platelet aggregation inhibitors to treat acute coronary syndrome (GP IIb/IIIa inhibitors);
- new antiarrhythmics;
- protease inhibitors to reduce perioperative blood loss in patients undergoing cardiopulmonary bypass;
- a quinolone derivative to treat intermittent claudication;
- an agent to treat acute deep-vein thrombosis;
- fibrin sealants that prevent or reduce bleeding from small blood vessels during and after surgery;
- an injectable sustained-release formulation to treat lymphomatous meningitis;
- a retinoid and a fusion protein to treat certain lymphomas;
- a genetically engineered protein that reduces symptoms of rheumatoid arthritis;
- a recombinant thrombin inhibitor to reverse anticoagulation associated with heparin-induced thrombocytopenia;
- a synthetic plasma expander to treat hypovolemia;
- a skin construct to treat venous leg ulcers;
- anti-infectives to treat certain bacterial infections, including those caused by gram-negative organisms and resistant strains;
- new cyclooxygenase-2 (cox-2) inhibitors for osteoarthritis and rheumatoid arthritis;
- an anticoagulant to prevent clot formation after surgery;
- antineoplastics for certain cancers;
- agents to reduce the side effects of some cancer therapies;
- new agents for surgical anesthesia and sedation;
- mitoxantrone, an approved cancer drug, for treatment of advanced or chronic multiple sclerosis; and
- verteporfin (injection) followed by laser treatment for age-related macular degeneration.

Devices and diagnostics

New devices and diagnostics are a perpetual source of increased costs for hospitals. MedPAC believes that continued diffusion of advances in this

category will have a small impact on total hospital costs for fiscal year 2002. Some recent advancements include:

- biventricular pacing devices with implantable defibrillators for congestive heart failure;
- catheter-based devices that remove blood clots from occluded coronary arteries or bypass grafts;
- stents (liver, biliary, and lung);
- endovascular devices that reinforce aortic aneurysms;
- intravascular brachytherapy systems that administer radiation energy for treatment of in-stent restenosis;
- an electronic device to treat post-operative nausea;
- abdominal implant for treatment of chronic, intractable (drug-refractory) nausea and vomiting secondary to gastroparesis;
- biological sensors (continuous glucose monitoring system);
- drug delivery implants with and without biosensors that monitor drug or chemical concentrations in body fluids;
- a brain stem implant device for patients who experience total hearing loss when the removal of a tumor damages their cranial hearing nerves;
- robotics for minimally invasive surgery (robotic-enhanced endoscopic systems for arterial revascularizaton, three-dimensional video and robot-assisted port-access mitral valve operation, and robotic-enhanced laparoscopic surgery for gall bladder and reflux disease);
- microchip devices for various indications; for example, for restoring vision in patients with diseases of the retina;
- a fully automated blood testing system;
- immunoblot assay for hepatitis C virus;
- an ultrasonic scalpel or ultrasonically activated shears;
- handheld radioguided probes or detection devices to assist in certain surgeries; and
- a laser to treat pain caused by herniated or ruptured spinal discs.

Imaging technology

Over the past several decades, tremendous quality-of-care enhancements have been achieved in the fields of radiology, imaging and nuclear medicine. In the next year, new imaging technology and additional applications of existing technologies including magnetic resonance imaging, positron emission tomography, ultrasound and computed tomography, will continue to increase costs for hospitals. MedPAC believes that diffusion of advances in these areas will have a small impact on total hospital costs in fiscal year 2002. Some recent advancements include:

- digital mammography and breast imaging devices (T-scan) to clarify ambiguous mammograms;
- mini-magnetic resonance devices to view internal body structures;
- handheld ultrasound devices;
- expanded uses for endoscopic ultrasonography;
- electron-beam computed tomography to detect blockages in arteries;
- functional anatomic mapping systems;
- positron emission tomography to diagnose certain cancers;
- radiosurgery devices that direct radiation to treat certain solid tumors; and
- new imaging agents to detect certain lung tumors and certain brain and spinal lesions.

Surgical/procedural techniques and other technological advances

MedPAC anticipates that new surgical or procedural techniques will collectively result in a small increase in total hospital costs for fiscal year 2002. Some examples include:

- transmyocardial revascularization, a laser treatment that opens tiny channels in the heart muscle, increasing cardiac blood flow in patients with severe angina;
- laser angioplasty;
- minimally invasive and off-pump coronary artery bypass surgery;
- new and expanded transplantation procedures and techniques;
- intraclot recombinant tissue plasminogen activator for deep venous thrombosis of the extremities;
- photodynamic therapy for treatment of various tumors;
- hand-assisted laparoscopic surgery;
- radiofrequency ablation of unresectable hepatic malignancies;
- extracorporeal life support for cardiac and pulmonary failure;
- extracorporeal perfusion for the treatment of acute liver failure; and
- permanent sacral nerve stimulation for fecal incontinence.

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APPENDIX B

A data book on hospital financial performance

APPENDIX B

A data book on hospital financial performance

This appendix provides detail on Chapter 5, which covers financial performance and the payment update for hospitals covered by prospective payment. The analyses and data in this section were used to support our update recommendation for inpatient prospective payment system (PPS) payments, and other MedPAC recommendations.

Tables in this data book provide variables by hospital group and are presented for 10 years (1990-1999) unless otherwise noted below. Hospitals are grouped by several attributes, including location (urban and rural), teaching status (major teaching, other teaching, nonteaching), receipt of disproportionate share payments, census region, and ownership status. All measures are national aggregates, not the averages of individual facilities; this provides an overview of the industry as a whole. Definitions of the variables included in these tables can be found in the table notes.

The data book starts with case-based variables:

- Table B-1 shows trends in hospital payment per case, cost per case and length of stay.
- Table B-2 shows the trend in Medicare cost per discharge.
- Table B-3 shows the trend in Medicare inpatient length of stay.

Further tables present data on a number of margin measures for PPS hospitals, based on Medicare Cost Report data. This analysis features our overall Medicare margin, which incorporates payments and costs for inpatient and outpatient services, as well as hospital-based home health, skilled nursing and PPS-exempt units. Margins for each of these components and the overall Medicare margin (which includes graduate medical education and Medicare bad debt) are presented by hospital group.

- Table B-4 shows the trend in Medicare inpatient margins.
- Table B-5 shows the distribution of Medicare inpatient margins for 1999.
- Table B-6 shows the trend in Medicare outpatient margins for 1996 through 1999.
- Table B-7 shows the trend in hospital-based Medicare skilled nursing facility margins for 1996 through 1999.
- Table B-8 shows the trend in hospital-based Medicare home health agency margins for 1996 through 1999.
- Table B-9 shows the trend in Medicare PPS-exempt unit margins for 1996 through 1999.
- Table B-10 shows the trend in the overall Medicare margins for 1996 through 1999.

The analysis is then expanded from Medicare to comparative tables among payers, both by hospital group and by state. These tables contain aggregate values for all short-term non-federal hospitals, which includes all PPS hospitals and most PPS-exempt facilities.

- Table B-11 shows the trend in payment-to-cost ratio by payer.
- Table B-12 shows the trend in gains or losses by payer.
- Table B-13 shows the payment-to-cost ratio by payer and hospital group for 1999.
- Table B-14 shows cost share by payer and hospital group for 1999.

- Table B-15 shows gains and losses by payer and hospital group for 1999.
- Table B-16 shows the payment-to-cost ratio by payer and state for 1999.
- Table B-17 shows gains and losses by payer and state for 1999.

The appendix concludes with data on hospital total margin.

- Table B-18 shows the trend in hospital total margins.
- Table B-19 shows the distribution of hospital total margins for 1999.

TABLE B-1

Change in hospital payment, cost, and length of stay indicators, 1990–1999

Year	Medicare operating update	Market basket	Medicare payments per case	Medicare costs per case	Medicare length of stay	Total length of stay	Costs per adjusted admission	Implicit price deflator*
1990	4.7%	4.5%	6.1%	8.2%	−1.4%	−1.0%	5.1%	3.8%
1991	3.4	4.4	6.1	7.0	−2.7	−1.3	5.5	3.7
1992	3.0	3.2	6.2	4.6	−3.3	−1.6	5.7	2.3
1993	2.7	3.1	3.5	1.2	−5.5	−2.3	3.4	2.5
1994	2.0	2.6	3.1	−1.1	−6.0	−3.8	−0.1	2.3
1995	2.0	3.2	4.9	−1.2	−6.2	−4.3	−0.5	2.1
1996	1.5	2.4	5.4	−0.4	−5.5	−3.5	0.4	1.9
1997	2.0	2.0	1.9	0.8	−3.4	−1.9	−1.5	1.7
1998	0.0	2.9	−2.1	1.5	−2.4	−0.9	−2.3	1.3
1999	1.1	2.5	0.7	2.3	−1.6	−1.8	2.7	1.4

Note: *The implicit price deflator is a measure of general inflation in the economy. Implicit price deflator base 1989=100. Calculated from quarterly data.

Source: MedPAC analysis of Medicare Cost Report data from HCFA, data from the American Hospital Association Annual Survey of Hospitals, and Bureau of Economic Analysis data from BEA web site.

TABLE B-2

Change in Medicare inpatient cost per discharge, 1990–1999

Hospital group	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
All hospitals	8.2%	7.0%	4.6%	1.2%	−1.1%	−1.2%	−0.4%	0.8%	1.5%	2.3%
Urban	7.8	6.7	4.4	1.1	−1.5	−1.4	−0.6	0.7	1.4	2.1
Rural	9.8	8.7	5.9	2.1	0.8	0.1	1.2	1.8	2.4	3.9
Large urban	7.4	6.1	3.4	1.3	−2.0	−1.5	−0.6	0.8	1.6	2.1
Other urban	8.4	7.6	6.1	0.8	−0.6	−1.2	−0.4	0.7	1.2	2.2
Rural referral	9.2	8.7	5.6	2.1	0.2	−0.4	−0.1	1.2	2.6	4.4
Sole community	9.1	8.6	4.8	2.5	1.1	1.6	1.9	2.0	2.6	3.0
Small rural Medicare-dependent	10.1	9.2	4.7	1.8	1.5	−2.5	4.8	1.3	2.0	1.6
Other rural < 50 beds	13.7	6.8	6.3	2.2	2.3	2.1	3.3	1.4	4.4	1.7
Other rural ≥ 50 beds	9.3	8.7	7.0	1.5	0.8	−0.3	0.5	2.7	1.5	4.2
Major teaching	7.8	6.9	3.7	2.0	−2.5	−1.1	1.1	1.5	0.5	2.1
Other teaching	8.3	6.8	4.5	0.8	−1.2	−0.8	−0.7	0.7	1.6	1.3
Non-teaching	8.0	7.2	4.8	1.1	−0.7	−1.8	−0.8	0.7	1.7	3.0
Major teaching										
Public	5.9	7.3	5.6	0.3	−3.5	−1.8	5.1	0.8	1.5	10.6
Private	8.3	6.8	3.3	2.3	−2.4	−0.9	0.1	1.5	0.4	0.9
Other teaching										
Public	9.4	8.6	5.2	0.4	−1.1	−1.9	−2.4	0.8	3.6	1.3
Private	8.3	6.6	4.5	0.9	−1.2	−0.7	−0.6	0.8	1.4	1.2
Non-teaching										
Public	9.3	9.0	5.6	2.1	0.8	−1.0	0.9	1.0	2.4	2.9
Private	7.7	6.8	4.7	0.9	−1.0	−1.9	−1.1	0.7	1.6	3.1
DSH										
Large urban	7.2	6.2	3.0	0.9	−2.1	−1.4	−0.4	1.2	1.5	1.6
Other urban	8.4	7.9	6.5	0.8	−0.4	−1.4	−0.3	0.9	1.0	2.0
Rural	9.8	9.4	7.1	2.3	0.1	−1.4	0.1	2.4	2.7	3.9
Non-DSH	8.6	7.1	4.8	1.5	−0.9	−0.9	−0.4	0.4	1.7	2.8
Teaching and DSH	8.1	7.0	4.3	0.9	−1.7	−1.0	0.2	1.3	1.1	1.1
Teaching and non-DSH	8.6	6.5	4.5	2.1	−1.4	−0.6	−0.9	0.2	1.7	2.0
Non-teaching and DSH	7.4	7.0	4.8	0.8	−0.8	−2.4	−1.8	0.8	1.7	2.8
Non-teaching and non-DSH	8.4	7.4	4.9	1.2	−0.6	−1.3	0.0	0.7	1.7	3.2
New England	6.6	2.7	4.3	2.6	0.9	−0.5	−1.4	−0.4	0.0	2.2
Middle Atlantic	8.4	6.7	4.7	2.2	−0.7	0.1	−0.9	1.7	0.0	1.2
South Atlantic	9.2	6.8	4.6	1.0	−1.8	−2.1	−0.6	0.6	1.9	2.7
East North Central	7.8	7.5	5.0	1.0	−0.6	−0.2	−0.3	−0.1	1.9	2.4
East South Central	10.4	10.2	7.3	0.1	−3.2	−1.9	1.3	1.4	2.1	4.3
West North Central	10.6	6.3	4.9	1.4	0.1	−0.6	3.3	2.6	2.7	2.9
West South Central	8.6	8.5	3.9	1.9	−1.6	−3.4	−1.9	0.2	0.9	1.8
Mountain	7.7	6.4	5.4	−0.3	0.4	−1.4	0.2	0.8	3.2	1.8
Pacific	5.0	6.9	3.0	0.2	−1.7	−1.5	0.1	1.8	2.5	4.2
Voluntary	8.2	6.9	4.6	1.4	−1.0	−0.9	−0.2	0.8	1.4	1.9
Proprietary	7.7	6.2	3.6	−0.7	−3.0	−3.6	−4.0	1.0	1.3	3.6
Urban government	7.2	7.9	5.5	0.8	−1.5	−2.0	1.4	0.2	2.1	3.6
Rural government	10.5	9.5	6.3	3.1	2.0	0.1	2.1	1.9	2.5	3.5

Note: DSH=disproportionate share hospital. Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment.

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

TABLE B-3

Change in Medicare inpatient length of stay, 1990–1999

Hospital group	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
All hospitals	−1.5%	−2.7%	−3.3%	−5.5%	−6.0%	−6.2%	−5.5%	−3.4%	−2.4%	−1.6%
Urban	−1.8	−3.0	−3.4	−5.9	−6.3	−6.6	−5.9	−3.4	−2.4	−1.6
Rural	−0.2	−1.3	−3.1	−3.5	−4.3	−4.7	−3.8	−3.0	−2.5	−1.3
Large urban	−2.1	−3.5	−3.8	−5.7	−6.7	−6.4	−5.8	−3.3	−2.2	−0.9
Other urban	−1.3	−2.3	−2.8	−6.0	−5.8	−6.7	−5.9	−3.6	−2.5	−2.6
Rural referral	−1.0	−1.8	−3.8	−4.6	−6.3	−5.9	−5.7	−3.5	−1.6	−1.0
Sole community	−0.6	−1.0	−2.4	−2.9	−2.9	−3.5	−3.0	−2.5	−3.3	−0.5
Small rural Medicare-dependent	0.0	−0.5	−2.7	−2.2	−2.1	−4.1	0.1	−2.0	−3.2	−2.7
Other rural < 50 beds	2.1	−2.0	−2.4	−1.9	−3.3	−1.4	−1.8	−3.7	−3.0	−0.8
Other rural ≥ 50 beds	0.2	−1.2	−3.1	−3.3	−3.7	−5.3	−3.7	−2.9	−2.6	−2.0
Major teaching	−2.3	−3.1	−3.5	−5.5	−7.2	−6.7	−6.5	−4.1	−3.1	−1.0
Other teaching	−1.5	−3.0	−3.4	−6.3	−6.3	−6.3	−6.1	−3.6	−2.5	−2.7
Non-teaching	−1.3	−2.4	−3.4	−4.9	−5.4	−6.1	−4.9	−2.9	−2.2	−1.0
Major teaching										
Public	−3.1	−1.7	−3.4	−5.6	−5.4	−6.7	−5.0	−3.8	−1.8	1.2
Private	−2.2	−3.5	−3.4	−5.5	−7.5	−6.8	−6.8	−4.1	−3.2	−1.2
Other teaching										
Public	0.2	23.4	22.3	27.2	26.1	26.6	27.4	24.3	21.7	23.5
Private	−1.6	−3.0	−3.5	−6.2	−6.3	−6.2	−6.0	−3.6	−2.6	−2.6
Non-teaching										
Public	−0.9	−1.0	−3.1	−3.5	−3.4	−5.0	−3.6	−2.8	−2.1	−1.6
Private	−1.4	−2.6	−3.4	−5.2	−5.8	−6.3	−5.1	−2.9	−2.2	−0.9
DSH										
Large urban	−2.1	−3.6	−3.7	−5.8	−6.4	−6.4	−6.1	−3.1	−2.2	−1.1
Other urban	−1.1	−2.3	−2.6	−6.1	−5.8	−6.7	−5.9	−3.6	−2.3	−3.1
Rural	0.3	−1.4	−2.8	−3.7	−4.8	−5.8	−5.5	−3.9	−2.4	−1.7
Non-DSH	−1.4	−2.4	−3.5	−5.1	−5.9	−5.9	−4.9	−3.3	−2.5	−1.1
Teaching and DSH	−1.7	−3.1	−3.1	−6.1	−6.6	−6.4	−6.4	−3.7	−2.5	−2.7
Teaching and non-DSH	−1.7	−3.0	−3.9	−5.8	−6.6	−6.3	−5.8	−4.0	−3.0	−1.2
Non-teaching and DSH	−1.3	−2.7	−3.4	−5.2	−5.3	−6.6	−5.4	−2.9	−2.1	−1.1
Non-teaching and non-DSH	−1.3	−2.1	−3.4	−4.7	−5.5	−5.8	−4.5	−2.9	−2.3	−1.0
New England	−2.5	−7.8	−4.3	−5.4	−7.5	−8.6	−7.8	−6.2	−3.5	−0.8
Middle Atlantic	−1.2	−2.8	−2.2	−5.8	−6.3	−6.7	−6.7	−3.1	−4.9	−1.9
South Atlantic	−1.2	−2.6	−4.2	−5.0	−6.1	−6.6	−5.7	−3.4	−1.6	−1.9
East North Central	−1.5	−2.8	−3.9	−6.0	−6.5	−5.8	−6.0	−3.6	−2.2	−1.1
East South Central	0.2	−0.5	−2.5	−5.4	−6.1	−6.4	−4.4	−4.0	−2.0	−1.2
West North Central	−2.0	−2.7	−3.8	−5.6	−4.9	−5.0	−2.3	−1.8	−2.4	−1.1
West South Central	−1.2	−1.3	−3.4	−4.4	−5.4	−6.8	−4.9	−3.0	−1.2	−1.4
Mountain	−0.8	−3.2	−2.7	−6.7	−5.1	−5.7	−3.8	−1.5	−1.6	−1.7
Pacific	−4.3	−3.1	−4.8	−6.2	−4.8	−3.2	−3.1	−0.6	0.3	−0.3
Voluntary	−1.5	−2.9	−3.3	−5.6	−6.3	−6.3	−5.6	−3.6	−2.7	−1.7
Proprietary	−1.7	−2.5	−3.8	−5.2	−5.9	−6.7	−5.9	−2.3	−1.3	−0.3
Urban government	−1.9	−2.1	−3.0	−5.8	−5.2	−6.5	−5.4	−3.6	−1.8	−1.7
Rural government	−0.1	−0.7	−3.0	−2.5	−2.6	−4.2	−3.0	−2.7	−2.3	−1.8

Note: DSH=disproportionate share hospital. Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment.

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

TABLE B-4

Hospital Medicare inpatient margin excluding graduate medical education, by hospital group, 1990–1999

Hospital group	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
All hospitals	−1.5%	−2.4%	−0.9%	1.3%	5.6%	11.1%	15.9%	16.9%	13.7%	12.0%
Urban	−1.2	−2.2	−0.8	1.6	6.4	11.8	16.7	18.0	15.0	13.2
Rural	−3.7	−3.7	−1.4	−0.5	0.6	6.1	10.2	9.5	5.3	3.4
Large urban	−0.9	−1.6	0.4	3.0	8.6	13.9	18.9	20.4	17.2	15.8
Other urban	1.7	−3.3	−2.9	−0.8	2.7	8.3	13.4	14.4	11.5	8.4
Rural referral	−3.6	−3.7	−1.0	−1.1	0.0	5.8	10.2	10.3	5.8	3.9
Sole community	−0.9	−0.9	2.1	4.1	5.2	8.6	12.2	10.5	6.6	4.5
Small rural Medicare-dependent	−1.2	1.2	3.3	2.4	−0.6	6.7	9.7	10.3	8.1	7.8
Other rural < 50 beds	−3.9	−5.4	−4.2	−1.2	−0.8	4.5	8.7	8.0	3.3	1.3
Other rural ≥ 50 beds	−6.8	−7.1	−5.7	−3.8	−1.8	4.6	9.2	7.5	3.3	1.3
Major teaching	6.5	6.8	8.7	10.9	16.8	21.5	25.4	27.9	24.2	24.0
Other teaching	−1.5	−2.8	−1.7	0.7	4.8	10.0	14.8	15.9	13.3	11.8
Non-teaching	−5.2	−6.4	−5.0	−3.0	0.6	6.6	11.7	12.1	9.1	6.5
Major teaching										
Public	10.7	10.8	11.4	14.4	21.0	26.1	28.2	30.4	26.3	20.7
Private	5.6	5.9	8.2	10.1	15.8	20.3	24.7	27.5	23.7	24.3
Other teaching										
Public	−0.6	−1.5	−0.4	1.9	4.9	10.4	14.9	17.2	12.3	12.2
Private	−1.5	−2.9	−1.7	0.7	4.8	10.1	14.9	15.9	13.4	12.1
Non-teaching										
Public	−4.5	−6.3	−5.1	−3.5	−2.0	3.9	8.0	7.4	4.6	2.3
Private	−5.3	−6.4	−4.9	−2.9	1.0	7.1	12.3	13.0	10.0	7.3
DSH										
Large urban	2.3	2.2	4.6	7.7	13.6	18.5	23.0	24.1	21.2	20.8
Other urban	0.2	−1.4	−0.9	1.2	4.8	10.7	15.7	16.7	13.5	9.8
Rural	−3.0	−2.7	−1.1	−0.4	0.1	7.3	12.4	11.3	7.1	5.5
Non-DSH	−5.5	−6.7	−5.4	−3.9	−0.4	5.2	10.4	11.4	8.1	6.4
Teaching and DSH	3.7	3.1	4.7	7.4	12.5	17.3	21.5	22.8	19.8	18.7
Teaching and non-DSH	−3.7	−4.6	−3.2	−1.8	2.2	7.7	13.4	14.8	11.7	10.9
Non-teaching and DSH	−3.3	−4.2	−2.5	−0.1	3.9	10.3	15.7	15.8	12.9	10.4
Non-teaching and non-DSH	−6.8	−8.1	−7.0	−5.3	−2.2	3.5	8.3	9.0	5.7	3.5
New England	−5.7	−2.1	0.0	1.3	5.3	10.0	16.6	18.7	16.4	16.2
Middle Atlantic	1.7	1.1	2.3	4.5	8.9	12.7	17.7	19.9	18.9	17.4
South Atlantic	−6.9	−5.9	−4.3	−2.3	2.7	9.5	14.2	15.4	12.2	9.0
East North Central	−2.5	−5.1	−3.4	−1.2	2.2	7.1	12.0	13.8	9.3	4.3
East South Central	−1.3	−3.7	−4.4	−1.9	4.0	11.2	15.8	15.2	12.1	9.8
West North Central	−1.2	−3.0	−2.7	−1.2	2.4	7.1	10.8	11.0	6.6	6.9
West South Central	−2.8	−4.5	−2.3	−0.6	4.0	11.4	17.7	17.5	14.5	12.4
Mountain	2.2	1.7	3.4	6.5	8.4	13.1	16.9	16.9	12.1	8.0
Pacific	2.9	1.4	4.3	7.9	13.2	18.9	22.7	21.8	17.6	15.1
Voluntary	−1.3	−2.4	−1.0	1.0	5.1	10.1	14.9	16.3	13.1	11.8
Proprietary	−5.4	−4.7	−2.4	1.2	7.8	15.5	21.5	21.0	18.7	16.8
Urban government	2.7	1.5	2.5	5.3	1.3	16.1	19.6	20.5	16.9	12.0
Rural government	−4.1	−4.6	−3.1	−2.2	−2.7	3.0	7.0	5.7	1.8	0.2

Note: DSH = disproportionate share hospital. Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment. The 1999 data have been weighted by teaching status to improve predictive accuracy.

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

TABLE B-5

Number of hospitals and distribution of Medicare inpatient margins excluding graduate medical education, by hospital group, 1999

Hospital group	Number of hospitals		Percentile					Percent with negative margins
	Total	Sample	10th	25th	50th	75th	90th	
All hospitals	4,883	2,137	−15.6	−4.0	6.1	17.1	27.5	34.1
Urban	2,707	1,194	−8.9	−0.4	8.5	18.7	30.1	26.3
Rural	2,176	929	−21.9	−8.7	2.3	14.3	24.8	43.9
Large urban	1,545	713	−7.8	1.3	10.7	21.5	32.2	22.9
Other urban	1,162	481	−11.7	−2.2	6.2	14.8	23.3	31.4
Rural referral	230	112	−10.9	−4.4	3.8	10.9	18.8	33.0
Sole community	659	258	−18.6	−8.1	3.6	17.6	28.0	42.2
Small rural Medicare-dependent	353	133	−15.9	−5.7	6.2	17.2	25.9	36.1
Other rural < 50 beds	523	233	−30.3	−15.2	−1.8	12.9	22.9	54.5
Other rural ≥ 50 beds	411	193	−21.7	−8.2	0.9	10.2	19.0	45.1
Major teaching	302	108	6.6	15.3	25.1	32.9	40.3	2.8
Other teaching	805	353	−4.1	2.4	10.6	20.4	29.5	20.4
Non-teaching	3,776	1,662	−17.8	−6.5	3.9	14.7	24.4	38.9
Major teaching								
Public	86	19	6.6	14.9	23.7	33.4	35.4	5.3
Private	211	87	6.0	15.3	25.6	33.3	41.2	2.3
Other teaching								
Public	70	34	−2.8	−1.8	8.5	14.3	26.1	29.4
Private	731	320	−4.4	2.6	10.8	20.8	30.2	19.4
Non-teaching								
Public	1,120	489	−23.8	−10.1	0.6	12.2	22.8	48.1
Private	2,527	1,158	−15.4	−4.1	5.3	15.7	25.3	34.8
DSH								
Large urban	809	343	−0.9	7.2	17.9	28.2	35.2	11.4
Other urban	605	244	−7.1	0.5	8.7	17.6	25.3	22.1
Rural	416	198	−17.0	−4.7	6.8	18.5	27.5	32.3
Non-DSH	3,053	1,338	−19.4	−7.6	2.7	12.7	22.3	42.2
Teaching and DSH	735	284	0.3	7.5	16.4	27.9	35.0	9.9
Teaching and non-DSH	372	177	−8.6	−1.1	7.9	19.1	30.1	26.6
Non-teaching and DSH	1,095	501	−10.0	−0.2	9.2	20.0	28.2	25.7
Non-teaching and non-DSH	2,681	1,161	−20.4	−8.2	1.8	11.9	21.2	44.6
New England	198	143	−16.6	−4.9	7.8	19.0	30.2	33.6
Middle Atlantic	501	243	−8.2	−0.9	7.4	20.7	33.5	27.6
South Atlantic	682	365	−8.9	−2.5	6.0	16.1	22.8	28.8
East North Central	746	278	−23.6	−11.1	−0.1	8.6	17.4	50.4
East South Central	428	164	−8.1	−0.3	9.9	20.2	28.6	26.2
West North Central	690	267	−18.2	−8.0	1.8	13.4	22.7	45.3
West South Central	697	296	−15.6	−1.4	9.2	20.5	30.5	30.4
Mountain	355	135	−18.1	−7.2	4.2	15.9	24.1	38.5
Pacific	586	232	−13.7	0.4	10.9	22.1	32.0	24.1
Voluntary	2,773	1,297	−14.2	−2.7	6.3	16.6	27.0	31.7
Proprietary	696	268	−8.1	2.6	14.3	22.9	33.2	20.9
Urban government	379	149	−12.6	−2.8	6.4	16.1	26.9	32.2
Rural government	897	393	−25.5	−10.5	−0.1	11.9	24.1	50.4

Note: DSH = disproportionate share hospital. Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment. Some records omitted due to editing procedures.

Source: MedPAC analysis of Medicare Cost Report and Impact File data from HCFA.

TABLE B-6

Hospital Medicare outpatient margin excluding graduate medical education, by hospital group, 1996–1999

Hospital group	1996	1997	1998	1999
All hospitals	−7.8%	−6.7%	−16.7%	−15.4%
Urban	−8.0	−6.9	−16.7	−15.2
Rural	−6.7	−5.9	−16.4	−16.0
Large urban	−8.4	−7.1	−17.4	−15.5
Other urban	−7.4	−6.6	−15.8	−14.6
Rural referral	−5.4	−5.1	−15.0	−13.9
Sole community	−4.5	−2.8	−14.2	−15.0
Small rural Medicare-dependent	−10.3	−8.8	−19.8	−19.4
Other rural < 50 beds	−10.6	−9.4	−18.9	−19.3
Other rural ≥ 50 beds	−7.9	−7.5	−18.0	−17.7
Major teaching	−10.7	−10.0	−20.3	−17.7
Other teaching	−7.1	−6.4	−15.5	−14.1
Non-teaching	−7.1	−5.7	−16.1	−15.3
Major teaching				
Public	−12.7	−13.1	−21.6	−16.4
Private	−10.1	−9.3	−19.8	−18.2
Other teaching				
Public	−7.7	−7.5	−13.9	−11.8
Private	−7.0	−6.3	−15.6	−14.3
Non-teaching				
Public	−7.4	−7.5	−16.7	−16.0
Private	−7.1	−5.3	−15.9	−15.2
DSH				
Large urban	−8.9	−8.0	−18.3	−14.8
Other urban	−7.6	−6.6	−16.1	−14.6
Rural	−5.3	−4.0	−15.0	−14.6
Non-DSH	−7.4	−6.2	−16.1	−16.1
Teaching and DSH	−9.0	−8.4	−17.8	−15.1
Teaching and non-DSH	−7.3	−6.4	−16.1	−15.9
Non-teaching and DSH	−6.6	−5.1	−16.1	−14.1
Non-teaching and non-DSH	−7.4	−6.1	−16.1	−16.1
New England	−8.1	−7.4	−14.5	−14.3
Middle Atlantic	−10.8	−9.2	−18.6	−17.3
South Atlantic	−6.4	−5.3	−14.3	−12.4
East North Central	−7.8	−7.9	−17.7	−18.0
East South Central	−6.7	−6.4	−17.3	−15.2
West North Central	−7.0	−5.6	−15.4	−15.8
West South Central	−6.9	−4.3	−15.1	−15.0
Mountain	−6.4	−4.3	−14.6	−13.4
Pacific	−8.1	−6.6	−19.2	−15.8
Voluntary	−7.8	−6.6	−16.5	−15.5
Proprietary	−6.4	−4.3	−16.2	−14.2
Urban government	−9.9	−9.7	−17.9	−14.5
Rural government	−7.2	−7.6	−17.3	−16.2

Note: DSH = disproportionate share hospital. Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment. The 1999 data have been weighted by teaching status to improve predictive accuracy.

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

TABLE B-7

Hospital-based Medicare skilled nursing facility margin excluding graduate medical education, by hospital group, 1996–1999

Hospital group	1996	1997	1998	1999
All hospitals	−11.8%	−14.5%	−25.9%	−51.4%
Urban	−11.6	−14.3	−25.5	−48.8
Rural	−12.9	−15.4	−27.5	−63.7
Large urban	−11.6	−14.1	−24.5	−44.1
Other urban	−11.6	−14.6	−27.2	−57.1
Rural referral	−11.7	−15.0	−29.7	−68.1
Sole community	−16.8	−20.8	−26.9	−55.8
Small rural Medicare-dependent	−16.5	−19.3	−45.3	−66.5
Other rural < 50 beds	−9.0	−10.3	−17.1	−30.0
Other rural ≥ 50 beds	−12.2	−12.9	−24.7	−72.9
Major teaching	−15.0	−12.9	−24.3	−43.1
Other teaching	−12.3	−15.1	−27.0	−46.3
Non-teaching	−11.2	−14.4	−25.5	−54.9
Major teaching				
Public	−22.9	−24.3	−27.8	−76.6
Private	−14.5	−12.0	−23.9	−42.4
Other teaching				
Public	−8.9	−13.9	−27.5	−50.5
Private	−12.5	−15.2	−27.0	−45.9
Non-teaching				
Public	−12.3	−13.1	−23.0	−64.6
Private	−11.0	−14.6	−26.0	−53.1
DSH				
Large urban	−12.7	−14.5	−24.2	−45.9
Other urban	−12.3	−15.2	−29.0	−49.9
Rural	−10.3	−12.7	−25.4	−68.9
Non-DSH	−11.3	−14.4	−25.7	−53.3
Teaching and DSH	−14.0	−15.3	−26.8	−45.6
Teaching and non-DSH	−10.8	−13.5	−25.8	−45.9
Non-teaching and DSH	−10.8	−14.0	−25.3	−53.3
Non-teaching and non-DSH	−11.5	−14.7	−25.7	−56.2
New England	−21.4	−21.6	−31.2	−53.3
Middle Atlantic	−8.0	−4.5	−28.0	−33.8
South Atlantic	−8.5	−11.5	−22.4	−58.6
East North Central	−12.9	−18.3	−24.8	−64.0
East South Central	−5.9	−8.8	−27.9	−72.6
West North Central	−15.5	−19.2	−29.7	−50.8
West South Central	−13.4	−16.7	−26.2	−52.8
Mountain	−10.9	−14.2	−28.0	−42.5
Pacific	−12.6	−16.6	−23.8	−38.4
Voluntary	−12.6	−14.9	−27.2	−49.7
Proprietary	−9.1	−13.6	−21.4	−50.1
Urban government	−11.9	−14.8	−26.1	−54.7
Rural government	−12.8	−12.2	−20.1	−72.2

Note: DSH = disproportionate share hospital. Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment. The 1999 data have been weighted by teaching status to improve predictive accuracy.

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

TABLE B-8

Hospital-based Medicare home health agency margin excluding graduate medical education, by hospital group, 1996–1999

Hospital group	1996	1997	1998	1999
All hospitals	−4.5%	−4.5%	−24.8%	−13.9%
Urban	−4.6	−4.4	−23.1	−12.3
Rural	−4.2	−4.6	−30.3	−18.4
Large urban	−4.7	−3.9	−20.8	−11.0
Other urban	−4.5	−5.2	−26.8	−14.8
Rural referral	−4.5	−4.5	−32.4	−17.7
Sole community	−5.6	−6.8	−36.2	−23.5
Small rural Medicare-dependent	−2.9	−3.5	−27.7	−13.9
Other rural < 50 beds	−2.2	−3.9	−25.0	−15.8
Other rural ≥ 50 beds	−4.3	−3.7	−27.7	−18.5
Major teaching	−5.7	−4.2	−18.2	−12.4
Other teaching	−4.7	−4.8	−22.0	−9.9
Non-teaching	−4.2	−4.4	−27.2	−16.0
Major teaching				
Public	−3.0	−3.9	−20.7	−18.1
Private	−6.2	−4.2	−17.7	−12.2
Other teaching				
Public	−4.9	−2.2	−25.2	−14.0
Private	−4.7	−4.9	−21.7	−9.4
Non-teaching				
Public	−3.7	−4.6	−30.9	−20.7
Private	−4.3	−4.3	−26.4	−14.8
DSH				
Large urban	−4.7	−4.2	−22.6	−11.7
Other urban	−4.6	−5.3	−25.6	−15.1
Rural	−2.3	−2.6	−30.9	−17.1
Non-DSH	−4.6	−4.5	−24.9	−13.8
Teaching and DSH	−5.3	−5.1	−20.8	−11.7
Teaching and non-DSH	−4.4	−3.6	−21.1	−8.3
Non-teaching and DSH	−3.6	−3.9	−28.5	−15.6
Non-teaching and non-DSH	−4.7	−4.8	−26.2	−16.2
New England	−1.8	−0.6	−12.9	−6.3
Middle Atlantic	−4.4	−2.8	−17.6	−9.9
South Atlantic	−3.6	−3.0	−25.3	−12.9
East North Central	−4.8	−5.3	−21.0	−12.8
East South Central	−1.8	−2.4	−23.0	−11.6
West North Central	−5.2	−4.8	−32.2	−16.5
West South Central	−5.7	−7.9	−36.8	−24.4
Mountain	−7.1	−7.5	−32.5	−25.6
Pacific	−6.7	−7.2	−27.5	−14.9
Voluntary	−4.6	−4.6	−21.5	−12.4
Proprietary	−4.6	−4.4	−39.8	−18.8
Urban government	−3.7	−3.4	−25.9	−18.4
Rural government	−3.8	−4.9	−32.4	−19.8

Note: DSH = disproportionate share hospital. Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment. The 1999 data have been weighted by teaching status to improve predictive accuracy.

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

TABLE B-9

Hospital Medicare PPS-exempt unit margin excluding graduate medical education, by hospital group, 1996–1999

Hospital group	1996	1997	1998	1999
All hospitals	6.2%	4.4%	0.7%	4.0%
Urban	6.0	4.3	0.6	4.0
Rural	7.7	4.9	1.2	3.2
Large urban	6.4	4.2	−0.5	2.3
Other urban	5.2	4.3	2.5	7.2
Rural referral	11.7	8.2	7.2	11.6
Sole community	−0.2	−1.7	−8.4	−2.4
Small rural Medicare-dependent	6.3	2.3	−6.9	−2.5
Other rural < 50 beds	1.2	3.0	−3.1	−3.8
Other rural ≥ 50 beds	8.0	5.1	0.0	−5.7
Major teaching	3.1	1.5	−3.6	2.5
Other teaching	6.7	4.2	2.0	2.9
Non-teaching	7.2	5.6	1.4	5.3
Major teaching				
Public	−0.9	0.4	−12.8	7.5
Private	5.2	2.8	0.8	3.5
Other teaching				
Public	3.5	−0.4	−5.4	−2.8
Private	6.5	4.2	2.5	2.8
Non-teaching				
Public	6.1	4.8	0.0	7.8
Private	7.3	5.8	1.7	4.8
DSH				
Large urban	6.0	3.8	−0.7	3.0
Other urban	5.3	3.1	2.5	5.3
Rural	11.1	9.2	5.1	10.2
Non-DSH	6.4	5.1	0.6	3.4
Teaching and DSH	4.6	2.8	−1.0	3.3
Teaching and non-DSH	7.3	4.5	2.7	1.5
Non-teaching and DSH	8.7	5.8	3.6	6.1
Non-teaching and non-DSH	5.8	5.5	−0.6	4.6
New England	1.9	0.2	3.1	5.4
Middle Atlantic	4.9	4.3	−2.9	4.6
South Atlantic	5.6	5.4	3.7	8.0
East North Central	5.6	3.4	−0.1	2.0
East South Central	6.4	3.3	1.4	−3.3
West North Central	5.6	2.6	−1.7	0.7
West South Central	6.1	5.0	0.7	5.6
Mountain	10.2	5.6	2.9	8.4
Pacific	11.5	7.6	2.9	−0.7
Voluntary	5.9	3.9	1.9	4.3
Proprietary	9.6	7.6	1.5	1.8
Urban government	2.4	2.2	−6.1	4.7
Rural government	5.7	2.5	−3.4	3.9

Note: DSH = disproportionate share hospital. PPS-exempt units include inpatient psychiatric and rehabilitation services. Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment. The 1999 data have been weighted by teaching status to improve predictive accuracy.

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

TABLE B-10

Hospital overall Medicare margin including graduate medical education, by hospital group, 1996–1999

Hospital group	1996	1997	1998	1999
All hospitals	9.9%	10.4%	6.0%	5.6%
Urban	10.7	11.5	7.4	6.8
Rural	5.0	4.1	−2.1	−2.9
Large urban	12.3	13.2	9.1	8.9
Other urban	8.2	8.8	4.7	3.1
Rural referral	5.9	5.4	−0.6	−1.3
Sole community	6.1	4.8	−1.5	−2.7
Small rural Medicare-dependent	3.2	3.3	−2.8	−1.3
Other rural < 50 beds	2.4	1.7	−5.4	−5.6
Other rural ≥ 50 beds	4.2	2.9	−3.7	−5.0
Major teaching	17.2	19.0	14.6	15.4
Other teaching	9.6	10.1	6.5	6.1
Non-teaching	6.5	6.7	1.8	0.7
Major teaching				
Public	18.3	19.5	14.6	11.6
Private	16.8	18.9	14.6	15.6
Other teaching				
Public	9.5	11.0	5.5	6.9
Private	9.7	10.1	6.7	6.3
Non-teaching				
Public	3.6	2.9	−2.1	−3.1
Private	7.1	7.4	2.6	1.4
DSH				
Large urban	15.5	16.1	12.3	13.0
Other urban	10.0	10.5	6.4	4.4
Rural	7.5	6.4	0.0	−0.3
Non-DSH	5.6	6.2	1.2	0.6
Teaching and DSH	14.4	15.2	11.5	11.5
Teaching and non-DSH	8.4	9.4	5.2	5.1
Non-teaching and DSH	10.0	9.8	5.3	4.3
Non-teaching and non-DSH	3.8	4.2	−1.2	−2.0
New England	10.4	11.7	7.9	8.5
Middle Atlantic	12.0	13.7	10.9	10.9
South Atlantic	9.1	9.7	5.3	4.2
East North Central	6.7	7.3	2.3	−1.5
East South Central	10.2	9.4	4.8	3.6
West North Central	5.5	5.5	−0.1	0.4
West South Central	10.1	10.1	5.5	4.7
Mountain	10.5	10.5	4.5	2.5
Pacific	15.1	14.4	9.2	7.4
Voluntary	9.3	10.2	5.9	5.5
Proprietary	13.6	13.0	9.3	9.7
Urban government	12.3	12.6	8.0	5.7
Rural government	2.6	1.4	−5.0	−5.4

Note: DSH = disproportionate share hospital. Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment. The 1999 data have been weighted by teaching status to improve predictive accuracy.

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

TABLE B-11

Hospital payment-to-cost ratios, by source of revenue, 1990–1999

Year	Medicare	Medicaid	Uncompensated care	Private payers
1990	89.2%	79.7%	21.0%	126.8%
1991	88.4	81.6	19.6	129.7
1992	88.8	90.9	18.9	131.3
1993	89.4	93.1	19.5	129.3
1994	96.9	93.7	19.3	124.4
1995	99.3	93.8	18.0	123.9
1996	102.4	94.8	17.3	121.5
1997	103.6	95.9	14.1	117.6
1998	102.6	97.9	13.2	113.6
1999	101.1	96.7	13.2	112.3

Note: Payment-to-cost ratios cannot be used to compare payment levels because the mix of services and cost per unit of service vary across payers. They do, however, indicate the relative degree to which payments from each payer cover the costs of treating its patients. Operating subsidies from state and local governments are considered payments for uncompensated care, up to the level of each hospital's uncompensated care costs. Data are for community hospitals and reflect both inpatient and outpatient services. Imputed values were used for missing data (about 35 percent of observations),which corrects for under-representation of proprietary and public hospitals relative to voluntary institutions. Most Medicare and Medicaid managed care patients are included in the private payers category. The costs allocated to Medicare and Medicaid include HCFA's allowed and non-allowed costs.

Source: MedPAC analysis of data from the American Hospital Association Annual Survey of Hospitals.

TABLE B-12

Gains or losses as a percent of total hospital costs, by source of revenue, 1990–1999

Year	Medicare	Medicaid	Other government payers and subsidies	Uncompensated care	Private payers	Non-patient	Total gains
1990	−4.1	−2.3	0.4	−4.7	10.8	3.4	3.4
1991	−4.4	−2.3	0.4	−4.8	11.6	3.5	4.0
1992	−4.4	−1.2	0.2	−4.9	11.8	3.3	4.8
1993	−4.1	−0.9	0.2	−4.8	10.9	3.3	4.4
1994	−1.2	−0.9	0.2	−4.9	8.7	3.1	5.0
1995	−0.3	−0.9	−0.1	−5.0	8.5	3.7	6.0
1996	0.9	−0.7	−0.1	−5.1	7.9	4.3	7.2
1997	1.4	−0.5	−0.1	−5.2	6.7	4.9	7.2
1998	1.0	−0.2	0.0	−5.2	5.5	5.1	6.1
1999	0.4	−0.4	0.1	−5.4	5.2	5.1	4.9

Note: Gains or losses are the difference between the cost of providing care (or operating a non-patient service) and the payment received. Operating subsidies from state and local governments are considered payments for uncompensated care, up to the level of each hospital's uncompensated care costs. Subsidies in excess of uncompensated care costs are combined with revenue from other government payers. Non-patient reflects both other operating and non-operating revenue. Data are for community hospitals and reflect both inpatient and outpatient services. Imputed values were used for missing data (about 35 percent of observations), which corrects for under-representation of proprietary and public hospitals relative to voluntary institutions. Most Medicare and Medicaid managed care patients are included in the private payers category. Gains and losses from the sources shown sum to total gains (except due to rounding). The costs allocated to Medicare and Medicaid include HCFA's allowed and non-allowed costs.

Source: MedPAC analysis of data from the American Hospital Association Annual Survey of Hospitals.

TABLE B-13

Hospital payment-to-cost ratios, by source of revenue and hospital group, 1999

Hospital group	Medicare	Medicaid	Uncompensated care	Private payers
All hospitals	101.1%	96.7%	13.2%	112.3%
Urban	99.7	93.8	15.5	113.0
Rural	90.4	87.7	7.9	134.2
Large urban	101.2	96.5	16.9	108.1
Other urban	97.8	89.1	12.7	120.5
Rural referral	91.4	84.5	2.7	139.6
Sole community	90.6	91.1	14.1	128.8
Small rural Medicare-dependent	88.7	87.0	18.1	126.3
Other rural < 50 beds	85.8	94.9	19.5	124.1
Other rural ≥ 50 beds	92.0	85.7	3.5	136.0
Major teaching	104.8	99.8	25.5	106.0
Other teaching	98.7	89.9	5.4	114.7
Non-teaching	94.7	85.6	5.0	123.5
Major teaching				
Public	106.4	110.3	37.0	132.7
Private	104.3	89.1	4.6	100.6
Other teaching				
Public	101.8	104.2	27.6	121.5
Private	98.5	87.8	1.2	114.4
Non-teaching				
Public	92.0	87.9	18.4	126.8
Private	95.3	85.0	1.3	122.9
DSH				
Large urban	103.6	98.1	18.9	108.1
Other urban	99.6	90.3	15.2	121.8
Rural	93.3	91.9	5.9	143.8
Non-DSH	94.1	83.7	4.1	117.1
Teaching and DSH	102.5	97.6	20.3	110.6
Teaching and non-DSH	97.2	81.3	0.3	112.1
Non-teaching and DSH	98.1	86.4	3.8	127.5
Non-teaching and non-DSH	92.2	84.7	6.3	120.9
New England	98.4	78.4	−0.3	103.6
Middle Atlantic	100.3	100.3	11.2	100.8
South Atlantic	101.1	91.1	14.2	125.9
East North Central	94.0	86.7	8.1	116.1
East South Central	99.0	86.8	12.1	121.5
West North Central	90.1	86.3	25.8	120.5
West South Central	100.2	99.5	28.1	127.1
Mountain	101.1	91.9	7.1	116.1
Pacific	101.5	93.0	5.4	111.5
Voluntary	97.2	86.4	2.2	112.1
Proprietary	110.6	95.9	1.4	134.9
Urban government	101.0	107.2	35.1	125.0
Rural government	89.1	90.0	22.7	131.9

Note: DSH = disproportionate share hospital. Payment-to-cost ratios cannot be used to compare payment levels because the mix of services and cost per unit of service vary across payers. They do, however, indicate the relative degree to which payments from each payer cover the costs of treating its patients. Operating subsidies from state and local governments are considered payments for uncompensated care, up to the level of each hospital's uncompensated care costs. Totals for all hospitals are calculated using reported as well as imputed data (about 35 percent of observations), which corrects for under-representation of proprietary and public hospitals relative to voluntary institutions. Values for hospital groups reflect reported data only. Most Medicare and Medicaid managed care patients are included in the private payers category. The costs allocated to Medicare and Medicaid include HCFA's allowed and non-allowed costs.

Source: MedPAC analysis of data from the American Hospital Association Annual Survey of Hospitals.

TABLE B-14

Costs as a percent of total hospital costs, by payer and hospital group, 1999

Hospital group	Medicare	Medicaid	Other government payers	Uncompensated care	Private payers
All hospitals	36.1%	11.3%	1.5%	6.2%	42.0%
Urban	34.0	11.2	1.7	6.5	43.6
Rural	45.4	10.8	1.1	5.2	35.5
Large urban	31.0	12.1	1.7	6.9	44.8
Other urban	38.8	9.4	1.6	5.9	42.0
Rural referral	46.4	10.0	0.9	5.2	35.4
Sole community	44.1	11.6	1.5	5.2	35.5
Small rural Medicare-dependent	51.0	8.9	0.4	4.2	32.7
Other rural < 50 beds	43.8	11.4	1.1	4.9	36.5
Other rural ≥ 50 beds	44.3	11.4	1.0	5.9	35.9
Major teaching	26.7	17.3	2.9	9.7	39.2
Other teaching	37.2	8.7	1.2	5.0	45.5
Non-teaching	41.4	8.7	1.0	5.0	42.1
Major teaching					
Public	18.9	28.4	7.2	20.3	21.7
Private	30.2	12.4	0.9	4.9	46.9
Other teaching					
Public	28.8	18.6	6.0	13.1	30.9
Private	37.7	8.0	0.9	4.5	46.5
Non-teaching					
Public	42.4	10.9	1.3	6.2	37.4
Private	41.2	8.2	0.9	4.7	43.1
DSH					
Large urban	28.9	16.0	2.3	8.3	41.1
Other urban	37.7	11.1	1.9	6.8	40.0
Rural	44.4	15.5	1.3	7.2	29.9
Non-DSH	40.7	5.8	0.8	3.9	46.5
Teaching and DSH	30.3	15.2	2.4	8.3	40.4
Teaching and non-DSH	38.8	4.6	0.7	3.5	49.6
Non-teaching and DSH	40.7	11.4	1.2	6.0	39.1
Non-teaching and non-DSH	41.9	6.7	0.8	4.3	44.4
New England	33.6	7.7	0.6	4.8	47.8
Middle Atlantic	34.0	14.7	0.8	5.5	41.0
South Atlantic	38.2	10.7	2.4	7.4	39.2
East North Central	37.3	8.5	0.6	4.6	46.1
East South Central	39.8	11.2	0.7	6.9	39.4
West North Central	39.7	8.3	0.8	3.5	45.2
West South Central	33.9	11.6	1.8	11.6	38.7
Mountain	28.4	8.8	2.3	6.4	51.9
Pacific	26.8	17.7	4.3	5.8	42.9
Voluntary	37.1	9.1	0.9	4.7	45.2
Proprietary	37.0	10.2	1.0	4.2	46.6
Urban government	24.5	22.3	5.5	16.1	28.2
Rural government	45.0	12.1	1.6	6.0	33.4

Note: DSH = disproportionate share hospital. Data reflect inpatient and outpatient services for community hospitals. Operating subsidies from state and local governments are considered payments for uncompensated care, up to the level of each hospital's uncompensated care costs. Most Medicare and Medicaid managed care patients are included in the private payers category. Totals for all hospitals are calculated using reported as well as imputed data (about 35 percent of observations), which corrects for under-representation of proprietary and public hospitals relative to voluntary institutions. Values for hospital groups reflect reported data only.

Source: MedPAC analysis of data from the American Hospital Association Annual Survey of Hospitals.

TABLE B-15

Gains and losses as a percent of total hospital costs, by payer and hospital group, 1999

Hospital group	Medicare	Medicaid	Other government payers and subsidies	Uncompensated care	Private payers	Non-patient	Total gains or losses
All hospitals	−0.4%	−0.4%	−0.1%	−5.4%	5.2%	5.1%	4.9%
Urban	−0.1	−0.7	0.0	−5.5	5.7	5.0	4.3
Rural	−4.3	−1.3	0.3	−4.8	12.1	4.1	6.1
Large urban	0.4	−0.4	−0.2	−5.7	3.6	5.2	2.9
Other urban	−0.9	−1.0	0.1	−5.2	8.6	4.7	6.4
Rural referral	−4.0	−1.6	0.1	−5.0	14.0	5.2	8.7
Sole community	−4.1	−1.0	0.5	−4.5	10.3	3.6	4.7
Small rural Medicare-dependent	−5.8	−1.2	0.8	−3.5	8.6	3.4	2.4
Other rural < 50 beds	−6.2	−0.6	1.0	−3.9	8.8	3.0	2.1
Other rural ≥ 50 beds	−3.5	−1.6	0.1	−5.7	12.9	3.3	5.4
Major teaching	1.3	0.0	−0.7	−7.2	2.4	5.8	1.6
Other teaching	−0.5	−0.9	0.2	−4.7	6.7	4.8	5.5
Non-teaching	−2.2	−1.2	0.2	−4.8	9.9	4.1	6.0
Major teaching							
Public	1.2	2.9	−2.5	−12.8	7.1	4.6	0.6
Private	1.3	−1.4	0.2	−4.7	0.3	6.3	2.0
Other teaching							
Public	0.5	0.8	−1.5	−9.5	6.6	5.3	2.2
Private	−0.6	−1.0	0.3	−4.4	6.7	4.7	5.7
Non-teaching							
Public	−3.4	−1.3	0.6	−5.1	10.0	3.6	4.4
Private	−2.0	−1.2	0.1	−4.7	9.9	4.3	6.4
DSH							
Large urban	1.0	−0.3	−0.5	−6.8	3.3	5.3	2.1
Other urban	−0.1	−1.1	0.2	−5.8	8.7	4.8	6.7
Rural	−3.0	−1.3	0.2	−6.8	13.1	3.7	6.0
Non-DSH	−2.4	−1.0	0.2	−3.8	7.9	4.5	5.5
Teaching and DSH	0.8	−0.4	−0.3	−6.6	4.3	5.4	3.1
Teaching and non-DSH	−1.1	−0.9	0.1	−3.5	6.0	4.9	5.5
Non-teaching and DSH	−0.8	−1.6	0.1	−5.8	10.7	4.0	6.8
Non-teaching and non-DSH	−3.3	−1.0	0.3	−4.0	9.3	4.3	5.5
New England	−0.5	−1.7	0.3	−4.8	1.7	7.1	2.1
Middle Atlantic	0.1	0.0	0.6	−4.9	0.3	4.7	0.8
South Atlantic	0.4	−0.9	−0.3	−6.4	10.1	4.8	7.8
East North Central	−2.2	−1.1	0.1	−4.2	7.4	6.0	6.0
East South Central	−0.4	−1.5	0.4	−6.1	8.5	4.5	5.4
West North Central	−3.9	−1.1	0.2	−2.6	9.2	4.3	6.0
West South Central	0.1	−0.1	0.6	−8.3	10.5	4.2	6.9
Mountain	0.3	−0.7	0.5	−5.9	8.4	3.3	5.8
Pacific	0.4	−1.2	−1.7	−5.5	4.9	4.8	1.7
Voluntary	−1.1	−1.2	0.1	−4.6	5.5	5.2	3.9
Proprietary	3.9	−0.4	0.7	−4.2	16.2	1.7	18.0
Urban government	0.2	1.6	−1.2	−10.4	7.1	4.7	1.9
Rural government	−4.9	−1.2	0.9	−4.6	10.7	3.3	4.1

Note: DSH = disproportionate share hospital. Gains and losses cannot be used to compare payment levels because the mix of services and cost per unit of service vary across payers. They do, however, indicate the relative degree to which payments from each payer cover the costs of treating its patients. Operating subsidies from state and local governments are considered payments for uncompensated care, up to the level of each hospital's uncompensated care costs. Non-patient reflects both other operating and non-operating revenue. Data reflect inpatient and outpatient services for community hospitals. Most Medicare and Medicaid managed care patients are included in the private payers category. Totals for all hospitals are calculated using reported as well as imputed data (about 35 percent of observations), which corrects for under-representation of proprietary and public hospitals relative to voluntary institutions. The costs allocated to Medicare and Medicaid include HCFA's allowed and non-allowed costs.

Source: MedPAC analysis of data from the American Hospital Association Annual Survey of Hospitals.

TABLE B-16

Hospital payment-to-cost ratios, by payer and state, 1999

State	Medicaid	Uncompensated care	Private payers
All hospitals	96.7%	13.2%	112.3%
Alabama	96.2	24.3	110.8
Alaska	83.3	12.2	143.2
Arizona	78.6	1.3	108.3
Arkansas	86.0	4.1	133.9
California	93.1	2.8	112.6
Colorado	94.9	2.3	112.8
Connecticut	69.8	−4.6	106.9
Delaware	87.8	0.0	120.7
Florida	83.3	24.8	122.1
Georgia	91.1	12.7	133.7
Hawaii	78.8	0.0	115.3
Idaho	90.5	2.7	131.0
Illinois	74.6	7.8	119.9
Indiana	98.0	15.7	128.7
Iowa	90.3	53.5	129.4
Kansas	64.5	6.0	129.9
Kentucky	84.5	4.6	125.6
Louisiana	89.0	0.9	166.5
Maine	94.2	0.0	139.1
Maryland	103.9	0.0	109.0
Massachusetts	75.0	0.6	96.4
Michigan	99.8	0.8	106.2
Minnesota	88.4	29.1	114.9
Mississippi	107.2	3.6	147.2
Missouri	85.8	23.5	111.4
Montana	85.0	2.8	133.0
Nebraska	97.1	3.3	130.1
Nevada	100.6	3.5	120.4
New Hampshire	73.9	1.4	122.5
New Jersey	90.0	19.1	114.1
New Mexico	111.0	30.0	113.9
New York	104.6	11.7	96.9
North Carolina	93.0	8.5	124.8
North Dakota	95.6	0.0	127.5
Ohio	93.6	10.8	112.6
Oklahoma	70.2	2.4	122.3
Oregon	92.8	15.3	109.9
Pennsylvania	77.2	0.0	100.9
Rhode Island	104.6	0.0	92.4
South Carolina	91.1	18.8	142.6
South Dakota	90.9	1.0	136.6
Tennessee	74.0	13.0	117.5
Texas	106.1	39.4	121.9
Utah	110.4	5.9	120.3
Vermont	86.7	0.8	122.4
Virginia	102.0	1.4	131.4
Washington	95.5	22.6	105.2
West Virginia	89.2	0.1	133.6
Wisconsin	77.6	0.0	125.4
Wyoming	86.8	17.0	143.4
District of Columbia	109.2	29.1	114.0

Note: Payment-to-cost ratios cannot be used to compare payment levels because the mix of services and cost per unit of service vary across payers. They do, however, indicate the relative degree to which payments from each payer cover the costs of treating its patients. Operating subsidies from state and local governments are considered payment for uncompensated care, up to the level of each hospital's uncompensated care costs. Data are for community hospitals and reflect both inpatient and outpatient services. Values for individual states reflect reported data only. Totals for all hospitals are calculated using reported as well as imputed data (about 35 percent of observations), which corrects for under-representation of proprietary and public hospitals relative to voluntary institutions. Most Medicare and Medicaid managed care patients are included in the private payers category. The costs allocated to Medicare and Medicaid include HCFA's allowed and non-allowed costs.

Source: MedPAC analysis of data from the American Hospital Association Annual Survey of Hospitals.

TABLE B-17

Gains and losses as a percent of total hospital costs, by payer and state, 1999

State	Medicare	Medicaid	Other government payers and subsidies	Uncompensated care	Private payers	Non-patient	Total gains or losses
All hospitals	0.4%	−0.4%	0.1%	−5.4%	5.2%	5.1%	4.9%
Alabama	3.1	−0.4	0.4	−6.6	4.3	7.8	8.7
Alaska	−2.3	−3.0	1.6	−4.8	17.8	4.3	13.5
Arizona	2.9	−2.3	0.4	−6.3	4.5	3.8	3.1
Arkansas	1.1	−1.5	0.1	−9.6	11.3	2.6	4.1
California	1.0	−1.4	−2.6	−6.7	4.9	5.0	0.2
Colorado	0.3	−0.4	0.7	−6.8	7.0	4.0	4.8
Connecticut	−0.3	−2.3	0.3	−4.0	3.4	5.2	2.3
Delaware	−3.9	−0.6	0.1	−5.2	9.3	7.0	6.7
Florida	1.6	−1.6	−1.2	−6.5	9.3	5.4	6.9
Georgia	−0.1	−1.1	−0.1	−6.5	12.9	4.5	9.5
Hawaii	−6.0	−1.5	0.0	−2.8	6.7	5.0	1.5
Idaho	−4.8	−0.9	0.0	−4.2	12.5	4.2	6.8
Illinois	−3.1	−2.9	0.3	−4.4	8.7	7.7	6.4
Indiana	−3.7	−0.2	0.0	−5.1	12.2	5.8	9.0
Iowa	−6.5	−0.6	−0.5	−1.9	12.3	4.2	6.9
Kansas	−3.4	−2.6	0.6	−3.7	12.5	4.3	7.8
Kentucky	−1.6	−1.7	0.0	−6.0	10.2	3.8	4.6
Louisiana	0.0	−1.6	2.3	−17.1	21.9	3.5	9.0
Maine	−5.5	−0.7	−0.1	−5.0	14.2	5.2	8.0
Maryland	3.6	0.1	0.0	−6.3	4.3	2.1	3.9
Massachusetts	0.5	−1.9	0.4	−5.3	−1.8	8.6	0.5
Michigan	−0.8	0.0	0.0	−3.3	3.1	6.2	5.2
Minnesota	−3.6	−1.1	0.4	−1.4	7.9	4.0	6.2
Mississippi	−1.8	1.0	0.0	−9.7	14.4	2.8	6.8
Missouri	−2.2	−1.3	0.4	−3.5	5.1	4.7	3.1
Montana	−4.1	−1.5	0.1	−4.2	11.9	4.6	6.8
Nebraska	−5.0	−0.2	0.1	−2.3	13.5	3.5	9.6
Nevada	3.4	0.1	1.2	−7.0	10.3	1.1	9.1
New Hampshire	−2.3	−1.7	0.1	−5.2	10.6	8.6	10.1
New Jersey	−3.4	−0.8	−0.1	−6.7	5.6	5.0	−0.4
New Mexico	−0.2	0.9	0.3	−6.0	8.0	2.0	5.1
New York	0.5	1.0	1.0	−5.6	−1.0	4.4	0.3
North Carolina	0.3	−0.9	0.1	−6.0	8.7	5.5	7.8
North Dakota	−5.0	−0.4	−0.1	−2.0	10.5	3.7	6.6
Ohio	−0.9	−0.6	0.2	−5.2	6.0	4.8	4.3
Oklahoma	1.5	−2.8	0.4	−7.7	8.4	5.6	5.4
Oregon	−1.1	−0.5	0.3	−2.5	5.9	4.0	6.0
Pennsylvania	0.9	−1.3	0.0	−2.9	0.5	5.0	2.3
Rhode Island	1.1	0.3	0.1	−3.9	−4.1	4.8	−1.7
South Carolina	−2.0	−1.7	−0.5	−6.3	12.7	3.2	5.6
South Dakota	−6.2	−0.8	−0.1	−2.6	14.4	5.1	9.9
Tennessee	−1.1	−2.9	0.9	−4.5	7.4	3.6	3.4
Texas	−0.2	0.7	0.4	−6.8	8.8	4.2	7.1
Utah	−0.2	0.7	0.1	−4.8	11.5	2.1	9.3
Vermont	−5.4	−1.1	0.0	−4.0	9.6	3.6	2.6
Virginia	0.3	0.2	1.2	−7.0	14.0	4.5	13.2
Washington	0.6	−0.6	0.1	−2.6	2.5	4.1	4.1
West Virginia	−2.4	−1.3	0.6	−5.4	9.2	3.8	4.6
Wisconsin	−4.5	−1.6	−0.2	−2.8	11.3	4.2	6.5
Wyoming	−3.2	−1.1	0.7	−5.3	17.1	3.8	12.0
District of Columbia	0.9	0.9	−3.1	−7.3	5.7	9.7	6.7

Note: Gains and losses cannot be used to compare payment levels because the mix of services and cost per unit of services and cost per unit of service vary across payers. They do, however, indicate the relative degree to which payments from each payer cover the costs of treating its patients. Operating subsidies from state and local governments are considered payments for uncompensated care, up to the level of each hospital's uncompensated care costs. Data reflect inpatient and outpatient services for community hospitals. Most Medicare and Medicaid managed care patients are included in the private payers category. Values for individual states reflect reported data only. Totals for all hospitals are calculated using reported as well as imputed data (about 35 percent of observations), which corrects for under-representation of proprietary and public hospitals relative to voluntary institutions. The costs allocated to Medicare and Medicaid include HCFA's allowed and non-allowed costs.

Source: MedPAC analysis of data from the American Hospital Association Annual Survey of Hospitals

TABLE B-18

Hospital total margin, by hospital group, 1990–1999

Hospital group	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
All hospitals	3.6%	4.4%	4.4%	4.4%	5.0%	5.8%	6.1%	5.9%	4.3%	2.8%
Urban	3.5	4.3	4.3	4.3	4.9	5.6	5.9	5.8	4.2	2.5
Rural	4.6	5.2	5.3	5.2	5.6	6.6	7.1	6.6	4.8	4.9
Large urban	2.5	3.7	3.7	3.9	4.3	4.9	5.1	5.1	3.7	2.0
Other urban	5.2	5.5	5.2	5.2	6.0	6.9	7.2	6.9	5.0	3.7
Rural referral	6.4	6.7	6.9	6.3	6.8	8.4	9.2	9.3	7.1	7.6
Sole community	4.1	5.1	5.1	5.1	5.6	5.7	6.2	5.5	4.2	3.2
Small rural Medicare-dependent	3.7	3.1	2.4	3.9	3.3	3.9	4.0	3.4	1.5	2.4
Other rural < 50 beds	1.4	2.2	2.3	2.5	2.1	2.8	3.8	2.4	0.8	2.1
Other rural ≥ 50 beds	4.0	4.5	4.8	4.7	5.6	6.7	6.9	6.0	4.3	3.9
Major teaching	1.1	3.7	3.4	3.4	3.3	4.0	3.5	4.8	3.1	0.2
Other teaching	4.6	4.6	4.5	4.6	5.3	6.3	7.0	6.1	4.2	3.7
Non-teaching	4.3	4.8	5.0	4.9	5.9	6.5	7.0	6.3	5.1	3.6
Major teaching										
Public	−0.6	4.5	4.2	4.5	2.8	3.1	2.5	4.4	2.9	−0.1
Private	1.7	3.3	3.0	3.0	3.4	4.3	3.8	4.9	3.1	0 .3
Other teaching										
Public	4.8	5.4	4.2	4.4	3.8	4.9	6.1	3.9	3.3	2. 1
Private	4.5	4.6	4.5	4.7	5.5	6.4	7.0	6.3	4.3	3 .8
Non-teaching										
Public	4.1	4.3	4.6	4.2	4.7	5.5	5.8	5.4	4.1	3. 5
Private	4.3	4.8	5.0	5.1	6.1	6.7	7.3	6.5	5.3	3 .6
DSH										
Large urban	1.7	3.2	3.4	3.6	3.9	4.4	4.3	4.6	3.2	1.2
Other urban	5.3	5.9	5.6	5.5	6.3	6.9	7.3	6.8	4.8	3.3
Rural	5.4	7.2	7.5	5.8	6.1	7.2	8.0	7.3	4.9	4.8
Non-DSH	4.5	4.6	4.5	4.6	5.3	6.3	6.9	6.4	5.0	4.0
Teaching and DSH	2.6	4.0	4.0	4.0	4.2	4.8	4.8	5.2	3.3	1.5
Teaching and non-DSH	4.5	4.9	4.0	4.5	4.9	6.5	7.1	6.7	4.9	4.3
Non-teaching and DSH	4.2	5.1	5.2	5.3	6.3	6.7	7.4	6.3	5.1	3.4
Non-teaching and non-DSH	4.4	4.5	4.7	4.6	5.5	6.2	6.7	6.3	5.1	3.8
New England	2.0	2.2	2.2	3.1	2.6	3.0	4.0	4.6	2.3	1 .5
Middle Atlantic	0.3	1.4	0.9	1.9	2.6	3.0	3.0	3.8	1.2	−1.5
South Atlantic	4.6	6.0	6.2	5.7	6.6	7.5	8.4	7.6	5.8	5.3
East North Central	4.7	4.8	4.8	4.8	5.6	6.3	6.3	6.9	4.8	5 .2
East South Central	6.4	6.4	5.6	4.9	5.2	6.6	7.2	4.6	3.6	3 .2
West North Central	5.0	4.9	4.5	4.7	6.6	7.3	7.3	7.6	6.1	4 .2
West South Central	4.3	5.8	7.4	6.2	6.7	7.4	7.2	6.4	5.9	3 .2
Mountain	5.3	5.5	5.4	7.0	7.4	7.7	8.1	4.5	5.1	4.1
Pacific	2.8	4.7	4.1	4.1	3.6	4.4	4.4	5.1	4.3	3 .2
Voluntary	3.8	4.3	4.1	4.1	4.7	5.7	5.8	6.2	4.2	2.4
Proprietary	4.0	5.0	6.3	6.9	8.9	8.3	10.1	5.5	6. 7	8.2
Urban government	1.8	4.6	4.2	4.3	3.5	4.0	3.9	4.7	3.4	1.5
Rural government	3.8	4.6	5.0	4.5	4.7	5.8	6.0	4.8	3.5	4.0

Note: DSH = disproportionate share hospital. Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment.

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

TABLE B-19

Number of hospitals and distribution of hospital total margins, by hospital group, 1999

Hospital group	Number of hospitals		Percentile					Percent with negative margins
	Total	Sample	10th	25th	50th	75th	90th	
All hospitals	4,883	2,081	−8.9	−2.5	2.2	6.8	12.0	36.7
Urban	2,707	1,155	−9.3	−2.8	2.0	6.7	12.5	38.2
Rural	2,176	918	−8.0	−2.0	2.5	7.0	11.2	34.4
Large urban	1,545	682	−11.1	−4.0	1.3	6.2	12.7	42.2
Other urban	1,162	473	−7.0	−1.4	2.7	7.3	12.3	32.3
Rural referral	230	112	−1.9	3.2	5.9	10.1	14.9	15.2
Sole community	659	254	−6.9	−1.6	1.9	7.0	10.9	37.0
Small rural Medicare-dependent	353	130	−7.9	−3.6	1.2	5.4	8.7	39.2
Other rural <50 beds	523	233	−11.7	−2.9	1.8	5.4	10.8	39.9
Other rural ≥ 50 beds	411	189	−8.1	−1.8	2.7	7.7	11.4	32.3
Major teaching	302	102	−7.9	−3.3	0.1	3.2	7.4	48.0
Other teaching	805	332	−7.0	−2.2	2.4	6.4	12.4	34.6
Non-teaching	3,776	1,639	−9.2	−2.5	2.4	7.1	12.2	36.2
Major teaching								
Public	86	18	−10.2	−5.7	0.5	4.4	6.8	50.0
Private	211	82	−5.6	−2.9	0.1	2.5	8.2	47.6
Other teaching								
Public	70	34	−7.3	−1.1	3.2	6.2	9.3	32.4
Private	731	299	−6.9	−2.2	2.1	6.4	12.9	35.1
Non-teaching								
Public	1,120	490	−8.1	−2.8	2.0	6.5	10.9	37.6
Private	2,527	1,137	−9.7	−2.2	2.5	7.4	12.7	35.6
DSH								
Large urban	809	336	−12.2	−4.3	0.9	5.6	10.9	44.6
Other urban	605	243	−7.3	−0.9	2.8	8.0	12.0	31.3
Rural	416	195	−9.9	−2.2	3.5	8.0	13.0	34.4
Non-DSH	3,053	1,299	−8.0	−2.4	2.2	6.7	12.2	35.7
Teaching and DSH	735	280	−7.8	−3.2	1.4	5.6	10.9	40.7
Teaching and non-DSH	372	154	−5.2	−1.5	2.7	6.6	12.4	32.5
Non-teaching and DSH	1,095	494	−12.2	−2.4	2.7	7.7	12.4	36.2
Non-teaching and non-DSH	2,681	1,145	−8.4	−2.5	2.2	6.7	11.9	36.2
New England	198	142	−7.4	−1.4	2.3	5.1	10.1	33.1
Middle Atlantic	501	239	−12.4	−5.0	−0.6	1.5	4.6	56.1
South Atlantic	682	364	−8.6	−1.3	4.1	9.2	15.4	30.8
East North Central	746	272	−6.1	−0.3	3.5	7.8	12.5	27.2
East South Central	428	164	−9.3	−3.7	1.1	6.0	13.0	41.5
West North Central	690	260	−6.0	−1.8	2.7	6.7	9.6	34.2
West South Central	697	291	−12.1	−3.6	2.1	7.6	12.6	39.2
Mountain	355	132	−5.7	−1.5	4.3	8.5	13.3	31.1
Pacific	586	209	−8.3	−1.9	2.0	7.1	12.3	37.3
Voluntary	2,773	1,258	−8.7	−1.9	2.1	6.3	10.7	35.8
Proprietary	696	260	−13.4	−3.3	3.3	12.7	22.0	38.1
Urban government	379	151	−7.6	−2.9	2.1	5.9	9.3	37.1
Rural government	897	391	−8.2	−2.7	2.0	6.5	10.8	37.9

Note: DSH = disproportionate share hospital. Data for 1999 are preliminary, based on 50 percent of all hospitals covered by prospective payment. Some records omitted due to editing procedures.

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

APPENDIX C

Training requirements and initial residency period for selected residency programs

APPENDIX C

Training requirements and initial residency period for selected residency programs

In Chapter 10 we discuss Medicare's direct graduate medical education payments made to hospitals for residency training. The chapter focuses on the treatment of the initial residency period in Medicare's direct gradutae medical education (GME) payments. The initial residency period is the minimum period of training required in a specialty to become eligible for board certification in that specialty, up to a maximum of five years. Hospitals receive full direct GME payments for residents training within the initial residency period and half this amount for residents training past the initial residency period.

The tables in this appendix provide information on the training periods required by different specialties and the length of the initial residency period used for determining Medicare's direct GME payments. They also indicate whether payments might be limited because of how the initial residency period is determined for residents. An explanation of which residents are affected by these rules is also provided, as are data on the number of residents training in each specialty in 1999 and 1993, which helps to show how the number of residents being trained in each specialty has changed over time.

Table C-1 shows data on the different allopathic specialties Medicare supports. The table divides specialty programs into three groups. The specialties in the first group have no prerequisites; therefore, residents that enter these specialties generally are fully supported throughout the training period, unless they switch specialties or train longer than the minimum period required. The second group identifies specialties that have prerequisites requiring residents to receive preliminary training in another specialty before entering. Residents in many of these specialties train beyond the initial residency period, and therefore hospitals receive lower Medicare payments for part of the training period. The third group lists specialties that offer a mix of programs that residents enter either immediately after medical school or after a prerequisite year (or years) of training in another specialty. Residents that enter these programs after taking prerequisite training in another specialty potentially may train beyond the initial residency period.

Table C-2 lists similar information for the combined residency training programs which allow residents to receive certification in two specialties. The length of training in these programs is less than if the two specialties are pursued separately, but one or two years longer than the longest of the individual specialties being pursued. Residents cannot receive certification in a specialty until the combined program is completed. The initial residency period for residents training in combined programs is determined based on the specialty with the longest training period. If both specialties are considered primary care (family practice, internal medicine, pediatrics, preventive medicine, or geriatrics), one year is added to the initial residency period.

Table C-3 lists many of the allopathic subspecialty training programs offered. Subspecialty programs are entered after completing training in a specific specialty and therefore take place after the initial residency period has been completed. Hospitals therefore receive lower direct GME payments for subspecialty residents although a two year exemption is provided for geriatrics and preventive medicine. This table only includes allopathic subspecialties with the highest number of residents.

TABLE C-1

Training period and initial residency period for selected allopathic residencies

Specialty	Number of residents 1993	Number of residents 1999	Number of years of training required for board certification	Years of training fully supported by Medicare*	Payments limited by initial residency period?*	Which residents train beyond initial residency period?
Specialties with no prerequisites						
Family practice	7,976	10,533	3	3	no	None
Internal medicine	20,603	21,237	3	3	no	None
Obstetrics and gynecology	5,074	4,710	4	4	no	None
Pediatrics	7,460	7,715	3	3	no	None
Preventive medicine	441	426	3	3	no	None
General surgery	8,243	7,748	5	5	no	None
Transitional year	1,542	1,217	n/a	1	no	Does not lead to certification, often used to fulfill preliminary year requirement in a specialty.
Specialties with prerequisites						
Allergy and immunology	316	209	5	3	yes	Requires completion of internal medicine or pediatrics residency before entering, then two years of training in allergy and immunology; similar to subspecialty fields.
Child and adolescent psychiatry	731	669	5	4	yes	Requires a general training year the first year, then two years of training in general psychiatry followed by two years of training in a child psychiatry program. Coverage in final two years depends on the specialty entered in the general training year.
Colon and rectal surgery	57	58	6	5	yes	Requires completion of a general surgery residency before entering program; therefore, residents in last year of training will not be in the initial residency period.
Dermatology	912	870	4	4	some	Residents who take preliminary year in emergency medicine, family practice, internal medicine, or pediatrics will not be in initial residency period in last year of training.
Child neurology	150	144	5	5	no	Changes in BBRA now allow all residents to be covered.
Nuclear medicine	204	132	3	3	no	None
Ophthalmology	1,674	1,369	4	4	some	Residents who take preliminary year in emergency medicine, family practice, internal medicine, or pediatrics will not be in initial residency period in last year of training.

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TABLE C-1

Training period and initial residency period for selected allopathic residencies

Specialty	Number of residents 1993	Number of residents 1999	Number of years of training required for board certification	Years of training fully supported by Medicare*	Payments limited by initial residency period?*	Which residents train beyond initial residency period?
Specialties that often have prerequisites but also offer full training in some programs— Residents who enter the specific specialty program their first year out of medical school generally are fully supported throughout their training.						
Anesthesiology	5,696	3,837	4	4	some	Residents who take preliminary year in emergency medicine, family practice, internal medicine, or pediatrics will not be in initial residency period in last year of training.
Emergency medicine	2,434	3,490	3 or 4	3	some	Residents who enter program that starts in their second year of residency training and residents in four-year programs will not be in initial residency period in last year of training.
Medical genetics	0	65	4	4	some	Residents entering two-year programs after taking two preliminary years of training in emergency medicine, family practice, internal medicine, or pediatrics will not be in initial residency period in last year of training.
Neurological surgery	808	805	6	5	yes	Last year of training will not be in initial residency period.
Neurology	1,536	1,344	4	4	some	Residents who start programs in second year will not be in initial residency period in last year of training.
Orthopedic surgery	3,029	2,744	5	5	no	None
Otolaryngology	1,192	1,113	5	5	no	None
Pathology (anatomic and clinical)	2,713	2,264	4 or 5	4	yes	Residents who take a credentialing year in emergency medicine, family practice, internal medicine, or pediatrics, will not be in initial residency period in last year of training if they enter a three-year anatomic or clinical program or the last two years if they enter a four-year combined anatomic and clinical program.
Physical medicine and rehabilitation	1,082	1,085	4	4	some	Residents who start with a year of training in family practice, internal medicine, or pediatrics will not be in initial residency period in last year of training.

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TABLE C-1

Training period and initial residency period for selected allopathic residencies

Specialty	Number of residents 1993	Number of residents 1999	Number of years of training required for board certification	Years of training fully supported by Medicare*	Payments limited by initial residency period?*	Which residents train beyond initial residency period?
Plastic surgery	464	472	5 or 6	5	some	Residents entering programs after completing training in another surgical specialty will not be in initial residency period. Those entering a three-year program after three years of general surgery training will not be in initial residency period in final year of training. Those entering a two-year program after three years of general surgery will be within initial residency period.
Psychiatry	5,044	4,469	4	4	some	Residents who enter a three-year program and take their prerequisite year in family practice, internal medicine, or pediatrics will not be in initial residency in final year of training.
Diagnostic radiology	4,236	3,591	5	4	some	Residents who enter program in second year and take preliminary year in emergency medicine, family practice, internal medicine, or pediatrics will not be in initial residency period in last two years of training. Residents who do preliminary year in obstetrics and gynecology or neurology will not be in initial residency period in last year of training.
Radiation oncology	539	440	5	4	some	Residents who enter program in second year and take their preliminary year in family practice, internal medicine, or pediatrics will not be in initial residency period in last two years of training. Residents who take their preliminary year in obstetrics and gynecology or neurology will not be in initial residency period in last year of training.
Thoracic surgery	341	306	7	5	yes	Last two years of training are beyond initial residency period.
Urology	1,114	1,043	5	5	some	Residents in programs who pursue a training track that requires two years of general surgery, six months of clinical research, and three and a half years of urology will not be fully counted in last year of training.

*Full time residents training within the initial residency period are counted as 1.0 full-time equivalent (FTE), residents training past this period are counted as 0.5 FTE.

Sources: American Medical Association, graduate medical education directory 2000–2001; Journal of the American Medical Association, September 7, 1994 and September 6, 2000; Health Care Financing Administration, Federal Register, August 30, 1996, Vol. 61, No. 170, p. 46208–46211.

TABLE C-2

Training period and initial residency period for combined residency programs

Combined Programs	Number of residents 1993	Number of residents 1999	Number of years of training required for board certification	Years of training fully supported by Medicare*	Payments limited by initial residency period?*	Which residents train beyond initial residency period?
Internal medicine / emergency medicine	34	83	5	3	yes	Residents in their last two years of training.
Internal medicine / family practice	0	24	4	4	no	None
Internal medicine / neurology	0	25	5	4	yes	Residents in their last year of training.
Internal medicine / pediatrics	738	1,646	4	4	no	None
Internal medicine / physical medicine and rehabilitation	23	38	5	4	yes	Residents in their last year of training.
Internal medicine / preventive medicine	0	14	4	4	no	None
Internal medicine / psychiatry	35	136	5	4	yes	Residents in their last year of training.
Neurology / diagnostic radiology / neuroradiology	0	6	7	5	yes	Residents in their last two years of training.
Neurology / physical medicine and rehabilitation	0	1	5	4	yes	Residents in their last year of training.
Pediatrics / emergency medicine	11	28	5	3	yes	Residents in their last two years of training.
Pediatrics / medical genetics	0	9	5	3	yes	Residents in their last year of training.
Pediatrics / physical medicine and rehabilitation	25	17	5	4	yes	Residents in their last year of training.
Pediatrics / psychiatry / child and adolescent psychiatry	35	75	5	4	yes	Residents in their last year of training.
Psychiatry / family practice	0	52	5	4	yes	Residents in their last year of training.
Psychiatry / neurology	0	14	5	4	yes	Residents in their last year of training.

*Full time residents training within the initial residency period are counted as 1.0 full-time equivalent (FTE), residents training past this period are counted as 0.5 FTE.

Sources: American Medical Association, graduate medical education directory 2000–2001; Journal of the American Medical Association, September 7, 1994 and September 6, 2000; Health Care Financing Administration, Federal Register, August 30, 1996, Vol. 61, No. 170, p. 46208–46211.

TABLE C-3

Training period for selected allopathic subspecialty residency programs

Selected subspecialty programs	Number of residents 1993	Number of residents 1999	Number of years of training required for board certification	Years of subspecialty training fully supported by Medicare*	Payments limited by initial residency period?*	Which residents train beyond initial residency period?
Anesthesiology:						
Critical care medicine	49	59	1	0	yes	All
Pain management	32	215	1	0	yes	All
Pediatric anesthesiology	0	63	1	0	yes	All
Family practice:						
Geriatric medicine	17	42	1	2	no	None
Internal medicine:						
Cardiovascular disease	2,440	2,012	3	0	yes	All
Critical care medicine	327	126	1 or 2	0	yes	All
Endocrinology	397	394	2	0	yes	All
Gastroenterology	1,027	957	3	0	yes	All
Geriatric medicine	208	326	1	2	no	None
Hematology	568	87	2	0	yes	All
Hematology and oncology	0	818	3	0	yes	All
Infectious disease	687	624	2	0	yes	All
Nephrology	628	678	2	0	yes	All
Oncology	647	228	2	0	yes	All
Pulmonary disease	948	145	2	0	yes	All
Pulmonary disease and critical care medicine	0	886	3	0	yes	All
Rheumatology	400	284	2	0	yes	All
Neurology						
Clinical neurophysiology	0	149	1	0	yes	All
Orthopedic surgery:						
Hand surgery	62	80	1	0	yes	All
Pediatric orthopedics	57	21	1	0	yes	All
Sports medicine	71	82	1	0	yes	All
Pathology:						
Cytopathology	55	90	1	0	yes	All
Forensic pathology	39	50	1	0	yes	All
Hematology	37	71	1	0	yes	All
Neuropathology	51	42	2	0	yes	All
Selective pathology	58	37	1	0	yes	All
Pediatrics:						
Cardiology	254	221	3	0	yes	All
Critical care	184	228	3	0	yes	All
Endocrinology	105	104	3	0	yes	All
Hematology and oncology	208	246	3	0	yes	All
Neonatal-perinatal	490	422	3	0	yes	All
Nephrology	73	69	3	0	yes	All
Pulmonology	99	97	3	0	yes	All
Psychiatry:						
Addiction psychiatry	0	46	1	0	yes	All
Geriatric	0	98	1	2	no	None
Radiology:						
Neuroradiology	180	198	1	0	yes	All
Pediatric radiology	61	42	1	0	yes	All
Vascular and interventional radiology	31	185	1	0	yes	All
Surgery:						
Critical care	40	105	1	0	yes	All
Pediatric surgery	45	49	2	0	yes	All
Vascular	98	145	1	0	yes	All

Note: Subspecialty programs are entered after completing training in a specific specialty.
*Full time residents training within the initial residency period are counted as 1.0 full-time equivalent (FTE), residents training past this period are counted as 0.5 FTE.

Sources: American Medical Association, graduate medical education directory 2000-2001; Journal of the American Medical Association, September 7, 1994 and September 6, 2000; Health Care Financing Administration, Federal Register, August 30, 1996, Vol. 61, No. 170, p. 46208-46211.

APPENDIX D

Commissioners' voting on recommendations

APPENDIX D

Commissioners' voting on recommendations

In the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000, the Congress required MedPAC to call for individual Commissioner votes on each recommendation, and to document the voting record in its report. The information below satisfies that mandate.

Chapter 1: Evaluating Medicare's payment policies

No recommendations

Chapter 2: Updating payments for physician services and for care provided in hospital outpatient departments

2A The Congress should replace the sustainable growth rate system with an annual update based on factors influencing the costs of efficiently providing physician services.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Smith, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Rowe*

2B In implementing the update for physician services, the Congress should require Health Care Financing Administration to use a forecast of the change in input prices.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Smith, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Rowe*

2C The Secretary should not use an expenditure target to update the conversion factor in the outpatient prospective payment system or to update payments for other ambulatory care settings.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Rowe, Smith*

2D The Congress should require an annual update of the conversion factor in the outpatient prospective payment system that is based on the relevant factors influencing the costs of efficiently providing hospital outpatient care, and not just the change in input prices.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Rowe, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Smith*

Chapter 3: Accounting for new technology in hospital prospective payment systems

3A In the outpatient payment system, the Secretary should develop formalized procedures for expeditiously assigning codes, updating relative weights, and investigating the need for service classification changes to recognize the costs of new and substantially improved technologies.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Reischauer, Smith, Stowers, Wakefield, Wilensky*
Absent: *Raphael, Rosenblatt, Rowe*

3B In the outpatient payment system, pass-through payments for specific technologies should be made only when a technology is new or substantially improved and adds substantially to the cost of care in an ambulatory payment classification group.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Reischauer, Smith, Stowers, Wakefield, Wilensky*
Absent: *Raphael, Rosenblatt, Rowe*

3C Pass-through payments in the outpatient payment system should be made on a budget-neutral basis and the costs of new or substantially improved technologies should be factored into the update to the outpatient conversion factor.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Reischauer, Smith, Stowers, Wakefield, Wilensky*
Absent: *Raphael, Rosenblatt, Rowe*

3D For the inpatient payment system, the Secretary should develop formalized procedures for expeditiously assigning codes, updating relative weights, and investigating the need for patient classification changes to recognize the costs of new and substantially improved technologies.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Smith, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Rowe*

3E Additional payments in the inpatient payment system should be limited to new or substantially improved technologies that add significantly to the cost of care in a diagnosis related group and should made on a budget-neutral basis.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Smith, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Rowe*

Chapter 4: Developing input-price indexes for all health care settings

To implement an occupation-mix adjusted wage index in fiscal year 2005, the Secretary should collect data on wage rates by occupation in the fiscal year 2002 Medicare cost reports. Hospital-specific wage rates for each occupation should be supplemented by data on the mix of occupations for each provider type. The Secretary also should continue to improve the accuracy of the wage index by investigating differences in wages across areas for each type of provider and in the substitution of one occupation for another.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Smith, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Rowe*

Chapter 5: Financial performance and inpatient payment issues for PPS hospitals

5A The inpatient PPS operating update of market basket minus 0.55 percent set in law for fiscal year 2002 will provide a reasonable level of payments.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Smith, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Rowe*

5B In collecting sample patient-level data, HCFA should seek to balance the goals of minimizing payment errors and furthering understanding of the effects of coding on case-mix change.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Rowe, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Smith*

5C Although the Benefits Improvement and Protection Act of 2000 improved the equity of the hospital disproportionate share adjustment, Congress still needs to reform this adjustment by:

- including the costs of all poor patients in calculating low-income shares used to distribute disproportionate share payments, and
- using the same formula to distribute payments to all hospitals covered by prospective payment.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Reischauer, Smith, Stowers, Wakefield, Wilensky*
Absent: *Newport, Raphael, Rosenblatt, Rowe*

5D The Congress should protect urban hospitals from the adverse effect of nearby hospitals being reclassified to areas with higher wage indexes by computing each area's wage index as if none of the hospitals located in the area had been reassigned.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Smith, Stowers, Wakefield, Wilensky*
Not Voting: *Reischauer*
Absent: *Newport, Raphael, Rosenblatt, Rowe*

Chapter 6: Prospective payment for post-acute care: current issues and long-term agenda

6A The Secretary should conduct an empirical study to assess the extent of substitution among post-acute care settings.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Rowe, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Smith*

6B While implementing the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 provision to develop patient assessment instruments with comparable common data elements, the Secretary should minimize reporting burden and unnecessary complexity while assuring that only necessary data are collected for payment and quality monitoring.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Smith, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Rowe*

6C The Secretary should develop for potential implementation a patient classification system that predicts costs within and across post-acute settings.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Rowe, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Smith*

6D The Secretary should conduct demonstrations to test the feasibility of including a larger scope of services in the payment bundle.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Smith, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Rowe*

6E The Secretary should develop a new classification system for skilled nursing facility care while continuing to monitor access and quality.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Rowe, Smith, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt*

6F Until a core set of common data elements for post-acute care is developed, the Secretary should require the Functional Independence Measure as the patient assessment tool for the inpatient rehabilitation prospective payment system.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Smith, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Rowe*

6G The Secretary should require a high-cost outlier policy of 5 percent for the inpatient rehabilitation payment system and study whether a different percentage policy is needed.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Smith, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Rowe*

6H The Secretary should reexamine the disproportionate share adjustment for the inpatient rehabilitation prospective payment system.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Rowe, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Smith*

6I In monitoring the performance of the payment system, the Secretary should pay particular attention to the use of significant change in condition payment adjustments and payments for patients with wound care needs.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Smith, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Rowe*

Chapter 7: Reconciling Medicare+Choice payments and fee-for-service spending

7A The Medicare program should be financially neutral as to whether beneficiaries enroll in Medicare+Choice plans or in the traditional Medicare program. Therefore, Congress should make Medicare payments for beneficiaries in the two sectors of a local market substantially equal, after accounting for risk.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Smith, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Rowe*

7B The Secretary should study variation in spending under the traditional Medicare program to determine how much is caused by differences in input prices and health risk and how much is caused by differences in provider practice patterns, the availability of providers and services, and beneficiary preferences. He should report to the Congress and make recommendations on whether and how the differences in use and preference should be incorporated into Medicare fee-for-service payments and Medicare+Choice payment rates.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Rowe, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Smith*

7C The Secretary should study how beneficiaries, providers, and insurers each benefit from the additional Medicare+Choice payments made in floor counties.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Rowe, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Smith*

7D In defining local payment areas, the Secretary should explore using areas that contain sufficient numbers of Medicare beneficiaries to produce reliable estimates of spending and risk.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Smith, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Rowe*

Chapter 8: End-stage renal disease payment policies in traditional Medicare

8A The Congress should instruct the Secretary to broaden the composite rate payment bundle to include widely used services currently excluded from it. The Secretary should continue to emphasize quality monitoring and quality improvement efforts to ensure that patients have access to high-quality dialysis care.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Rowe, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Smith*

8B The Congress should instruct the Secretary to evaluate whether the composite rate's unit of payment—a single dialysis session—should be revised to reflect better the way dialysis is furnished.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Rowe, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Smith*

8C The Congress should instruct the Secretary to revise the outpatient dialysis payment system to account for factors that affect providers' costs to deliver high-quality clinical care, including dialysis method, dose, frequency, and patient acuity.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Rowe, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Smith*

8D The Congress should instruct the Secretary to develop a wage index based on market wage rates for occupations typically used in furnishing dialysis.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Rowe, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Smith*

8E For calendar year 2002, the composite rate for outpatient dialysis services should remain unchanged.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Rowe, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Smith*

Chapter 9: Reducing beneficiary coinsurance under the hospital outpatient prospective payment systems

Congress should continue the reduction in outpatient coinsurance to achieve a 20 percent coinsurance rate by 2010.

Yes Votes: *Braun, DeBusk, Hackbarth, Johnson, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Stowers, Wakefield, Wilensky*
Absent: *Rosenblatt, Rowe, Smith*

Chapter 10: Treatment of the initial residency period in Medicare's direct graduate medical education payments

The Congress should eliminate the weighting factors that currently determine Medicare's direct graduate medical education payments and count all residencies equally through completion of residents' first specialty or combined program and subspecialty if one is pursued. Residents training longer than the minimum number of years required for board eligibility in a specialty, combined program, or subspecialty should not be included in hospitals' direct graduate medical education resident counts. These policy changes should be implemented in a budget-neutral manner through adjustments to the per resident payment amounts.

Yes Votes: *Braun, Hackbarth, Loop, Nelson, Newhouse, Newport, Raphael, Reischauer, Rowe, Stowers, Wakefield, Wilensky*
Absent: *DeBusk, Johnson, Rosenblatt, Smith,*

Acronyms

Acronyms

ACGME	Accreditation Council for Graduate Medical Education
AHA	American Hospital Association
AMA	American Medical Association
AOA	American Osteopathic Association
APC	ambulatory payment classification
APR-DRG	all patient refined diagnosis related group
ASC	ambulatory surgical center
AWP	average wholesale price
BBA	Balanced Budget Act of 1997
BBRA	Balanced Budget Refinement Act of 1999
BIPA	Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000
BLS	Bureau of Labor Statistics
CABG	coronary artery bypass graft
CAT	computerized axial tomography
CHF	congestive heart failure
CMI	case-mix index
CODA	Commission on Dental Accreditation
COPME	Council on Podiatric Medical Education
CPI-U	consumer price index for urban consumers
CPR	customary, prevailing, and reasonable
CPT	Physicians' Current Procedural Terminology
CRNA	certified registered nurse anesthetist
DMEPOS	durable medical equipment, prosthetics, orthotics, and supplies
DRG	diagnosis related group
DSH	disproportionate share
ESRD	end-stage renal disease
FDA	Food and Drug Administration
FFS	fee-for-service
FIM	Functional Independence Measure
FIM-FRG	Functional Independence Measure - Function Related Groups
FTE	full-time equivalent
FY	fiscal year
GAO	General Accounting Office
GDP	gross domestic product
GME	graduate medical education
HCFA	Health Care Financing Administration
HCPCS	HCFA Common Procedure Coding System
HHRG	home health resource group
HHS	Department of Health and Human Services
HIPAA	Health Insurance Portability and Accountability Act of 1996
HMO	health maintenance organization

ICD-9-CM	International Classification of Diseases, 9th revision, for Clinical Management
IME	indirect medical education
IOM	Institute of Medicine
IPS	interim payment system
M+C	Medicare+Choice
MB	market basket
MCBS	Medicare Current Beneficiary Survey
MDS	Minimum Data Set
MDS-PAC	Minimum Data Set for Post-Acute Care
MedPAC	Medicare Payment Advisory Commission
MEI	Medicare Economic Index
MRI	magnetic resonance imaging
MSA	metropolitan statistical area
NHIS	National Hospital Indicators Survey
NKF	National Kidney Foundation
OASIS	Outcome and Assessment Information Set
OIG	Office of Inspector General
OPD	outpatient department
PET	positron emission tomography
PPI	producer price index
PPRC	Physician Payment Review Commission
PPS	prospective payment system
PRO	peer review organization
ProPAC	Prospective Payment Assessment Commission
RHC	rural health clinic
RUC	Relative Value Scale Update Committee
RUG-III	Resource Utilization Groups, version III
S&TA	scientific and technological advances
SCHIP	State Children's Health Insurance Program
SCIC	significant change in condition
SGR	sustainable growth rate
SNF	skilled nursing facility
SSI	Supplemental Security Income
TPA	tissue plasminogen activator
USPCC	United States per capita costs
USRDS	United States Renal Data System
VA	Department of Veterans Affairs
VPS	volume performance standard
Y2K	year 2000

More about MedPAC

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Commissioners' biographies

Beatrice S. Braun, M.D., is a member of the board of directors of AARP. She is also a member of the State Advisory Council for the Florida Department of Elder Affairs and serves on the board of directors for the Mid-Florida Area Agency on Aging. Dr. Braun founded and, until her retirement in 1989, directed a day treatment program at St. Vincent's Hospital in Harrison, New York, for people with severe and persistent mental illness. She is a past president of the American Association for Partial Hospitalization. She also had a private practice in psychiatry for 16 years and was named a fellow of the American Psychiatric Association. Before her psychiatric specialization, Dr. Braun served for 17 years as a family physician and missionary in South Korea.

Autry O.V. "Pete" DeBusk is chairman, CEO and founder of DeRoyal, a global supplier of medical products and services in the acute care, patient care, wound care, and OEM (original equipment manufacturing) markets. Mr. DeBusk formed his first company in 1970 with a patent he received on an orthopedic product. Later, in 1976, he consolidated his many product lines into one company, DeRoyal Industries. A member of several community organizations, Mr. DeBusk is also chairman of the Board of Trustees at Lincoln Memorial University in Harrogate, Tennessee. As an innovative leader in the medical industry, he received a prestigious award from Duke University in 2000 recognizing "his original contributions to orthopedic surgery." He received his B.S. degree from Lincoln Memorial University and attended graduate school at the University of Georgia.

Glenn M. Hackbarth, J.D., is an independent consultant living in Bend, Oregon. He has experience as a healthcare executive, government official, and policy analyst. He was chief executive officer and one of the founders of Harvard Vanguard Medical Associates, a multispecialty group practice in Boston that serves as a major teaching affiliate of Harvard Medical School. Harvard Vanguard was created from the staff-model delivery system that was the original core of Harvard Community Health Plan. Mr. Hackbarth previously served as senior vice president of Harvard Community Health Plan. From 1981 to 1988, Mr. Hackbarth held positions at the U.S. Department of Health and Human Services, including deputy administrator of the Health Care Financing Administration. Mr. Hackbarth received his B.A. from Penn State University and his M.A. and J.D. degrees from Duke University.

Spencer Johnson is president of the Michigan Health and Hospital Association, the principal statewide advocate for hospitals, health systems, and other health care providers committed to improving community health status in Michigan. Before assuming this position in early 1985, Mr. Johnson was executive vice president of the Hospital Association of New York State. Before that, he was involved in the development of federal health policy and legislation as associate director of the Domestic Council at the White House during the Ford Administration and as a professional staff member of the U.S. Senate and the House of Representatives. He has served on the Prospective Payment Assessment Commission and is a board member of both Blue Cross Blue Shield of Michigan and the MHA Insurance Company. Mr. Johnson holds a master's degree in public administration from Cornell University and a bachelor's degree in journalism from St. Bonaventure University.

Floyd D. Loop, M.D., has served since 1989 as chief executive officer and chairman of the Board of Governors of The Cleveland Clinic Foundation. In the past 10 years, the Cleveland Clinic has developed a regional health care delivery system of clinics and acquired hospitals. Dr. Loop has practiced thoracic and cardiovascular surgery for 30 years and from 1975 to 1989 served as chairman of this department at the Cleveland Clinic. As a practicing surgeon, Dr. Loop and his colleagues have made numerous contributions to cardiac surgery, including extensive writings on internal thoracic artery grafting, reoperations, myocardial protection, and long-term results. He is a former editor of *Seminars in Thoracic and Cardiovascular Surgery* and has served on the editorial boards of 15 specialty journals in surgery and cardiology. Dr. Loop is the author of more than 300 articles on surgery. He chaired the Residency Review Committee for Thoracic Surgery and has been president of the American Association for Thoracic Surgery. He received a medical degree from George Washington University and completed surgical residencies at George Washington University and the Cleveland Clinic.

Alan R. Nelson, M.D., is an internist-endocrinologist who was in private practice in Salt Lake City until becoming chief executive officer of the American Society of Internal Medicine (ASIM) in 1992. Following the merger of ASIM with the American College of Physicians (ACP) in 1998, Dr. Nelson headed the Washington Office of ACP-ASIM until his semi-retirement in January 2000. He currently serves as special advisor to the EVP/CEO of the College. Dr. Nelson also serves on the Board of Trustees of Intermountain HealthCare, a large integrated health system headquartered in Salt Lake City. A member of the prestigious Institute of Medicine of the National Academy of Sciences (IOM), he serves on the IOM Roundtable on Environmental Health Sciences Research and Medicine, and is co-chair of the Workshop Planning Group on the Environment and Cancer. Dr. Nelson, who grew up in Logan, Utah and attended Utah State University, received his M.D. degree from Northwestern University.

Joseph P. Newhouse, Ph.D., is vice chair of the Commission. He is the John D. MacArthur Professor of Health Policy and Management at Harvard University and director of Harvard's Division of Health Policy Research and Education. At Harvard since 1988, Dr. Newhouse was previously a senior corporate fellow and head of the economics department at RAND. He has conducted research in health care financing, economics, and policy, and was the principal investigator for the RAND Health Insurance Experiment. Recipient of several professional awards, he is a member of the Institute of Medicine, a former chair of the Prospective Payment Assessment Commission, and a former member of the Physician Payment Review Commission. He is also a past president of the Association for Health Services Research and has been elected to the American Academy of Arts and Sciences. Dr. Newhouse is editor of the *Journal of Health Economic*s. He received a B.A. from Harvard College and a Ph.D. in economics from Harvard University.

Janet G. Newport is corporate vice president of public policy for PacifiCare Health Systems (PHS), Inc. The Corporate Public Policy Department is responsible for PHS' policy development and strategic response on health care issues, support of the entity's ethics and integrity (compliance) program, and acts as the company liaison with key government agencies and Congress. Ms. Newport serves on several American Association of Health Plans technical and advisory committees and is an industry representative on the Health Care Financing Administration's Medicare Council. She has also served as an industry representative on internal HCFA technical committees. She has more than 25 years of public affairs experience, including over 10 years directing the Washington, D.C., office of another major Medicare risk contractor. Ms. Newport received a political science degree from American University.

Carol Raphael is president and chief executive officer of the Visiting Nurse Service (VNS) of New York, the largest voluntary home health care organization in the United States. Her responsibilities include managing its post-acute, long-term care, maternal and child health, high-tech, rehabilitation, hospice, mental health and public health programs and its Centers of Excellence in cardiopulmonary, diabetes, asthma, and cancer care. Under Ms. Raphael's leadership, VNS created VNS Choice, a Medicaid managed long-term care health plan and the Medicare Community Nursing Organization. Ms. Raphael also developed the VNS Center for Home Care Policy and Research, which conducts policy-relevant research focusing on the management, cost, quality, and outcomes of home- and community-based services. Before joining VNS, Ms. Raphael worked for nine years at the New York City Human Resources Administration, leaving as executive deputy commissioner of the Income and Medical Assistance Administration. Ms. Raphael has served on several Robert Wood Johnson Foundation advisory committees and New York State panels, including the New York State Hospital Review and Planning Council. She has an M.P.A. from Harvard University's Kennedy School of Government.

Robert D. Reischauer, Ph.D., is president of The Urban Institute. Previously, he was a senior fellow with the Brookings Institution and from 1989 to 1995 was the director of the Congressional Budget Office. Dr. Reischauer currently serves on the boards of the Academy of Political Sciences, the Center on Budget and Policy Priorities, and the Committee for a Responsible Federal Budget. He also serves on the editorial board of *Health Affairs*, chairs the National Academy of Social Insurance's project on restructuring medicare for the long-term, and is a member of the Institute of Medicine and the Medicare Competitive Pricing Advisory Commission. Dr. Reischauer received his A.B. degree from Harvard College and his M.I.A. and Ph.D. from Columbia University.

Alice Rosenblatt, F.S.A., M.A.A.A., is chief actuary and senior vice president of Merger and Acquisition Integration at WellPoint Health Networks. Before joining WellPoint in 1996, she was a principal at Coopers & Lybrand LLP, where she consulted with insurers, health plans, providers, and employers. She is a former senior vice president and chief actuary of Blue Cross Blue Shield of Massachusetts and Blue Cross of California. Other positions include work for The New England and William M. Mercer, Inc. Ms. Rosenblatt has served on the Board of Governors of the Society of Actuaries and the American Academy of Actuaries. She previously chaired the academy's federal health committee and work group on risk adjustment. Ms. Rosenblatt has testified on risk adjustment before subcommittees of the Committee on Ways and Means and the Committee on Commerce of the U.S. House of Representatives. She has a B.S. and an M.A. in mathematics from City College of New York and the City University of New York, respectively.

John W. Rowe, M.D., is president and CEO of Aetna US Healthcare, the nation's largest healthcare insurer. Prior to joining Aetna, Dr. Rowe served as president and chief executive officer of Mount Sinai NYU Health. Prior to the Mount Sinai NYU Health merger, Dr. Rowe was president of The Mount Sinai Hospital and the Mount Sinai School of Medicine in New York City, where he currently is a professor of medicine and geriatrics. Before joining Mount Sinai in1988, Dr. Rowe was a professor of medicine and the founding director of the Division on Aging at Harvard Medical School and chief of gerontology at Boston's Beth Israel Hospital. He has authored over 200 scientific publications, mostly on the physiology of the aging process, and a leading textbook on geriatric medicine. Dr. Rowe was director of the MacArthur Foundation Research Network on Successful Aging and is co-author, with Robert Kahn, Ph.D., of *Successful Aging* (Pantheon, 1998). He served on the Board of Governors of the American Board of Internal Medicine and as president of the Gerontological Society of America, and is a member of the Institute of Medicine of the National Academy of Sciences.

David A. Smith is director of the Public Policy Department, AFL-CIO. The department's work covers a wide range of domestic and international concerns with a special emphasis on economics. Prior to joining the AFL-CIO, Mr. Smith served as senior deputy budget director and as commissioner of economic development for the City of New York. Mr. Smith spent most of the 1980's in Washington as an aide to Senator Edward M. Kennedy and as a senior economist at the Joint Economic Committee. Mr. Smith has taught economics and public policy at the University of Massachusetts and the New School for Social Research, and is a senior fellow at the Century Foundation. Mr. Smith is a member of the Board of Directors of the National Bureau of Economic Research, a member of the Board of Directors of Public Campaign, a fellow of the National Academy of Social Insurance, a member of the Treasury Department's Advisory Committee on the International Monetary Fund, and a member of the Advisory Committee to the Export-Import Bank. He attended Tufts University and received a M.Ed. from Harvard University.

Ray E. Stowers, D.O., is the director of rural health in the Department of Family Medicine at Oklahoma State University College of Osteopathic Medicine and was in private rural practice for 25 years at Family Medicine Clinics, Inc. in Medford, Oklahoma. He is a member of the National Rural Health Association. Dr. Stowers is second vice president of the American Osteopathic Association and has served that organization in many capacities, including several related to physician coding and reimbursement issues. He has been on the Physician Payment Review Commission and was a founding member of the American Medical Association's Relative Value Update Committee. Dr. Stowers received his B.S. and B.A. degrees from Phillips University in Oklahoma and his D.O. from the University of Health Sciences College of Osteopathic Medicine in Kansas City, Mo.

Mary K. Wakefield, Ph.D., has served since 1996 as professor and director of the Center for Health Policy, Research, and Ethics at George Mason University, working on policy analysis, research, and educational initiatives. Dr. Wakefield held administrative and legislative staff positions in the U.S. Senate before assuming her current position. She has served on many public and private health-related advisory boards. From 1997 through 1998, she was on President Clinton's Advisory Commission on Consumer Protection and Quality in the Health Care Industry. In September 1998, Dr. Wakefield was appointed to the Institute of Medicine's Committee on Quality Health Care in America. She was a Kodak Fellow in the Program for Senior Managers in Government at the John F. Kennedy School of Government, Harvard University, and is a fellow in the American Academy of Nursing. Dr. Wakefield received her B.S. in nursing from the University of Mary, Bismarck, North Dakota, and her M.S. and Ph.D. from the University of Texas at Austin.

Gail R. Wilensky, Ph. D., is chair of the Commission. She is the John M. Olin senior fellow at Project HOPE, where she analyzes and develops policies relating to health care reform and ongoing changes in the medical marketplace. She also frequently advises members of the Congress and others on the policies and politics of health care reform. Former chair of the Physician Payment Review Commission, Dr. Wilensky has held several posts in the executive branch, most recently as deputy assistant to the President for policy development during the Bush Administration (1992) and, before that, as administrator of the Health Care Financing Administration (1990-1992). Recipient of numerous professional awards, she is a member of the Institute of Medicine, a trustee of the Combined Benefits Fund of the United Mine Workers of America, and a governor for the Research Triangle Institute. In addition to serving on many other professional committees and corporate boards, Dr. Wilensky is a well-known speaker who has published widely on health policy, economics, and financing. She received a B.A. in psychology and a Ph.D. in economics from the University of Michigan.

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