

M A R C H 2 0 0 7

REPORT TO THE CONGRESS

Assessing Alternatives
to the Sustainable
Growth Rate System

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Executive summary

Executive summary

The Deficit Reduction Act of 2005 (DRA) requires MedPAC to examine alternative mechanisms for controlling physician expenditures under Medicare. Currently, Medicare attempts to limit expenditures using a statutory formula known as the sustainable growth rate (SGR). The SGR determines the annual update to the physician payment rate consistent with an expenditure target that is tied to growth in the gross domestic product (GDP). The SGR is widely considered to be flawed; it neither rewards physicians who restrain volume growth nor punishes those who prescribe unnecessary services. Some critics contend the SGR may actually stimulate volume growth. Other observers believe that, despite its flaws, the SGR has helped restrain the increase in Medicare spending for physician services.

Slowing the increase in Medicare outlays is important; indeed, it is becoming urgent. Medicare's rising costs, particularly when coupled with the projected growth in the number of beneficiaries, threaten to place a significant burden on taxpayers. Rapid growth in expenditures also directly affects beneficiary out-of-pocket costs through higher Part B and supplemental insurance premiums as well as higher copayments.

As required by the DRA, the Commission examined alternative mechanisms for establishing expenditure targets. We also considered ways to reconfigure the existing SGR to improve its performance. We are not recommending any single alternative to the SGR. Significant disagreement exists within the Commission about the utility of expenditure targets. Moreover, the complexity of the issues makes it difficult to recommend any option with confidence. Absent careful development and significant investment, the risk that a formulaic expenditure target will fail and have unintended consequences is substantial.

Despite disagreement about expenditure targets, the Commission is united on this: Whether or not the Congress elects to retain some form of expenditure target, a major investment should be made in Medicare's capability to develop, implement, and refine payment systems to reward quality and efficient use of resources while improving payment equity. Examples of such reforms include pay-for-performance programs for quality, improving payment accuracy, and bundling payments to reduce overutilization.

An expenditure target, however designed, cannot substitute for improvements to Medicare's payment systems; at best, it may be a useful complement. An expenditure target alone will not create the proper incentives for individual physicians or other providers; indeed, there is a risk that—in the absence of other changes—constraint on physician fees will stimulate inappropriate behavior, including the very increases in volume and intensity that the target system purports to control. It is better to think of an expenditure target as a tool for altering the behavior of policymakers than as a tool for improving how providers deliver services: An expenditure target first alerts policymakers that spending is rising more rapidly than anticipated and then makes it more difficult for them to increase payment rates. The annual debate over the update to the physician payment rate may also influence the political behavior of providers: To avoid rate

decreases, they could be compelled to support payment reforms that they might otherwise find objectionable.

The Congress, then, must decide between two paths. One path would repeal the SGR and not replace it with a new expenditure target. Instead, the Congress would accelerate development and adoption of approaches for improving incentives for physicians and other providers to furnish higher quality care at a lower cost. If it pursues this path, the Congress would need to make explicit decisions about how to update physician payments. Alternatively, the Congress could replace the SGR with a new expenditure target system. A new expenditure target would not reduce the need, however, for a major investment in payment reform.

If the Congress chooses to use expenditure targets, the Commission has concluded that such targets should not apply solely to physicians. Rather, they should ultimately apply to all providers. Medicare has a total cost problem, not just a physician cost problem. Moreover, producing the optimal mix of services requires that all types of providers work together, not at cross purposes. For example, physicians and hospitals must collaborate to reduce unnecessary admissions and readmissions. If used, an expenditure target should be designed to encourage all types of providers to work together to keep costs as low as possible while increasing quality. The Congress may also wish to apply targets on a regional basis, since different parts of the country contribute differentially to volume and expenditure growth. Risk-adjusted Medicare spending per beneficiary varies at the state level and even more at the level of hospital referral areas. Moreover, high-spending areas have not demonstrated higher quality of care.

The sustainable growth rate system

Each year, CMS follows the statutory formula to determine how to update fees for physician services to help align spending with the SGR's expenditure target. The SGR allows growth in spending due to factors that one would expect to affect the volume of physician services: inflation in physicians' practice costs, changes in enrollment in fee-for-service Medicare, and changes in spending due to laws and regulations. In addition, the SGR includes an allowance for growth above these factors based on growth in real GDP per capita. Growth in GDP—the measure of goods and services produced in the United States—is used as a benchmark of how much additional expenditure growth society can afford.

The SGR system has been widely criticized. As discussed in Chapter 2, in recent years expenditures for physician services have grown substantially, suggesting that the SGR does not provide a strong check on spending. It does little to counter the inherently inflationary nature of fee-for-service payment. In addition, the SGR is inequitable, treating all providers—regardless of their behavior—and all regions of the country alike.

The SGR does not appear to have limited the growth in volume—that is, the number of services being furnished to each patient and the level of service intensity provided. Some volume growth may be desirable. For example, growth arising from technology or changes in medical protocols that produce meaningful improvements to patients, or growth in services that are currently

underutilized, is beneficial. But research suggests that some portion of volume growth does not advance the health and well-being of beneficiaries. In geographic areas with more providers and more specialists, research has found that beneficiaries receive more services but do not experience better quality of care or better outcomes, nor do they report greater satisfaction with their care.

Medicare spending for physician services has exceeded targeted spending for several years, resulting in the SGR calling for cuts in physician payment rates. The Congress has repeatedly prevented these cuts from being implemented without changing the SGR formula or the target. As a result, the cumulative SGR formula calls for more and larger fee cuts in subsequent years. The Medicare trustees project that the SGR will call for annual cuts of about 5 percent well into the next decade. The trustees characterize this projected series of negative updates to physician fees as “unrealistic” because the Congress is unlikely to allow them. But the federal budget’s baseline includes the large fee cuts, making it costly from a budgeting perspective to increase fees or even to maintain them at their current level. If they were implemented, large cumulative cuts would likely compromise access to care. They might also have the unintended consequence of spurring volume growth as physicians attempt to maintain their income.

Using Medicare’s physician and other payment systems to improve value

Medicare should institute policies that improve the value of the program to beneficiaries and taxpayers. As discussed in Chapter 3, those policies should reward providers for efficient use of resources and create incentives to increase quality and coordinate care. Policies such as pay for performance that link payment to the quality of care physicians furnish should be implemented. At the same time, Medicare should encourage coordination of care and provision of primary care, allow gainsharing arrangements, bundle and package services where appropriate to reduce overuse, ensure that its prices are accurate, and rethink the program’s benefit design and the effects of supplemental coverage. To reduce unwarranted variation in volume and expenditures, Medicare should collect and distribute information about how providers’ practice styles and use of resources compare with those of their peers. Ultimately, this information could be used to adjust payments to physicians. Where available, comparative-effectiveness research should be used to develop authoritative guidelines and build consensus around them. Finally, concerted efforts should be made to identify and prevent misuse, fraud, and abuse by strengthening provider standards, ensuring that services are furnished by qualified providers to eligible recipients, and verifying that services are appropriate and billed accurately and that payments for those services are correct.

The Congress needs to provide CMS with the necessary time, financial resources, and administrative flexibility to make these improvements. CMS will need to invest in information systems; develop, update, and improve quality and resource use measures; and contract for specialized services. In the long run, failure to invest in CMS will result in higher program costs and lower quality of care.

DRA-mandated alternatives to the SGR

The DRA requires that we examine the potential for volume controls using five alternative types of targets—geographic area, type of service, group practice, hospital medical staff, and physician outliers—and consider the feasibility of each. Policymakers should recognize that these alternatives attempt to control total expenditures, not volume. As discussed in Chapters 4 through 11, each alternative has advantages and disadvantages, but without accompanying payment policies that change the inherent incentives of fee-for-service payment, the ability to influence the behavior of individual physicians will be limited.

The Commission has not provided budgetary scores for the alternatives. MedPAC does not have the capability to furnish official scoring estimates. Further, many of the alternatives' administrative implications are unknown. For any of the alternatives, details of the formula—including where the target is set, how to deal with the existing difference between the target and spending, and whether the target is applied only to physician services or is extended more broadly—are the most important determinants of projected total spending. Depending on how these issues are resolved, the alternatives could be costly from a budgetary perspective. Efforts to relax the current SGR (e.g., by softening or eliminating the cumulative formula or by applying target corridors) will also be costly. However, the Congress can maintain some expenditure control by retaining the expenditure target in some form.

Geographic area alternative

The geographic area alternative would apply targets to subnational geographic areas. Setting different fee update amounts by region acknowledges that regional practice patterns vary and contribute differentially to overall volume and expenditure growth. Use of different regional updates would improve equity across the country and over time could help reduce geographic variation. However, it is not clear what the optimum geographic unit would be. Choosing the unit involves tradeoffs between physician accountability, year-to-year volatility, and administrative feasibility. Using smaller units, such as counties, might increase physician accountability but would also increase year-to-year volatility and be difficult to administer.

Using different regional updates would not entirely address the inequities of the current system; for example, a physician who practices conservatively in a high-volume region would still be penalized. Using different regional updates could also create wide disparities in payment rates by area. Beneficiaries crossing the boundaries of geographic areas to seek care would be an issue as well.

Type-of-service alternative

A type-of-service alternative would set expenditure targets for different types of services, as was done under the volume performance standard (VPS), which preceded the SGR. (Under the VPS, three targets were established—for evaluation and management services, surgical procedures, and all other services.) A type-of-service expenditure target recognizes that expenditure growth differs widely across types of services. Some might prefer this type of target because it would

differentiate between services with the greatest growth in volume and expenditures and those with the smallest. This alternative also could be designed to boost payments for primary care services, which some believe are undervalued.

But service-specific targets present a number of difficulties. One problem is that such targets would undermine the resource values underlying Medicare's physician fee schedule, which sets payments for services based on the resources needed to furnish them. Under service-specific targets, payments would vary not only because of differences in their relative resource values but also because of disparities in volume growth. In addition, setting service-specific targets would implicitly require the Congress to determine the optimal mix of services. This would be difficult to accomplish, resulting in ongoing debate, since the optimal mix of services will evolve with changes in the population served, patterns of illness, and medical knowledge and technology.

Multispecialty group practice alternative

The Congress asked MedPAC to analyze an alternative to the SGR that might adjust payment based on physicians' participation in group practices, since some studies suggest that physicians in multispecialty group practices may be more likely to use care management processes and information technology and to have lower overall resource use. But considering the small share of physicians in multispecialty groups (20 percent), and that not all group practices engage in activities that improve quality and manage resource use, payment policies focusing solely on group status may not effectively elicit the desired behavior. Further, using separate targets for group and nongroup physicians could be viewed as inequitable, since efficient physicians in smaller practices would be ineligible for the payment updates that physicians in multispecialty groups would receive. In addition, rural physicians may have few, if any, opportunities to join group practices. Establishing payment incentives for performing specific activities associated with better care and lower resource use would likely be more effective than using separate targets based on group practice status.

While a multispecialty group alternative may not be a logical basis for an expenditure target, such groups may still be an important locus for many of the policy changes that MedPAC believes are important. The Commission's preliminary research has found that beneficiaries who regularly see physicians in multispecialty groups appear to use fewer resources than other beneficiaries. Multispecialty groups may be more likely to incorporate incentives to control resource use and monitor and influence practice styles, which may encourage providers to better coordinate care and ensure that patients are appropriately monitored and receive necessary follow-up care.

Hospital medical staff alternative

A hospital medical staff target system would use Medicare claims to assign physicians and beneficiaries to an accountable care organization (ACO) based on the hospitals they use most. Even if some physicians have little or no direct interaction with a hospital, they can be assigned to an ACO based on the hospital most of their patients use. This option creates a virtual physician

group using the extended hospital staff as the organizational focal point. Initially, Medicare could collect and distribute information about the practice patterns of different ACOs. Ultimately, that information could be used to adjust payments for differences in resource use and quality.

Using hospital medical staffs as ACOs could better align incentives to control expenditures. The hospital could provide an organizational locus for physicians in the area to come together to monitor and influence practice styles. Although the size of the ACOs would vary substantially, each of them would be much smaller than the current national pool. Individual physicians could therefore more readily see a link between their own actions and their ACO meeting its target. Over time, this alternative is intended to induce physicians and other providers to practice more as a system, optimizing care delivery and reducing overall expenditures.

There are significant barriers to this alternative. Some argue that hospitals and physicians are competitors who will not easily collaborate with one another, making this type of ACO an unlikely vehicle for change. Physicians may resist having Medicare assign them to an entity to which they may feel little or no affinity. Physicians who rarely refer patients for hospital care may be particularly resistant.

Outlier alternative

Medicare could identify physicians with very high resource use relative to their peers. CMS could first provide confidential feedback to physicians. Then, once greater experience and confidence in resource-use measurement tools were gained, policymakers could use the results for additional interventions such as public reporting, targeting fraud and abuse, pay for performance, or differential updates based on outlier status.

The major advantage of this alternative is that it would promote individual accountability and would enable physicians to more readily see a link between their actions and their payment. However, a number of technical issues would need to be resolved. Implementation of an outlier system based on episode groupers may prove difficult if physicians cannot be convinced of the validity of episode grouping tools. There would also likely be considerable controversy around initial physician scores as some physicians realized that their practice patterns were not in line with those of their peers. Further, episode information would need to be supplemented with per capita information, particularly if it were to be used for cross-geographic comparisons.

Reconfiguring the national target system

We also considered a reconfiguration of the current national target. For example, the current system could be changed to moderate or eliminate the cumulative aspect of the spending targets. Another option is to implement an additional allowance corridor around the allowed spending target line. Both options would relieve some of the budget pressure and result in more favorable updates but also would increase total expenditures and would not change the inflationary incentives inherent in fee-for-service payment.

Other changes could be made to the physician payment system to address services that are growing quickly. This growth may signal that prices for those services are set too high relative to the costs of furnishing them. In examining such services, the Secretary would take into account changes in both the number of physicians furnishing the services to Medicare beneficiaries and the number of hours physicians worked. CMS could use the results from these analyses to flag services for closer examination of their relative work values. Alternatively, the Secretary could automatically correct such mispriced services and the Relative Value Scale Update Committee could then evaluate these changes during its regular five-year review.

Choices for the Congress on expenditure targets

As discussed in Chapter 12, we suggest that the Congress pursue one of two paths. The Commission did not reach a consensus on which path is best. The issues surrounding the use of expenditure targets are complex, the information requirements are many, and the effects are almost unknowable; in addition, the risk of failure and unintended consequences is high. Nevertheless, some Commissioners believe it is prudent to retain an expenditure target to limit rate increases and to provide leverage with providers to encourage them to embrace reforms they might otherwise oppose. At the same time, other Commissioners fear that undue restraint on rates encourages providers to maintain their profitability by engaging in inappropriate behavior—for example, ordering services of marginal value or seeking to furnish services with payments that are high relative to costs.

Despite disagreement about the utility of expenditure targets, the Commission is united on this key point: Whether or not the Congress elects to retain some form of expenditure target, a major new investment should be made in Medicare’s capability to develop, implement, and refine payment systems to reward quality and efficient use of resources while improving payment equity. An expenditure target, however designed, is not a substitute for improving Medicare’s payment systems; at best, it may be a useful complement. An expenditure target by itself cannot create the proper incentives for individual physicians or other providers. A target is a tool for improving the dynamics of policymaking, not health care delivery.

Path 1

The first path would repeal the SGR. No new system of expenditure targets would be implemented. Instead, the Congress would accelerate development and adoption of approaches for improving incentives for physicians and other providers to furnish lower cost and higher quality care. Increasing the value of Medicare in this way will require:

- ***Changing the payment incentives.*** Policies must be implemented that link payment to the quality of care physicians furnish. MedPAC’s pay-for-performance recommendations would move toward correcting the problem of lack of incentives for quality care. At the same time, Medicare needs to encourage coordination of care and provision of primary care, ensure that its prices are accurate, allow gainsharing arrangements, and bundle and package

services where appropriate to reduce overuse. ACOs like physician groups and other combinations of providers can be encouraged as a means to improve quality and reduce inappropriate use of resources. Medicare should also rethink the program's benefit design and the effects of supplemental coverage.

- ***Collecting and disseminating information.*** Variation in practice patterns may reflect geographic differences in what physicians and other providers believe is appropriate care. To reduce this variation, providers need information about how their practice styles compare with those of their peers. Ultimately, such information could be used to adjust payments to physicians. In addition, where available, comparative-effectiveness research should be used to develop authoritative guidelines and build consensus around them.
- ***Redoubling efforts to identify and prevent misuse, fraud, and abuse.*** This effort includes supporting quality through the use of standards, ensuring that services are furnished by qualified providers to eligible recipients, and verifying that services are appropriate and billed accurately and that payments for those services are correct.

Path 2

The second path would pursue the approaches outlined in path 1 but would also include a new system of expenditure targets. As policymakers grapple with the budgetary consequences of volume and expenditure growth, the presence of an expenditure target may prompt more rapid adoption of the approaches in path 1, since it will put financial pressure on providers to change. If the Congress determines that a target is necessary to ensure restraint on fee increases, the Commission has concluded that such a target should embody the following core principles:

- encompass all of fee-for-service Medicare,
- apply the most pressure in the parts of the country where service use is highest,
- establish opportunities for providers to share savings from improved efficiency,
- reward efficient care in all forms of physician practice organization, and
- provide feedback with the best tools available and in collaboration with private payers.

In keeping with these principles, the expenditure target should not be borne solely by physicians. Rather, it should ultimately be applied to all providers to encourage different providers to work together to keep costs as low as possible while increasing quality. The Congress should also consider applying any expenditure target on a geographic basis, since different parts of the country contribute differentially to volume and expenditure growth. If an expenditure target reflects the limits of what society wants to pay, the greatest pressure should be applied to those areas of the country with the highest per beneficiary costs and the greatest contribution to Medicare expenditure growth.

Geographically adjusted targets, even if applied at the level of metropolitan statistical areas, are still too distant from individual providers to create appropriate incentives for efficiency. But they may encourage some change and would be more equitable than national targets. Creating proper incentives for improved performance—whether for physicians or other providers—will require much more targeted incentives. Rewards and penalties must be based on the performance of provider groupings that are small enough for the providers to be able to work together to improve. Therefore, within each geographic area, measurement of resource use would show how physicians compare with their peers and would reveal outliers. The comparisons could show the resource use of individual physicians or of groups of physicians belonging to ACOs, such as integrated delivery systems, multispecialty physician groups, and collaborations of hospitals and physicians. ACOs, in turn, would have to meet eligibility criteria but would then be able to share savings with the program if they furnish care more efficiently than the trend in their area. Episode groupers and per capita measures are tools for measuring resource use, and they could become tools that define payment adjustments for physicians who remain committed to solo or small practice outside the confines of larger organizations.

This expenditure target system would address three goals simultaneously. First, it would address geographic disparities in spending and the volume of services. Second, by departing from the existing national SGR and allowing providers to organize into ACOs, it would improve equity and encourage improvements in the organization of care. Third, providers would receive actionable information to change their practice style.

As described in Chapter 12, path 2 would require a phased approach. It has multiple parts, so it shares advantages and disadvantages with individual alternatives to the SGR, such as the geographic and outlier alternatives. Disadvantages of this approach include resistance to what could be a large redistribution of payments, imposition of a large administrative burden on CMS, and concerns about attribution of care and volatility. The last concern in particular could be a problem for ACOs, which would function within geographic areas.

Moving down path 2, toward a geographically based system encompassing all of Medicare, is a major undertaking. Path 2 would require a large investment of political capital as well as time, money, patience, and determination. Path 2's goals are more ambitious than those of the current SGR or those of the other alternative target systems that the Congress asked us to evaluate. The obvious question, then, is: Why do some Commissioners think it worthwhile to incur those costs? They believe system reform is urgent because of rising costs coupled with mediocre quality. In their view, the failure of the current SGR may present a rare political opportunity: The budget “hole” created by the SGR may compel the Congress and physicians to consider necessary measures to improve the Medicare program by realigning the incentives in the payment systems. ■

C H A P T E R

1

Introduction

The sustainable growth rate (SGR) system, intended to limit growth in Medicare spending for physician services, is widely considered to be flawed. It is inequitable, treating all physicians—regardless of their individual behavior—and all regions of the country alike. It fails to reward physicians for good performance and does not distinguish between desirable and undesirable growth in volume. To the extent that it constrains growth in the payment rate for physician services, it may create an incentive for physicians to provide more services than needed in order to offset reductions in their income.

Evidence suggests that some patients receive services of minimal value (Fisher et al. 2003a, 2003b). At the same time, many Medicare beneficiaries do not receive services that are known to improve health and that may reduce the need for more expensive services like hospital admissions (AHRQ 2003, IOM 2000, Jencks et al. 2003, McGlynn et al. 2003, MedPAC 2004a, Schoen et al. 2006). The challenge for Medicare, and all payers, is to encourage providers to furnish an optimal mix of services. Finding that optimal mix, which will change continuously with advances in medical science, requires clinical judgment and collaboration among different types of providers. An approach to expenditure control that relies exclusively on a formula provides no incentive for physicians to furnish optimal care and thus is destined to fail.

Since 2000, total Medicare spending for physician services has climbed more than 9 percent per year. Spending has grown largely because of increased volume—the number of services furnished and the complexity, or intensity, of those services. Some observers have hypothesized that new technology, demographic changes, and shifts in site of service spur growth in the volume of physician services. Changes in medical protocols and a rise in the prevalence of certain conditions may also play a role. But analyses by MedPAC and others have found that much of the rise in volume is unexplained (Beeuwkes Buntin et al. 2004, MedPAC 2004b). There is also significant geographic variation in the amount of services beneficiaries receive, with little or no relationship to outcomes (Fisher et al. 2003a, 2003b). This variation in care may expose some beneficiaries to unnecessary risk and is costly both to beneficiaries and to the program.

Under current law, the Congress has given Medicare one expenditure-control lever: the Medicare physician payment rate. That rate is calculated each year by the SGR formula, which determines a target rate of growth in spending, providing a spending growth allowance for changes that one would expect to affect volume—such as practice cost inflation and enrollment—and then allowing additional growth based on the increase in gross domestic product (GDP). Some observers argue that growth in expenditures above the increase in GDP means that program costs are rising at rates above what the nation can afford. Others believe that growth in Medicare spending that is faster than growth in GDP is acceptable as long as beneficiaries receive high-quality, appropriate care. Regardless, rapid growth in expenditures increases the burden on beneficiaries—by driving up Part B and supplemental insurance premiums and copayments—and on the American taxpayer.

When spending exceeds the SGR, the formula sets fee updates lower than inflation in the cost of operating a medical practice. Because the SGR formula is cumulative, all spending above the GDP target that is not offset in one year through cuts to payment rates accumulates in succeeding years until it is recouped. Rising volume, the cumulative nature of the SGR formula, and the

Congress's repeated actions to prevent reductions in physician fees have created a vicious cycle. Expenditure growth (driven in large part by volume growth) has been so high in recent years that the SGR system has called for substantial reductions in the physician payment rate. The Congress has repeatedly overridden the SGR system and prevented those reductions without changing the target. As a result, the cumulative SGR formula calls for a longer period of negative updates.

There is broad consensus that the SGR method of updating physician fees is flawed. The formula calculates fee cuts of 5 percent per year well into the next decade, cuts that the Medicare trustees consider “unrealistic” (Boards of Trustees 2006). Although Medicare beneficiaries generally have good access to care, such large cuts in physician fees over the long term could jeopardize that access. But because the SGR is current law, the budget baseline includes the projected fee cuts, making it costly—in terms of budget scoring—even to maintain fees at their current level.¹

Although few people would argue this state of affairs is ideal, some do not consider the SGR a complete failure. From their perspective, it was not intended to alter the behavior of physicians so much as the behavior of policymakers. The SGR, in this view, was not directed at controlling growth in the volume of services so much as growth in physician fees and spending; seen in this light, the policy may be viewed as somewhat successful. But a fair evaluation must take into account that the system has not generated rational fee updates. It called for large increases in 2000 and 2001, and it has called for annual decreases since 2002. A fair evaluation must also acknowledge that fee restraint may have stimulated undesirable behavior—more volume and intensity as well as pursuit of high-profit services.

The Deficit Reduction Act of 2005 (DRA) requires MedPAC to examine alternative mechanisms for assessing and controlling the volume of physician services. This report analyzes the expenditure control options specified in the DRA, outlining the design issues and advantages and disadvantages associated with each option. The report also presents ideas for improving Medicare's payment systems, focusing on physician payment but also encompassing ways to improve the sustainability of the program more broadly.

The Congress will need to decide whether it wants an overall limit on Medicare spending for physician services. Some argue that, if properly designed and allowed to function, expenditure limits can effectively control growth in spending. Others believe the value of an expenditure limit lies in the fact that it forces annual attention to the issue of Medicare spending, which—if allowed to increase unchecked—would require reduced spending elsewhere in the budget, higher taxes, or larger deficits. Still others oppose formulaic approaches, contending that such approaches cannot distinguish between good and bad care, offer little incentive for individual providers to control volume, and penalize providers who use health resources conservatively.

Regardless of what the Congress decides about an expenditure target, it should institute policies that increase the value of the Medicare program to beneficiaries and taxpayers. The Commission recognizes the desire to control rapid increases in Medicare spending, but wise stewardship of the program goes beyond controlling its cost. As discussed in Chapter 3, Medicare must increase the accuracy of its payments and create new policies that reward providers for efficiency, while creating incentives for providers to improve quality and coordination of care. Such improvements will go a long way toward ensuring that beneficiaries get care that is necessary and affordable.

Increasing the value of the services Medicare purchases will require a much larger investment in CMS—both dollars and administrative flexibility. CMS will need to develop, update, and improve information systems and quality and resource use measures, as well as contract for specialized services. In the long run, failure to invest in CMS will result in higher program costs and lower quality of care. ■

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Endnotes

- 1 The Congressional Budget Office's cost estimates and scoring system show how individual legislative proposals would change spending or revenue levels under current law and help determine whether those budget effects are consistent with the targets in the Congress's most recent budget resolution.

CHAPTER

2

The sustainable growth rate system

Physicians are the gatekeepers of the health care system; in addition to providing patient care, they order tests, imaging studies, surgery, and drugs. Yet Medicare's fee-for-service (FFS) payment system for physicians rewards not coordination of care and quality, but volume.

The Congress established the fee schedule that sets Medicare's payments for physician services as part of the Omnibus Reconciliation Act of 1989 (OBRA-89). The Medicare physician fee schedule replaced the customary, prevailing, and reasonable (CPR) payment method, which many believed was inherently inflationary because it gave physicians an incentive to raise their charges. The resource-based physician fee schedule decoupled Medicare's payment rates from physicians' charges for services. It assigns values to each service that reflect the relative resources needed to provide the service; a service's relative value multiplied by a conversion factor determines payment for the service.

The fee schedule also corrected distortions in payments that had developed under the CPR method. Evidence of those distortions came from William Hsaio and his colleagues at Harvard University, who found that payments were lower, relative to resource costs, for evaluation and management services and higher for surgical services (Hsaio and Stason 1979). Further evidence came from analyses that revealed wide variation in payment rates by geographic area that could not be explained by differences in practice costs (Escarce 1991). (As discussed in Chapter 3, the Commission has voiced concern that relative prices for some services in the fee schedule once again may have become distorted.)

Several times the Congress has attempted to address the incentive the payment system gives physicians to increase volume. OBRA-89 established a volume performance standard (VPS) that linked payment to aggregate growth in the number and mix of services (see Appendix B). Over time, however, the VPS began to set unrealistically stringent spending targets. Eventually, the Congress opted to replace it.

The Balanced Budget Act of 1997 established a single conversion factor for all categories of services and a new formula, called the sustainable growth rate (SGR), for calculating the expenditure target. The SGR-calculated expenditure target allows growth due to factors that one would expect to affect the volume of physician services:

- inflation in physicians' practice costs,
- changes in enrollment in FFS Medicare, and
- changes in spending due to law and regulations.

In addition, the SGR includes an allowance for growth above these factors based on growth in real gross domestic product (GDP) per capita. Growth in GDP—the measure of goods and services produced in the United States—is used as a benchmark of how much additional growth in expenditure society can afford.

To set each year's spending target, CMS calculates the SGR for a given year and then increases the previous year's spending target by that amount. In 2007, the SGR is 1.8 percent, which increases the 2006 spending target of \$81.8 billion to \$83.3 billion (Table 2-1, p. 12). Under the

Table 2-1**Factors used to calculate the SGR**

Factor	2005	2006	2007
Total SGR	4.2%	2.1%	1.8%
Inflation in physicians' practice costs	0.8	2.2	2.2
Change in FFS enrollment	0.3	-2.2	-0.9
Change in spending due to laws and regulations	0.9	0.0	-1.5
Growth in real GDP per capita (10-year moving average)	2.1	2.1	2.0

Note: SGR (sustainable growth rate), FFS (fee for service), GDP (gross domestic product).

Source: CMS 2006.

SGR system, then, each annual target is built on the target set in the previous year, with 1996 as the base year.¹

Every year, CMS determines how the conversion factor for the following calendar year must be adjusted to help align spending with targets. To do so, the agency compares actual spending, measured cumulatively since 1996, with allowed spending (i.e., the cumulative value of the annual targets), measured over the same period (Table 2-2). If the two are equal, the conversion factor is updated by the estimated increase in physicians' average cost of providing services—as measured by the Medicare Economic Index (MEI). If actual cumulative spending does not equal targeted cumulative spending, then an update adjustment factor is used to increase or decrease the update, relative to MEI, to establish a conversion factor that will help bring spending back in line with the targets. (Appendix C details the calculations used to determine the update adjustment factor.) CMS estimates that by 2007 actual cumulative spending will be \$735.9 billion, while targeted cumulative spending is \$693.3 billion. Therefore, by law the update to the conversion factor must be decreased.

For 2007, CMS calculated an update adjustment factor that would have set the conversion factor update at 25 percentage points below MEI, or -22.9 percent. However, the update adjustment factor is subject to limits and may not cause the update to the conversion factor to be set more than 3 percentage points above MEI or more than 7 percentage points below it.² As a result, the SGR calls for a 2007 update set at the maximum negative, 7 percentage points below MEI, or -5.0 percent. The recently enacted Tax Relief and Health Care Act of 2006 overrode the SGR, effectively holding 2007 payments at 2006 levels through a conversion factor bonus.³

Table 2-2

**Cumulative actual expenditures for SGR-related services
exceeded SGR-allowed expenditures starting in 2002**

Year	Cumulative expenditures (in billions)		Difference (in billions)
	Allowed	Actual	
1996	\$36.6	\$36.6	N/A
1997	86.6	85.9	\$0.7
1998	138.7	135.8	2.9
1999	194.1	188.4	5.7
2000	253.4	246.4	7.0
2001	315.4	312.7	2.7
2002	382.5	383.6	-1.1
2003	454.5	461.8	-7.3
2004	531.2	548.9	-17.7
2005	611.3	640.0	-28.7
2006	693.0*	734.9*	-41.9*

Note: SGR (sustainable growth rate), N/A (not applicable). Cumulative allowed and actual expenditures are as of calendar year end. Pursuant to the Balanced Budget Refinement Act of 1999, the SGRs for 2000 and all subsequent years are estimated and then revised twice by CMS, based on later data.

* Estimated.

Source: CMS 2006. Estimated sustainable growth rate and conversion factor, for Medicare payments to physicians in 2007. <http://www.cms.hhs.gov/SustainableGRatesConFact/Downloads/sgr2007f.pdf>.

Problems with the SGR

The SGR system has several flaws. It is inequitable, treating all providers—regardless of their behavior—and all regions of the country alike. In addition, the SGR does nothing to counter the inherently inflationary nature of FFS payment. Further, in recent years volume has grown substantially, suggesting that the SGR is not an effective control.

Historically, the SGR formula has calculated very volatile updates, but in recent years the calculated updates have been consistent and negative. The Congressional Budget Office and the Medicare trustees currently project that the SGR formula will calculate annual updates of -5 percent well into the next decade (Boards of Trustees 2006, CBO 2007). The trustees characterize the projected series of negative updates as “unrealistically low.” If implemented, over the long run the cuts may compromise access to care. Alternatively, if physicians attempt to maintain their incomes, fee cuts could have the unintended consequence of spurring volume growth.

Fluctuations in volume growth have been largely responsible for the volatility of physician fee updates (GAO 2004). But misestimates of spending and annual changes in the four factors that determine the SGR, as well as the cumulative aspect of the SGR formula, have exacerbated the problem.

Lack of differentiation

The SGR treats all physicians—regardless of their individual volume-inducing behavior—and regions of the country alike. Across-the-board cuts fall particularly hard on specialties that have less opportunity to inflate the volume and intensity of the services they provide and on regions of the country that have demonstrated more efficient practice patterns.⁴ Further, the SGR holds only physicians responsible for rising volume even though other providers contribute to inefficiency in the health care system.

At the same time, the SGR treats all volume increases the same, even though some may be desirable, such as those that improve quality or that substitute for more expensive nonphysician services.

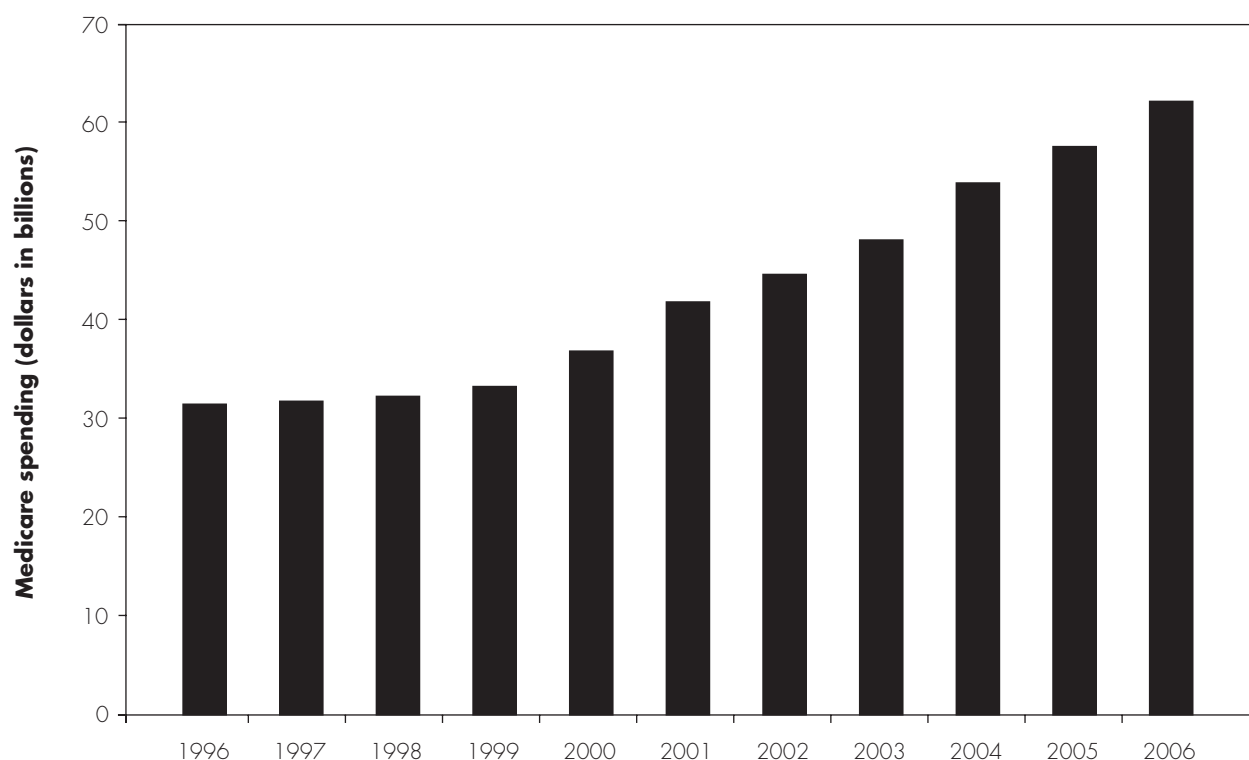
Inherent inflationary incentives

Medicare's method of paying for physician services contributes to volume growth. Compared with other payment systems, the unit of payment in the physician fee schedule is highly disaggregated. The fee schedule includes payment rates for the discrete services a physician furnishes—visits, imaging studies, laboratory and other diagnostic tests, and procedures. Such a small unit of payment gives physicians a financial incentive to increase the volume of services they furnish. Most beneficiaries have supplemental coverage that shields them from the costs of services, which contributes to the problem.

Ideally, an expenditure target would provide individual physicians with an incentive to control the volume of services. But under the SGR, an efficient physician who reduces volume does not realize a proportional increase in payments. In fact, that physician loses twice—once by reducing billed services and once through reduced future fees.

Continued volume and expenditure growth

In recent years, Medicare expenditures for physician services have grown rapidly, climbing more than 9 percent per year since 2000 (Figure 2-1). Expenditures have grown in large part because volume—the number of services furnished and the complexity, or intensity, of those services—has increased. The volume of physician services rose 5.5 percent per beneficiary between 2004 and 2005 (Table 2-3, p. 16).⁵ Among broad categories of services—evaluation and management, imaging, major procedures, other procedures, and tests—volume growth rates varied, but all were positive. Per capita volume for imaging continues to rise the most, climbing 8.7 percent between 2004 and 2005. The volume of other procedures (which includes nonmajor procedures and outpatient therapies) grew 8.5 percent.⁶

Figure 2-1**FFS Medicare spending for physician services, 1996–2006**

Note: FFS (fee-for-service). Dollars are Medicare spending only and do not include beneficiary coinsurance.

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

Some volume growth may be desirable. For example, growth arising from technology or changes in medical protocols that produce meaningful gains to patients, as well as growth in services that have been underutilized, is beneficial. But research suggests that some portion of the volume growth we are seeing may not improve the health and well-being of beneficiaries (described in text box, p. 20).

Growth in volume partly reflects changes in both the demand for and the supply of services that are unrelated to changing demographics (e.g., age and sex). Public education campaigns have increased patient and physician demand for certain services like colonoscopy. The capacity to provide relatively complex procedures and technologies has expanded as more physicians use them. The rise in the incidence of diseases (holding clinical definitions constant), including obesity, also has resulted in more patients receiving medical care. At the same time, changes in medical protocols and in medical technology have resulted in more aggressive treatment of certain conditions and in more patients being diagnosed and treated.

Table 2-3**Use of physician services per fee-for-service beneficiary continues to increase**

Type of service	Change in volume per beneficiary*		Percent of total volume*
	Average annual 2000–2004	2004–2005	
All services	5.5%	5.5%	100.0%
Evaluation and management	3.6	2.9	40.0
Office visit—established patient	3.4	2.5	17.1
Hospital visit—subsequent	2.9	2.4	7.8
Consultation	5.5	3.6	5.7
Emergency room visit	5.5	5.0	2.7
Hospital visit—initial	1.3	1.2	1.9
Office visit—new patient	0.4	1.9	1.8
Nursing home visit	2.8	1.3	1.8
Imaging	10.3	8.7	16.3
Standard—nuclear medicine	15.7	7.1	2.4
Echography—heart	10.5	8.2	2.2
Advanced—CT: other	16.1	14.7	2.2
Advanced—MRI: other	18.3	14.2	1.9
Standard—musculoskeletal	5.0	4.9	1.2
Advanced—MRI: brain	17.0	7.1	1.1
Echography—other	12.6	12.5	0.8
Standard—chest	0.0	3.0	0.7
Standard—breast	–5.2	4.3	0.7
Imaging/procedure—other	10.6	12.8	0.6
Echography—carotid arteries	9.6	9.6	0.6
Advanced—CT: head	7.5	9.0	0.5
Major procedures	3.8	3.5	8.9
Cardiovascular—other	2.8	0.4	2.0
Orthopedic—other	7.7	7.7	1.1
Knee replacement	11.5	11.1	0.7
Coronary artery bypass graft	–5.3	–8.6	0.6
Coronary angioplasty	6.5	–0.8	0.5
Explore, decompress, or excise disc	8.8	4.3	0.4
Hip fracture repair	–0.2	0.5	0.4
Hip replacement	6.2	2.0	0.4
Cardiovascular—pacemaker insertion	9.5	11.7	0.3
Other procedures	6.4	8.5	22.3
Minor—other, including outpatient rehab	14.4	15.6	4.8
Ambulatory procedures—skin	4.8	4.9	2.1
Oncology—radiation therapy	9.8	10.5	2.1
Minor procedures—skin	3.9	6.0	1.9
Cataract removal/lens insertion	1.5	7.8	1.8
Minor procedures—musculoskeletal	10.2	12.9	1.4
Colonoscopy	6.3	2.9	1.1
Oncology—other	4.0	12.8	0.9
Upper gastrointestinal endoscopy	3.4	1.2	0.6
Cystoscopy	4.2	13.9	0.5
Tests	8.2	6.2	5.2
Other tests	14.4	11.1	2.1
Electrocardiogram	2.2	0.8	0.7
Cardiovascular stress test	9.8	4.7	0.6
Electrocardiogram monitoring	3.9	1.0	0.2

Note: CT (computed tomography). To put service use in each year on a common scale, we used the relative weights for 2005. For billing codes not used in 2005, we imputed relative weights based on the average change in weights for each type of service. Some low-volume categories and services are not shown in the table but are included in the summary calculations. Services without relative value units (e.g., labs and Part B drugs) are excluded from analysis.

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

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

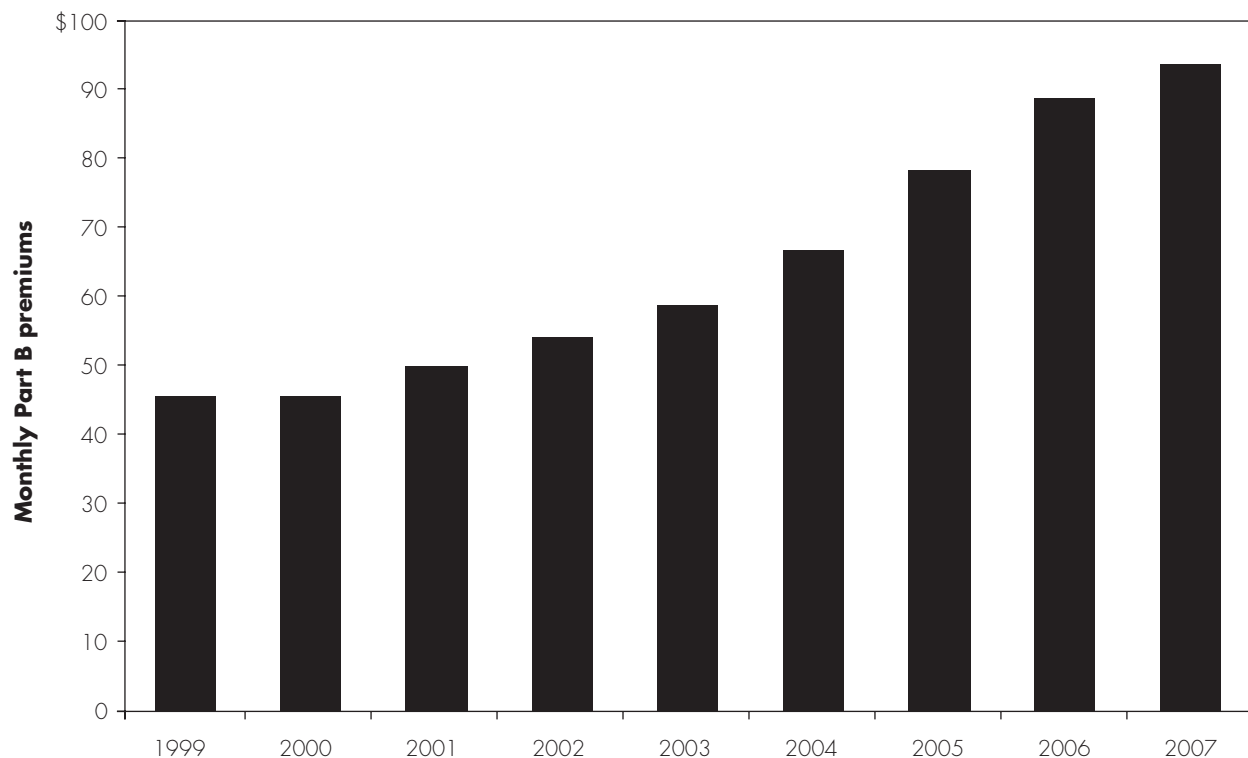
As a result, over the past few decades the number of beneficiaries being treated, the number of services being furnished to each patient, and the level of service intensity provided have grown. In a study of Medicare spending and beneficiary health status from 1987 to 2002, Thorpe and Howard found that the number of medical conditions treated per beneficiary rose sharply (Thorpe and Howard 2006). In 2002, more than half of all Medicare beneficiaries were treated for five or more conditions, compared with just 31 percent of beneficiaries in 1987. Thorpe and Howard found that virtually all the growth in Medicare spending since 1987 could be traced to these beneficiaries. It is not just the presence of these conditions that has led to the growth in volume but also more aggressive and intensive treatment of them than ever before.

Volume growth may have more to do with general changes in the supply of and/or demand for medical care that span patient groups and less to do with technological advances or changes in medical protocols that are specific to particular illnesses. A study by Beeuwkes Buntin and colleagues found relatively uniform increases in the volume of physician services between 1993 and 1998 across a wide variety of medical conditions and for every type of Medicare beneficiary examined (Beeuwkes Buntin et al. 2004).⁷ Other studies suggest that, after controlling for input prices and health status, differences in the volume of physician services are driven in large part by practice patterns and physician supply and specialization (Fisher et al. 2003a, 2003b). In geographic areas with more health care providers and more physician specialists, beneficiaries receive more services but do not experience better quality of care or better outcomes, nor do they report greater satisfaction with their care. The difference between high- and low-volume areas is particularly large for services such as tests and imaging (MedPAC 2003), which are among the services that have been described as “supply sensitive” and “discretionary” (Fisher et al. 2003a, 2003b).⁸

Some observers have hypothesized that demographic changes and shifts in site of service spur growth in volume of physician services. But in our 2004 report to the Congress, the Commission found virtually no effect of demographic changes on the growth in spending for physician services (MedPAC 2004).⁹ Movement of beneficiaries across state lines explains very little of the growth.¹⁰ Shifts in site of care have only a small upward effect on growth in the volume of physician services.

Effect of volume and expenditure growth on beneficiaries and taxpayers

Rapid and continued volume growth threatens to make the program unaffordable for beneficiaries. It contributes, directly and indirectly, to higher out-of-pocket costs for beneficiaries—copayments, the Medicare Part B premium, and premiums for supplemental coverage. As beneficiaries receive more services, they are required to make more copayments. In addition, because the monthly Part B premium is determined by average Part B spending for aged beneficiaries, an increase in volume of services affects the premium directly. From 1999 to 2002, the premium grew by an average of 5.8 percent per year, but the cost-of-living increases for Social Security benefits averaged only 2.5 percent per year. Since 2002, the Part B premium has increased even faster (in part because of volume growth)—by 8.7 percent in 2003, 13.5 percent

Figure 2-2**Monthly Part B premiums, 1999–2007**

Note: Beginning in 2007, monthly Part B premiums are income-adjusted. The standard premium for 2007 is \$93.50.

Source: Congressional Research Service 2004, CMS 2006, and CMS 2005.

in 2004, 17.3 percent in 2005, and 13.2 percent in 2006 (Figure 2-2). Growth in copayments and Part B premiums, in turn, pushes up the cost of supplemental insurance.

Volume growth also has implications for taxpayers and the federal budget. Increases in volume lead to higher Part B expenditures supported with the general revenues of the Treasury. As discussed in the Medicare Boards of Trustees' report and in MedPAC's March 2007 report, Medicare spending is growing faster than the nation's output of goods and services and will continue to put pressure on the federal budget (Boards of Trustees 2006, MedPAC 2007). That pressure threatens other national priorities such as homeland security and education. Ultimately, the question is: How much spending growth can the nation afford?

"Unrealistic" updates

Historically, the updates calculated by the SGR formula have been volatile. Updates have swung from large increases in 2000 and 2001 of 5.5 percent and 5.0 percent, respectively, to an unexpectedly large reduction in 2002 of 4.8 percent. Annual updates of at least –5 percent are projected for the next 9 years. The Medicare trustees characterize the projected series of negative

updates as “unrealistically low” because the Congress is unlikely to implement them (Boards of Trustees 2006). Indeed, the Congress has repeatedly overridden the SGR system and prevented fee reductions without changing the SGR system’s target.

If implemented, negative updates could have two unintended consequences. First, if some physicians opt not to continue to provide services to Medicare beneficiaries, access to care may be compromised, perhaps seriously so, over the long run. Second, physicians may actually increase volume in an attempt to maintain (or increase) their income (see text box, p. 22).

Estimation issues

Accurately estimating spending and annual changes in the four factors that determine the SGR (changes in practice costs, FFS enrollment, law and regulations, and real GDP per capita) is challenging. Each fall, CMS must estimate spending for that calendar year based on incomplete data. When CMS misestimates any of the four factors, the target is set higher or lower than it should be.

One difficulty is correct estimation of FFS enrollment. If fewer beneficiaries are enrolled in FFS, fewer services will be provided. Because the SGR system offsets accumulated excess spending by reducing the update for the fee paid for each service, a decline in the number of services results in less spending being offset. As a result, more severe update reductions will be required if FFS enrollment falls. Alternatively, if FFS enrollment increases, then update reductions could be less severe.

CMS must also estimate the effects of changes in laws and regulations. As we reported in our December 2004 report to the Congress on growth in the volume of physician services, CMS tries to account for both direct and indirect effects of law and regulation changes, but a lack of data often hinders the effort (MedPAC 2004). For example, in the case of a new screening benefit, the primary effect is receipt of the screening service, and the secondary effect is associated tests and procedures. A difficulty arises, however, in the case of a preventive benefit that could have secondary effects that are offsetting—increasing the use of some services and decreasing the use of others. In such cases, the Office of the Actuary’s best estimate is that the net secondary effect is zero.

Because of these estimation issues, the Balanced Budget Refinement Act of 1999 required CMS, in calculating each year’s SGR spending target, to first revise the targets set for the two previous years using the most recent available data for all elements of the target (i.e., to revise figures for input prices for physician services, FFS beneficiary enrollment, real GDP per capita, and expenditures due to relevant new laws and regulations). These revisions can lead to unexpectedly volatile payment updates and can exacerbate negative updates. In some recent years, the spending targets turned out to have been too high several years in a row, because growth in the economy had slowed. At the same time, inadvertent omissions of some billing codes made actual spending appear lower than it really was. Consequently, the updates calculated in those years were too large. Correcting the spending target and actual spending figures resulted in a large gap between cumulative actual and cumulative target spending.

Effects of volume growth on health and well-being

It is not easy to discern whether volume growth is improving beneficiary health and well-being. Volume growth can influence health, and changes in health can influence volume, making it difficult to determine empirically which side of the relationship dominates (Hadley 2003).

Recent research on growth in health care spending and the prevalence of various medical conditions illustrates this point (Thorpe et al. 2004).¹¹ For some conditions, such as heart disease and hypertension, increases in the cost of therapy per treated case (i.e., higher prices and more intensive services that are usually associated with new technologies) explain most of the spending increases. New technologies, in turn, have been shown to benefit health outcomes in some cases (Cutler and McClellan 2001). For other conditions, however, the dominant influence on spending appears to be an increase in the treated prevalence of the condition—the number of people receiving treatment for a given condition (Thorpe et al. 2004).

The other reason it is difficult to link volume growth and health is that the relationship between the two depends on where beneficiaries are located on what is termed the “production possibilities frontier for health” (Figure 2-3). Volume growth may represent increases in what has been described as “flat-of-the-curve” medicine (Fuchs 2004). Represented by growth in volume (or intensity) from point P1 to points P2 and P3 in Figure 2-3, such volume growth provides little or no health benefit.

Research suggests that many Medicare beneficiaries may be receiving care on the flat portion of the frontier. Medicare beneficiaries in regions of the country where physicians and hospitals deliver many more health care services do not experience better quality of care or outcomes nor do they report greater satisfaction with their care (Fisher et al. 2003a, 2003b). Academic medical centers (AMCs) have been found to vary widely in the volume of care they furnish to chronically ill Medicare beneficiaries, although high-volume AMCs do not appear to provide better quality of care (Fisher et al. 2004). The greatest variation in

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Cumulative formula

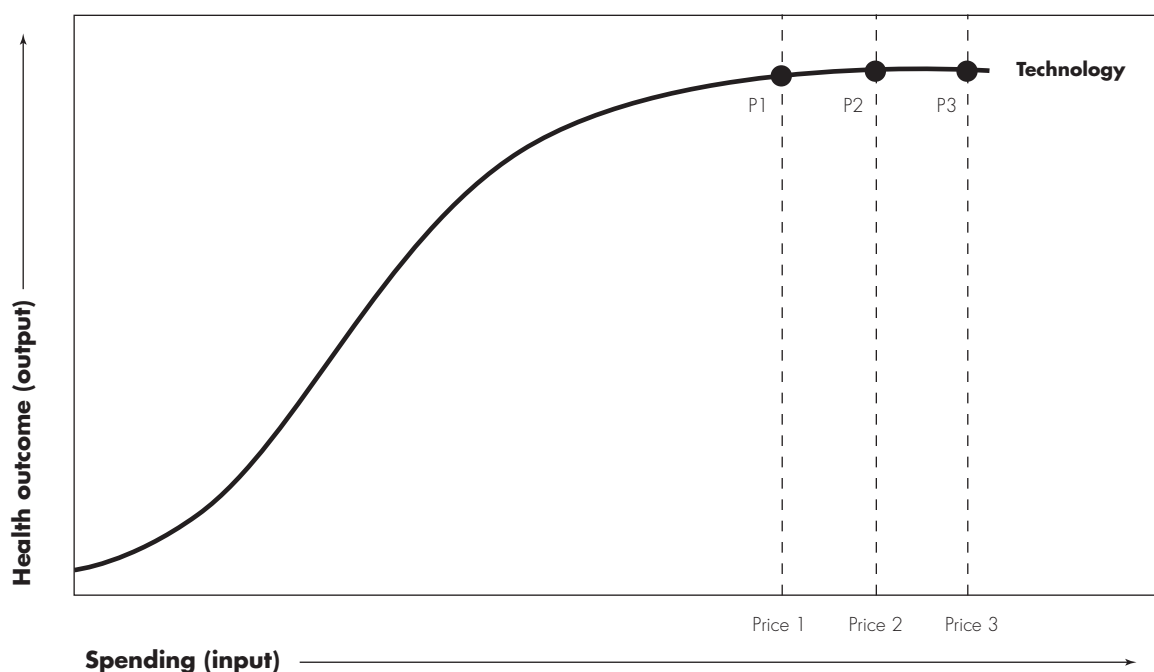
In recent years, the cumulative nature of the SGR system exacerbated the volatility problem and now contributes to the projected series of negative updates. The formula used to calculate the conversion factor update is based partly on the difference between cumulative actual and cumulative target expenditures since 1996. As a result, when actual spending exceeds the target, fee updates in future years must be lowered both to slow expected spending for the coming year and to offset the accumulated excess spending (GAO 2004).¹² For example, in 2006 CMS estimates actual expenditures of \$94.9 billion and target expenditures of \$81.7 billion. CMS also estimates that the cumulative sum of actual expenditures between 1996 and 2006 will be \$735.9 billion, while the cumulative sum of target expenditures will be \$693.3 billion. The conversion

Effects of volume growth on health and well-being (cont.)

volume was among services that the authors characterized as supply sensitive: use of the hospital as a site of care, frequency of physician visits and specialist consultations, and use of diagnostic tests and minor procedures. ■

Figure 2-3

Returns on health may diminish as more is spent on technology



Source: Based on Dowd 2004 and Fuchs 2004.

factor update for 2007 must offset both the \$13.2 billion in expected excess spending in 2006 and accumulated excess spending of \$46.6 billion.

The cumulative formula has therefore resulted in reductions in the calculated conversion factor that are larger than they would be if based only on the previous year's spending. Further, statutory limits that prevent the update from being more than 7 percentage points below MEI result in smaller reductions in each given year but extend the period of negative updates. The SGR formula calculated an update adjustment factor for 2007 that would have set the conversion factor update at 25 percentage points below MEI, or -22.9 percent. But, because of the limits, the SGR called for a -5 percent update for 2007. If that update were applied, all else equal,

The income effect

When prices fall, profit-maximizing firms in normally functioning competitive markets are expected to decrease the number of goods or services they sell. Under this standard theoretical model, physicians who experience fee cuts would respond by reducing the number of services they furnished—opting either to work less or to seek other, higher paying patients. Similarly, physicians who experience fee hikes would increase the number of services they furnished.

Evidence suggests, however, that physician behavior frequently deviates from this theoretical pattern. The Office of the Actuary has documented examples of volume and intensity increasing in the wake of fee reductions (OACT 1998). It is possible that patients demand more (and more intensive) services when prices drop, but given the prevalence of first-dollar coverage—which insulates patients from the cost of medical care—that explanation seems unlikely. Rather, physicians may seek to maintain their income when prices fall. Economists call this phenomenon the “income effect.”

Estimating the size of the income effect may help policymakers anticipate the size and direction of possible volume responses to changes in Medicare physician fees (McGuire and Pauly 1991). Unfortunately, accurately estimating the size of the income effect requires information that is not readily available. The income effect depends on numerous factors, including:

- ***The nature of the service undergoing the fee change.*** Physicians can more easily increase the volume of services that are discretionary or that have ambiguous guidelines for use. Services with lower time cost—for physicians or for patients—may also be more likely to be increased (McGuire and Pauly 1991).
- ***The costs of providing the service undergoing the fee change.*** A high-margin service may remain relatively lucrative even after a fee cut. Zuckerman and colleagues argue that if the fixed, nonphysician-labor component of costs (e.g., equipment or specialized staffing and office space) is large, then the marginal costs to the physicians of providing additional services could be relatively low (Zuckerman et al. 1998). As long as the reduced fees are sufficient to cover the variable costs, physicians may have the incentive to expand these services, at least in the short run.
- ***The share of revenue the service represents.*** For any given service experiencing a fee cut, physicians with a large share of their practice devoted to that service would be more motivated to increase the volume of services they furnish than would physicians who furnish the given service only occasionally. The physician’s specialty and the size of the physician’s Medicare share would also be factors.

The income effect may also depend on other economic factors that affect a physician’s income. ■

spending in 2007 would decline, but not enough to close the gap between actual spending and the expenditure target. Repeated negative updates would be required to close that gap.

Congressional actions to stave off reductions in physician fees in past years have enlarged the gap between actual spending and the target. The SGR system began yielding negative updates in 2002, when the update was –5.4 percent. Since then, legislative and administrative actions have overridden the negative updates without changing the cumulative target, resulting in fee increases in 2003 (1.6 percent), 2004 (1.5 percent), and 2005 (1.5 percent) and resulting in flat fees for 2006 and 2007. Unless the volume of physician services falls (an unlikely scenario), these overrides widen the gap between actual spending and the expenditure target. As a result, the cumulative SGR formula calculates even larger payment cuts the following year or results in a longer period of negative updates. ■

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Endnotes

- 1 The Balanced Budget Refinement Act of 1999 required CMS, in calculating each year's SGR spending target, to first revise the targets set for the two previous years using the most recent data for all elements of the target—that is, to revise figures for input prices for physician services, FFS beneficiary enrollment, real GDP per capita, and expenditures due to relevant new laws and regulations.
- 2 The update adjustment factor is then multiplied by the MEI. For example, for 2007 the MEI is multiplied by the maximum negative update adjustment factor of –7 percentage points to determine the physician update for 2007, –5.0 percent.
- 3 The Tax Relief and Health Care Act of 2006 allows the 2007 conversion factor to be cut by 5 percent as directed by the SGR but then funds a 5 percent bonus to the 2007 conversion factor through Part B Supplemental Medical Insurance.
- 4 Physicians who furnish predominantly evaluation and management services, for example, may have less opportunity to increase the number of services they furnish because the clinicians' face-to-face time with patients is the main component of the service. It is difficult for a physician to perform the office visit faster or fit more into a day's schedule, in contrast to some procedure-based services. Physicians who furnish predominantly surgical services also may have less opportunity to increase the number of services they furnish because the risks surgery poses for patients make it more difficult to induce demand.
- 5 This estimate of volume growth does not include the effects of price inflation.
- 6 These estimates include only services paid for under the physician fee schedule. The estimates would be higher if they included the volume of other services in CMS's broader definition of physician services, such as Medicare Part B drugs and laboratory services. The Commission has found, for example, that the volume of chemotherapy drugs increased 12 percent between 2003 and 2004, while the volume of erythropoietin grew 36 percent (MedPAC 2006).
- 7 The researchers modeled the volume of services consumed as a function of beneficiary characteristics, including age, gender, place of residence, level of education, and date of death. To capture beneficiary health status, the researchers included self-reported problems with activities of daily living and instrumental activities of daily living, history of smoking, and history of having certain medical conditions (e.g., arthritis, hypertension, diabetes, and stroke). Information about whether beneficiaries had employer-provided supplemental insurance, medigap insurance, or Medicaid was included.
- 8 The Commission found that, in the case of tests and imaging, there is a three-fold difference between metropolitan statistical areas with the minimum and maximum use of

the services per beneficiary. By contrast, the variation in the volume of less discretionary services—major procedures—was less than half that in the use of tests and imaging.

- 9 From 1999 to 2002, changes in the composition of FFS enrollment—in terms of age, sex, and rates of death—dampened slightly the growth in spending for physician services, reducing growth by 0.1 percentage point lower per year than it would have been otherwise.
- 10 Shifts in enrollment patterns among the states increased spending from 1999 to 2002 by only 0.2 percent per year.
- 11 The research is based on data for the U.S. civilian population, so it is not specific to Medicare beneficiaries.
- 12 Conversely, when actual spending falls short of the target, fee updates in future years must be set so as to (1) increase expected spending for the coming year, and (2) make up for accumulated excess target spending.

C H A P T E R

3

**Using Medicare's physician
and other payment systems
to improve value**

The SGR system is intended to limit growth in Medicare expenditures for physician services. The Commission recognizes the desire for some control over rapid increases in physician service volume and expenditures, since such increases may threaten the long-term sustainability of the program. But wise stewardship of the program goes beyond controlling its cost. The quality and safety of the care beneficiaries receive is not assured. Evidence shows that beneficiaries do not always receive the care they need (McGlynn et al. 2003). Too often the care they do get is not high quality (IOM 2001). There are also significant geographic variations in the amount of services beneficiaries receive, with little or no relationship to outcomes (Fisher et al. 2003a, 2003b). This variation in care may expose some beneficiaries to unnecessary risk and is costly to beneficiaries and to the program.

The Commission's goal is to recommend policies that increase the value of the Medicare program to both beneficiaries and taxpayers—policies that improve the efficiency of health care delivery while improving or maintaining access and quality. Increasing the value of the services Medicare pays for will require ongoing efforts to shift the incentives inherent in the physician payment system, collect and disseminate information to help physicians improve their performance, and ensure program integrity (Figure 3-1, p. 32). (See text box, p. 33, for a discussion of how the policy changes outlined in this chapter would directly benefit enrollees.) Efforts to reform Medicare's administrative capacities, already under way, will aid implementation of these improvements. While the focus is on improving Medicare's physician payment system, many of the concepts and strategies we discuss—such as expanding Medicare's use of information on comparative effectiveness—could be applied more broadly as well.

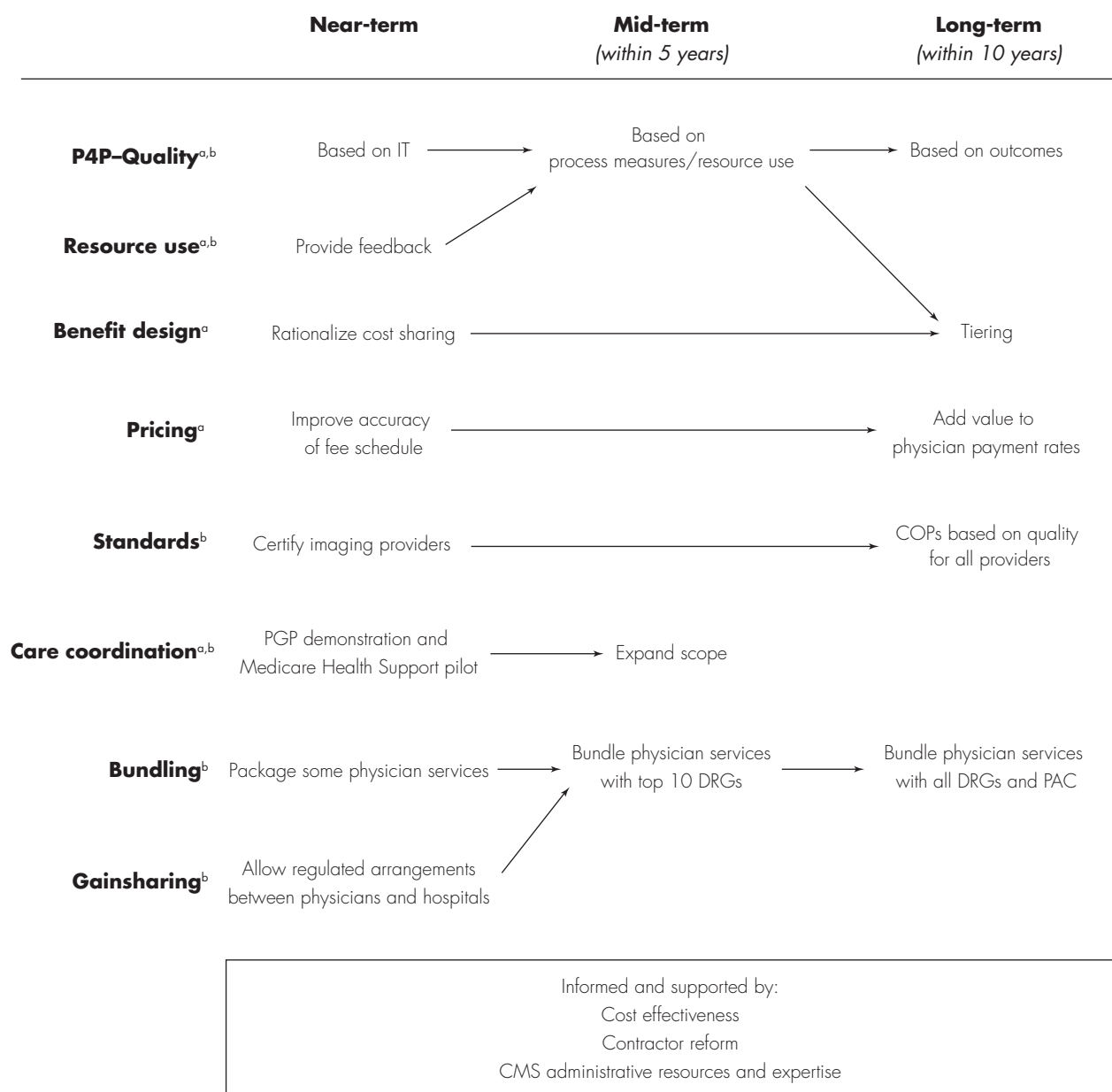
Because there are numerous payers in the U.S. health care system, achieving gains in efficiency is difficult for any one payer. To engender broader changes among providers, Medicare will likely need to collaborate with other payers but can take a leading role. If we want Medicare's fee-for-service (FFS) program to function more efficiently, the Congress needs to provide CMS with the necessary time, financial resources, and administrative flexibility. CMS will need to invest in information systems; develop, update, and improve payment systems and measures of quality and resource use; and contract for specialized services.

Changing payment incentives

Ideally, payment systems will give providers incentives to furnish better quality of care, to coordinate care (across settings, for chronic conditions), and to use resources judiciously. However, Medicare pays its providers the same regardless of the quality of their care, which perpetuates poor care for some beneficiaries, misspends program resources, and is unfair to high-performing providers. Medicare's payment system does not reward physicians for coordinating patients' care across health care settings and providers, nor does it encourage the provision of preventive and primary care services, even though such actions may improve quality of care and reduce costs.

Figure 3-1

Timeline for possible physician policy improvements



Note: P4P (pay for performance), IT (information technology), COP (condition of participation), PGP (physician group practice), DRG (diagnosis related group), PAC (post-acute care).

^a Could create incentives for physicians to furnish primary care.

^b Could create incentives for physicians to form groups.

Improving value: The beneficiary perspective

Medicare beneficiaries need a physician (or a physician-directed team) who can adequately and appropriately evaluate their need for care, explain what care is required and their responsibilities as patients, and coordinate care with other physicians and facilities. Part of MedPAC's vision is to ensure such patient-centered care through its recommendations on primary care, care coordination, and improvements to the physician fee schedule.

Beneficiaries are not getting uniformly high-quality care. Improving the quality of care through pay for performance and imposing quality standards as a condition of payment are part of MedPAC's vision. In addition, reducing the risk of unnecessary care by changing the incentives in the payment system, improving coordination of care, and improving the accuracy of prices are essential.

Medicare beneficiaries must be able to afford the care they need. Better coordination of care, avoidance of unnecessary hospital admissions, and less-intensive practice styles hold promise for lowering beneficiaries' out-of-pocket costs. A payment system that rewards physicians for increasing their efficiency by lowering resource use while improving quality is vital to enhancing the value of Medicare. ■

As discussed in Chapter 2, Medicare's method of paying for physician services contributes to volume growth. Inaccurate prices may exacerbate the volume-inducing effects of the payment system. When services are overvalued, physicians have an added incentive to provide more of them because they are more profitable. At the same time, undervaluing services may prompt providers to increase volume or switch to services that pay more so they can maintain their overall level of revenue. Conversely, some providers may opt not to furnish undervalued services, which can threaten access to care or prompt the substitution of other services, which may be more costly.

To change payment incentives, the Congress and CMS must adopt policies that link payment to the quality of care physicians furnish. The Commission's pay-for-performance recommendations would go some way toward correcting the problem of lack of incentives for quality care. At the same time, Medicare needs to encourage coordination of care and provision of primary care, ensure that its prices are accurate, allow gainsharing arrangements, bundle and package services where appropriate to reduce overuse, and rethink the program's benefit design and the effects of supplemental coverage.

Linking payment to quality

Medicare has a responsibility to ensure that its beneficiaries have access to high-quality care. Yet beneficiaries receive care from a system known to have problems with quality. Care is improving

in many settings, but significant gaps remain between what is known to be good care and the care delivered (AHRQ 2003, IOM 2000, Jencks et al. 2003, McGlynn et al. 2003, MedPAC 2004a). For example, only about half the adults in the United States receive all recommended clinical screening tests and preventive services, and many quality indicators vary widely across states (Schoen et al. 2006).

Measures of quality and guidelines for appropriate care are becoming increasingly available. The Medicare program has been a leading force in efforts to develop and use quality measures, often leading initiatives to publicly disclose quality information, standardize tools for data collection, and give feedback to providers for improvement. CMS has also revised its regulatory standards to require that providers, such as hospitals and home health agencies, have quality improvement systems in place. In addition, CMS is conducting a number of demonstrations to explore whether financial incentives can improve the quality of care providers furnish.¹

CMS's focus on quality provides a strong foundation for future initiatives. But financial disincentives to improve quality allow the quality gap to persist (IOM 2001). Medicare, the single largest payer in the U.S. health care system, pays all health care providers without differentiating on the basis of quality. Those providers who improve quality are not rewarded for their efforts. In fact, Medicare often pays more when poor care results in complications that require additional treatment.

The same negative or neutral incentives toward quality exist in the private sector. Many private purchasers and plans are experimenting with mechanisms to counterbalance these forces and reward those who provide high-quality care. Yet they agree that Medicare's participation in these efforts is critical because of its market power and because private sector efforts alone may take a much longer time to show effects (MedPAC 2003).

In a series of reports, we have recommended that Medicare change the incentives of the system by basing a portion of provider payment on performance. In our June 2003 report to the Congress, we established criteria for measures to determine whether pay for performance is feasible in settings where Medicare beneficiaries receive care (MedPAC 2003). These criteria are:

- Evidence-based, accepted measures must be available.
- Collecting and analyzing data should not be unduly burdensome for either the provider or CMS.
- If risk adjustment is needed, it must be accepted as sufficient to deter providers from avoiding patients who might lower their quality scores.
- Most providers should be able to improve on the available measures.

The Commission also developed design principles to provide guidance on how to administer and fund a pay-for-performance program, which should:

- reward providers based on improving care and exceeding certain benchmarks,

- be funded by initially setting aside a small proportion of payments,
- distribute all payments that are set aside to providers who achieve the quality criteria, and
- establish a process through which measures can continue to evolve.

In our March 2005 report to the Congress, we evaluated the available measures and measurement activities for physicians by our criteria and found useful structural, process, and patient experience indicators (MedPAC 2005c). Outcomes measures could be used with additional data and research. Therefore, we recommended that the Congress establish a quality incentive payment policy for physicians in Medicare. We have also recommended pay-for-performance strategies for Medicare Advantage plans, dialysis facilities, hospitals, and home health agencies (MedPAC 2005c, 2004a). Recently, the Institute of Medicine echoed our recommendations (see text box, p. 36).

Measuring physician quality is more complex than measuring quality in other settings because of the lack of sufficient data infrastructure, the wide variety of specialized services, and the number of physicians.² Nevertheless, physician involvement is crucial to the broader success of pay for performance.

The Commission has found that two types of physician measures are ready to be collected. The starter set of measures reflects the need to balance two priorities: building measure sets and minimizing burden. First, we recommended using structural measures associated with use of information technology (IT), such as whether a physician's office tracks whether patients receive appropriate follow-up care. Structural measures such as these apply to all types of physicians and address important components of physician care—appropriate monitoring, follow-up, and coordination of services. Further, as physicians adopt IT in response, the capacity to move toward more sophisticated and complete measure sets will grow.³ Some have argued that Medicare and other payers should pay providers for the use of IT, but the Commission concluded that Medicare should focus its incentives on the result of IT use—performance—rather than on the use of the tool itself.⁴

We also found that claims-based process measures provide important information and are the least burdensome approach to collecting condition-specific information. Current research finds that these measures are available for a broad set of conditions important to Medicare beneficiaries, and some of them correlate well with measures drawn from medical records (Greenfield and Kaplan 2004, McGlynn 2005).⁵ These measures will be greatly enhanced by information on prescriptions and laboratory values, which can be added over the next few years. Data from private payers may also help to enhance physician profiles. In addition, patient experience measures will be available soon for physicians and should be considered for a pay-for-performance program.⁶

Because claims-based process measures do not currently apply to every physician and because we wish to ensure that all physicians who see Medicare patients have the incentive to improve, it will be necessary for CMS to develop a transition strategy for pay for performance. At the outset, CMS should collect information on structural measures—functions and outcomes

The Institute of Medicine on pay for performance

The Institute of Medicine (IOM) has written a series of three reports on quality measurement, pay-for-performance design, and management of quality improvement (IOM 2006a, 2006b, 2006c). They present a sense of urgency to implement pay for performance tempered by concerns about the limitations of current quality measures and the challenges of designing and coordinating this fundamental change in the Medicare program.

IOM and MedPAC assessments of the current state of quality measurement are similar. The indicators that are available now could form a starter quality measurement set. However, the measures that are currently available are fragmented across different users for different purposes and cannot be tied explicitly to the overarching, national goals laid out by IOM. Composite scores that could bring together multiple measures of different aspects of quality into a meaningful summary are needed, but judging the relative value of competing goals that would underpin such a summary is a challenge.

Both IOM and MedPAC have recommended that a national entity is needed to:

- set and prioritize the goals of the health care system;
- monitor the nation's progress toward these goals;
- ensure the implementation of data collection, validation, and aggregation;
- coordinate public and private efforts at local, state, and national levels;
- establish public reporting methods;
- identify and fund development of the measures; and
- evaluate the impact of quality improvement initiatives.

This entity should have independent, stable funding. Its members should include researchers and stakeholders. It should be given authority to set standards. The quality improvement organizations that currently contract with CMS to help providers improve their care should continue to play a central role.

Pay for performance is an important step toward aligning the incentives of the payment system with quality improvement. IOM described several features of a pay-for-performance system that are similar to MedPAC's recommendations. Initial funding for pay-for-performance bonuses should come from existing Medicare funds. Both attainment of high quality levels and improvement toward better quality levels should be rewarded. The system should evolve to incorporate new measures, especially those that reach across care settings and span episodes of care. IOM supports a phased approach to implementation that includes a restricted number of conditions, a restricted number of provider types, and some initial payments for reporting. ■

associated with IT use—and on the claims-based, condition-specific measures that are available, but it should base rewards only on the IT structural measures. To encourage specialty societies to work with others to continue to develop measures, the Congress should include claims-based process measures in the pay-for-performance program within two to three years. The penalty for lack of action would be financial: Providers would forfeit the opportunity to earn the pay-for-performance bonus.

Two other structural measures—certification and education—could become part of a measure set, but the link with improved care would need to be clear. Certification measures could include whether a physician was board certified in his or her specialty or other types of certification or education that help keep physicians' clinical knowledge current. Continuing education measures could include physician participation in courses on strategies for improving quality or enhancing clinical knowledge. The key to including these types of measures is to determine that the certification process requires a knowledge of evidence-based medicine, requires continuous recertification, and is rigorously enforced. (For an example of such a process, see the discussion of the American Board of Internal Medicine's Maintenance of Certification program in Chapter 5.)

To implement this program, Medicare needs to measure the care delivered by a very large number of physicians, collect and analyze a significant amount of new data, and continue to research and assess measures. The Secretary should establish a formal process composed of private and public sector participants to streamline, update, and improve measure sets. Some of these activities could be performed by CMS or under contract with CMS; others could be separate from CMS but coordinated with the program. This process should help decrease the burden on physicians of quality reporting by coordinating Medicare's efforts with other payers seeking similar information. But Medicare should be aware that it will likely play a leading role, setting the standard in collaboration with other payers.

After Medicare chooses an initial measure set to start the pay-for-performance program, it will need to improve and adapt measure sets over time. Eventually, process measures may be obtained from electronic medical records. Outcomes measures also may be developed or adapted for use in the program. CMS or another unbiased entity such as the Agency for Healthcare Research and Quality (AHRQ) could coordinate this process, with input from specialty societies and health services researchers. This activity may require additional funding.

To implement pay for performance, the Congress must first give the Medicare program the ability to pay providers differentially based on performance. To minimize major disruptions, the program should be funded initially by setting aside a small portion of budgeted payments—for example, 1 percent to 2 percent. The program should be budget neutral; all monies set aside would be redistributed to those providers who perform as required.

CMS is currently conducting a variety of pay-for-performance initiatives (see text box, p. 38). In August of 2007, CMS will publish proposed quality measures for physicians for 2008 reporting. By law, these measures must be adopted or endorsed through a consensus-based process by an organization such as the National Quality Forum or the AQA. The Institute of Medicine and MedPAC have stated that, ideally, measures should be developed and used for

CMS physician pay-for-performance initiatives

CMS is currently conducting a variety of pay-for-performance initiatives, including the following for physicians:

Physician Group Practice Demonstration. This demonstration seeks to encourage coordination of Part A and Part B services, promote efficiency through investment in administrative structures and processes, and reward physicians for improving health outcomes. The 10 large group practices that are participating in the demonstration have an incentive to reduce utilization for their Medicare FFS patients because the size of their incentive pool is based on the savings the practice achieves. Savings are calculated based on costs of a control group. The demonstration includes performance measures based on processes and outcomes. Payments are based in part on these measures.

Medicare Care Management Performance Demonstration. Modeled on the “Bridges to Excellence” program, this is a three-year pay-for-performance demonstration with physicians to promote the adoption and use of information technology to improve the quality of care for chronically ill Medicare patients. Doctors who meet or exceed established performance standards in clinical delivery systems and patient outcomes will receive bonus payments for managing the care of eligible Medicare beneficiaries. In contrast to the Physician Group Practice Demonstration, this demonstration is focused on small and medium-sized physician practices. It will be implemented in four states: Arkansas, California, Massachusetts, and Utah.

Medicare Health Care Quality Demonstration. This will be a five-year demonstration intended to identify and test multifaceted improvements to the health care system. Projects will be expected to improve patient safety, reduce variations in utilization by appropriate use of evidence-based care and best practice guidelines, encourage shared decision making, and use culturally and ethnically appropriate care. Organizations will receive performance payments for improving health outcomes. Eligible entities include physician groups, integrated health systems, and regional coalitions of physician groups and integrated health systems. ■

all physician service providers to create incentives to furnish better quality care. However, currently we do not have well-established measures for all providers of physician services. Thus, initially, policymakers might consider prioritizing the implementation of some pay-for-performance measures over others. Focusing measures on high-cost, widespread, chronic conditions to maximize benefits to the Medicare program and to beneficiaries might be a good short-term strategy. Although under this strategy, some physicians may have more pay-for-performance measures than others, a targeted approach for measure selection could benefit both the Medicare program and beneficiaries. Further, measures that reflect coordination between health sectors (e.g., hospitals and physicians) will encourage and reward communication among

providers, which may improve patient outcomes and reduce Medicare costs. For example, pay-for-performance incentives associated with congestive heart failure could reduce hospital admissions through better ambulatory care or could lower readmission rates through improved communication among physicians, patients, and hospitals upon patient discharge.

The Commission will continue to examine pay-for-performance initiatives in future work. The complete list of MedPAC's recommendations on pay for performance can be found in our March 2005, March 2004, and June 2003 reports to the Congress (MedPAC 2005c, 2004a, 2003).

Encouraging coordination of care and the use of care management processes

The Commission has explored multiple strategies, discussed in this chapter, to provide incentives for high-quality, low-cost care and thus improve value in the Medicare program. However, even if individual providers are efficient, a beneficiary may still receive less-than-optimal care if providers do not communicate well with each other or if they do not monitor patient progress over time. To address this problem, we have considered ways to promote care coordination and care management by creating incentives for providers to share clinical information with other providers, monitor patient status between visits, and fully communicate with patients about self-care.

While all patients could benefit from better coordination of care and care management, the patients most in need are those with multiple chronic conditions and other complex needs. Thus, our initial work has focused on those patients. Beneficiaries with chronic conditions represent a significant proportion of Medicare spending. But evidence continues to mount that they do not receive recommended care and may have hospitalizations that could have been avoided with better primary care (McGlynn et al. 2003, MedPAC 2004b). Researchers attribute this problem to poor monitoring of treatment—especially between visits—for all beneficiaries and to a general lack of communication among providers (Forster et al. 2003, Grumbach and Bodenheimer 2002, Rothman and Wagner 2003, Schoen et al. 2005). Physician offices, on their own, struggle to find time to provide this type of care, and few practices have invested in the necessary tools—namely, clinical IT systems and care manager staff. At the same time, beneficiaries may not be educated about steps they can take to monitor and improve their conditions. Coordinated care may improve patients' understanding of their conditions and compliance with medical advice and, in turn, reduce the use of high-cost settings such as emergency rooms and inpatient care. Ideally, better care coordination and care management will improve communication among providers, eliminating redundancy and improving quality.

Research suggests that, without the support of IT and nonphysician staff, physicians can only do so much to improve care coordination. Individual physicians may not have the time or be well suited to provide the necessary evaluation, education, and coordination that help beneficiaries, especially those with multiple chronic conditions (Grumbach and Bodenheimer 2002, Rothman and Wagner 2003). One study found that older patients with select conditions that require time-consuming processes, such as history taking and counseling, are at risk for worse quality of care (Min et al. 2005). Further, many physicians are not trained to educate patients about self-care or

to set up systems for monitoring between visits. Physicians' use of basic care management tools is low, even in group practices where building the infrastructure for care coordination, including the use of clinical IT, may be more feasible (Casalino et al. 2003).

Care coordination is difficult to accomplish in the FFS program because it requires managing patients across settings and over time, neither of which is supported by current payment methods or organizational structures. Further, because patients have the freedom to go to any willing physician or other provider, it is difficult to identify the practitioner most responsible for the patient's care, especially if the patient chooses to see multiple providers. The challenge is to find ways to create incentives in the FFS system to better coordinate and manage care.

In our June 2006 report to the Congress, the Commission outlined two illustrative care coordination models for complex patients in the FFS program: (1) Medicare could contract with providers in large or small groups that are capable of integrating the IT and care manager infrastructure into patient clinical care, and (2) CMS could contract with stand-alone care management organizations that would work with individual physicians (MedPAC 2006a). In the second model, the care management organization would have the IT and care manager capacity. Other organizations have proposed care coordination models as well. For example, the American College of Physicians recently advocated using advanced medical homes (ACP 2006a).

In either model, payment for services to coordinate care would be contingent on negotiated levels of performance in cost savings and quality improvements. Given that Medicare faces long-term sustainability problems and needs to learn more about the most cost-effective interventions, the entities furnishing the care managers and information systems should initially be required to produce some savings as a condition of payment. However, demonstrating continued savings may not be necessary or feasible once strategies for coordinating care are broadly used.

To encourage individual physicians to work with care coordination programs, Medicare might pay a monthly fee to a beneficiary's primary physician or group for time spent coordinating with the program. This fee may be less necessary if the physician is already part of a group practice with a care coordination program, but providing the fee only to solo practitioners could disadvantage physicians who practice in groups. As with other fee schedule services, these expenditures would be accommodated by reallocating dollars among all services in the fee schedule.

In either model, patients would volunteer to see a specific physician or care provider (e.g., a medical group or other entity) for the complex condition that qualifies them to receive care coordination. CMS could identify the physician or physicians who provide most of a beneficiary's care. Beneficiaries could then designate the practitioner they wanted to oversee most aspects of their care to be the contact with the care management program. The physician and the beneficiary would agree that the beneficiary would seek care first with that physician but would not be restricted to seeing only that physician. The physician, or the group on behalf of the practitioner in the case of a provider-based program, would receive the monthly fee when the beneficiary enrolls in the care management program. This primary physician (which need not be a primary care physician, because a specialist might be the appropriate person for patients with certain conditions) would serve as a sort of medical home.

These models do not represent the Commission's only views of the way care coordination might work in Medicare. Other strategies, such as pay for performance, complement this model by focusing on improving care. In addition, adjusting Medicare's compensation to physicians to reflect the longer time spent caring for patients with complex issues may be warranted if the current fees do not compensate for this extra time. (For example, CMS could apply a multiplier to the relative value of certain services for identified patients with multiple chronic conditions).⁷ Medicare could also establish billing codes to enhance payments for chronic care patients for services such as case management. The Medicare Health Care Quality Demonstration, which tests the ability of innovative payment arrangements for providers in integrated delivery systems to improve quality, may provide further models for improving coordination of care (see text box, p. 38).

Evidence shows that care coordination programs improve quality, particularly as measured by the provision of necessary care (Chodosh et al. 2005, Coleman et al. 2004, Naylor et al. 1999). Evidence on cost savings is less clear and may depend on how well the target population is chosen. When cost savings are shown, they are often limited to a specific type of patient, the intervention used, or the time frame for the intervention (CBO 2004, Goetzel et al. 2005, Naylor et al. 1999). If care coordination programs work, annual spending may decrease, but beneficiaries may live longer with a better quality of life—a positive outcome for Medicare beneficiaries, but the Medicare program may not spend less than it otherwise would have. This possibility argues for assessing programs on the basis of whether they provide the interventions known to be effective or achieve certain quality improvements rather than on the basis of cost savings.

For a complete discussion of MedPAC's views on this topic, see Chapter 2 of our June 2006 report to the Congress (MedPAC 2006a).

Ensuring accurate prices

Mispricing may exacerbate the volume-inducing effects of the physician FFS payment system. Misvalued services can distort the price signals for physician services as well as for other health care services that physicians order, such as hospital services. Some overvalued services may be overprovided because they are more profitable than other services, whereas undervalued services may prompt providers to increase volume in order to maintain their overall level of payment. Conversely, some providers may opt not to furnish undervalued services, which can threaten access to care, or they may opt to furnish other, more profitable services instead, which can be costly to Medicare and to beneficiaries.

A service can become overvalued for a number of reasons. For example, the amount of physician work needed to furnish a service may decrease as physicians become more proficient or when new technologies are incorporated. Services can also become overvalued when practice expenses decline. This can happen when the costs of equipment and supplies fall, or when equipment is used more frequently, reducing its cost per use. Likewise, services can become undervalued when physician work increases or practice expenses rise. Although CMS—with the assistance of the American Medical Association/Specialty Society Relative Value Scale Update Committee (RUC)—reviews the relative values assigned to physician services every five years, some

services likely continue to be misvalued (MedPAC 2006b). In recent years, per capita volume for different types of services has grown at widely disparate rates, with volume growth in imaging and minor procedures outpacing that for office visits and major procedures. Volume growth differs across services for several reasons, including variability in the extent to which demand for services can be induced and advances in technology that expand access and can improve patient outcomes. The Commission and others have voiced concerns, however, that differential growth in volume is due in part to differences in the profitability of services (Ginsburg and Grossman 2005, MedPAC 2006b).

To the extent that the SGR limits growth in aggregate physician spending, differences in the rate of volume increases across services mean that certain types of services—such as imaging—are capturing a growing portion of Medicare physician spending at the expense of other services. The Commission has expressed particular concern about primary care services (MedPAC 2006b). Because specialists often furnish more intensive services than primary care providers do, reducing reliance on specialty care may improve the efficiency of health care delivery without compromising quality. Based on the RUC's recommendation, CMS recently increased the work relative values of many evaluation and management services, but maintaining accurate payments will require continued vigilance. (See the primary care section of this chapter, p. 46, for more on this topic.)

Differences in the profitability of services send signals to the market that go beyond incentives to over- or underfurnish services. If certain types of services become overvalued relative to other types of services, the specialties that perform those services may become more financially attractive, which can affect the supply of physicians by influencing their decisions about whether and how to specialize.

Given the importance of accurate payment, the Commission concluded in the March 2006 report to the Congress that CMS's process for reviewing the work relative values of physician services must be improved (MedPAC 2006b). CMS looks to the RUC to make recommendations about which services should be revalued. But the RUC's three reviews, completed in 1996, 2001, and 2006, recommended substantially more increases than decreases in the relative values of services, even though many services are likely to become overvalued. We have noted that physician specialty societies have a financial stake in the process and therefore have little incentive to identify overvalued services. Although we recognize the valuable contribution the RUC makes, we concluded in our 2006 report that CMS relies too heavily on physician specialty societies, which tend to identify undervalued services without identifying overvalued ones. We found that CMS also relies too heavily on the societies for supporting evidence. To maintain the integrity of the physician fee schedule, we recommended that CMS play a lead role in identifying overvalued services so that they are not overlooked in the process of revising the fee schedule's relative weights; we also recommended that CMS establish a group of experts, separate from the RUC, to help the agency conduct these and other activities. This recommendation was intended not to supplant the RUC but to augment it. To that end, the new group should include members who do not directly benefit from changes to Medicare's payment rates, such as experts in medical economics and technology diffusion and physicians who are employed by managed care organizations and academic medical centers. The Commission has also urged CMS to update the

data and assumptions it uses to estimate the practice expenses associated with physician services (MedPAC 2006a).

In addition, we recommended that the Secretary, in consultation with the expert panel, initiate reviews of services that have experienced substantial changes in volume, length of stay, site of service, practice expense, and other factors that may indicate changes in physician work. For example, rapid growth in volume for specific services may in some cases signal that Medicare's payment for those services is too high relative to the cost of furnishing them. The Secretary could examine specialties that show rapid volume increases per physician over a given period. Volume calculations would need to consider changes in the number of physicians furnishing the service to Medicare beneficiaries and in the hours those physicians work. CMS could use the results from these analyses to flag services for closer examination (by CMS or by the RUC) of their relative work values. The RUC could also conduct such volume analyses when making its work value recommendations to CMS, but its current process (every five years) may not be timely enough to capture services that enjoy rapid gains in productivity. Alternatively, the Secretary could automatically correct such misvalued services, and the RUC would review the changes during its regular five-year review.

The full list of our recommendations on this topic can be found in Chapter 3 of our March 2006 report to the Congress and in Chapter 4 of our June 2006 report to the Congress (MedPAC 2006a, 2006b).

Ensuring the accuracy of payments to other providers—including hospitals and post-acute care providers—is also important. To this end, the Commission has recommended refinements to the diagnosis related groups (DRGs) used in Medicare's hospital inpatient prospective payment system and to the case-mix systems used in Medicare's payment systems for post-acute care services.

Allowing shared accountability arrangements between physicians and hospitals

As discussed previously, better communication and coordination among providers can improve efficiency, eliminate redundancy, and reduce costs. Allowing gainsharing, or shared accountability arrangements, between physicians and hospitals has the potential to encourage cooperation among providers in achieving these goals. In a shared accountability arrangement, hospitals and physicians agree to share savings from reengineering clinical care in the hospital. Such efforts could include negotiating with manufacturers to obtain greater discounts, scheduling operating rooms more efficiently, and complying with clinical protocols that improve efficiency and quality. If quality bonuses were available, they could also be shared.

Efforts to promote shared accountability arrangements in the late 1990s were largely stymied after the Department of Health and Human Services' Office of Inspector General (OIG) issued a special advisory bulletin in 1999 stating that gainsharing arrangements were prohibited by a civil monetary penalty provision in the Social Security Act that bars hospitals from offering physicians financial incentives to reduce or limit services to Medicare beneficiaries (OIG 1999).

According to OIG, these arrangements could create incentives for physicians to withhold or diminish care and could also induce physicians to refer patients to the hospital with which they have the most lucrative arrangement. Moreover, these arrangements might be used to disguise kickbacks. OIG noted in its ruling that well-designed arrangements could result in better quality care at lower cost by, for example, encouraging physicians to substitute lower cost (but equally effective) supplies and devices and eliminate unnecessary ancillary services and inpatient days. Nevertheless, OIG concluded that it lacked the statutory authority to require safeguards to ensure that cost-saving measures do not reduce quality.

In later advisory opinions, OIG has approved narrow gainsharing arrangements when the plans had several features that protected the quality of care, minimized incentives that might affect physician referral patterns, and made it unlikely that physicians would be financially rewarded for referring patients to the hospital, a potential violation of the anti-kickback statute.

Instead of requiring case-by-case OIG opinions, allowing shared accountability arrangements might counterbalance the sometimes conflicting payment incentives caused by separate payment systems for physicians and hospitals under FFS Medicare. Indeed, competition between physicians and hospitals at times resembles a “medical arms race” that drives up costs (Berenson et al. 2007). Shared accountability arrangements might increase the willingness of physicians to collaborate with hospitals to lower costs and improve care. The Commission recommended in the 2005 report to the Congress on physician-owned specialty hospitals that the Congress should provide the Secretary with the authority to allow and regulate these arrangements (MedPAC 2005d). The Secretary should develop rules that allow shared accountability arrangements as long as safeguards exist to ensure that cost-saving measures do not reduce quality or inappropriately influence physician referrals. For example, drawing on the OIG-approved plan, the Secretary could require that shared accountability agreements:

- identify specific actions that would produce savings, such as limiting the inappropriate use of supplies;
- are transparent and disclosed to patients;
- include periodic reviews of quality of care by an independent organization;
- limit the amount of time during which physicians can share cost savings, to prevent hospitals from using these agreements as a mechanism to induce physician referrals;
- avoid rewarding physicians for increasing referrals to the hospital, such as capping potential savings based on the number of admissions the prior year; and
- monitor changes in the severity, age, and insurance coverage of patients affected by the arrangements.

The Secretary could also give preference to arrangements that involve cooperating groups of physicians (e.g., an entire medical staff) as opposed to arrangements with individual physicians. Group arrangements could encourage cooperation among physician staff. While it will be difficult to craft rules that prevent the use of shared accountability to reward physician referrals

or stinting on care for patients, improving or achieving quality measures could be part of the shared accountability arrangement. Such arrangements might be encouraged if hospitals and physicians are paid for quality performance.

As discussed in Chapter 9, CMS could also use Medicare claims to define empirically based hospital medical staff groups by associating physicians and beneficiaries with the hospitals they use most. Medicare could then assess the resource use and quality performance of these groups. Using such groups (or other groups that might form under the new incentive, such as group practices, independent practice associations, and physician–hospital organizations) as accountable entities could increase the coordination of care and limit volume-generating activities in the health care system. Although we feature the development of accountable care organizations in the paths discussed in Chapter 12, providers could develop these types of entities to improve quality under pay-for-performance programs, participate as care coordination entities, and partake in savings under shared accountability and bundling of Part A and Part B services.

CMS’s Physician Hospital Collaboration Demonstration, scheduled to begin in 2007, will test the effects of shared accountability and could provide a model for structuring such arrangements. Looking to the future, allowing arrangements between hospitals and physicians could serve as a catalyst for the development of new integrated delivery systems (Wilensky et al. 2007).

For a complete discussion of the Commission’s recommendations on this topic, see our March 2005 report to the Congress on physician-owned specialty hospitals (MedPAC 2005d).

Bundling to reduce overuse

A larger unit of payment puts physicians at greater financial risk for the services provided and thus gives them an incentive to furnish and order services judiciously. Medicare already bundles preoperative and follow-up physician visits into global payments for surgical services. Candidates for further bundling include services typically provided during the same episode of care, particularly those episodes for conditions with clear guidelines but large variations in actual use of services, such as diabetes treatment. However, questions remain about the extent to which an expanded bundling policy is appropriate. Bundled payments could lead to fewer unnecessary services, but they could also lead to stinting or unbundling (e.g., referring patients to other providers for services that should be included in a bundle). Medicare should explore options for increasing the size of the unit of payment to include bundles of services that physicians often furnish together or during the same episode of care, similar to the approach used in the hospital inpatient prospective payment system.

MedPAC is examining bundling the hospital payment and physician payment for a given DRG and for groups of DRGs, which could increase efficiency and improve coordination of care.⁸ This approach to bundling could be expanded in the future to capture periods of time (e.g., one or two weeks) after the admission but likely to include care (e.g., post-acute care, physician services) strongly related to the admission, further boosting efficiency and coordination across sites of care. Bundling services could be structured so that savings go to the providers, the program, or both.

Promoting the use of primary care

Geographic areas with more specialist-oriented patterns of care are not associated with improved access to care, higher quality, better outcomes, or greater patient satisfaction (Fisher et al. 2003a, 2003b). Cross-national comparisons of primary care infrastructures and health have demonstrated that nations with greater reliance on primary care have lower rates of premature deaths and deaths from treatable conditions, even after accounting for differences in demographics and gross domestic product (Starfield and Shi 2002).

Increasing the use of primary care services and reducing reliance on specialty care can improve the efficiency of health care delivery without compromising quality. Historically, Medicare's payment system has valued primary care services less highly than other types of services. Undervalued services may be less profitable, so some physicians might seek to avoid furnishing them. Primary care services also may be more likely than other services to become undervalued over time, because they are less prone than procedural services to improvements in efficiency. At the same time, Medicare's cost-sharing requirements provide no encouragement for beneficiaries to seek services, when appropriate, from primary care practitioners instead of specialists, unlike most cost-sharing in the under-65 market, where primary care copayments are generally lower than those for specialists.⁹ Medicare's payment policies and cost-sharing structure need to be aligned to encourage the use of primary care. The Commission's pay-for-performance and care coordination recommendations could also encourage the use of primary care. Such changes could help to address concerns about the declining proportion of U.S. medical students choosing careers in primary care (American College of Physicians 2006b, Bodenheimer 2006, Woo 2006).¹⁰

Some Commissioners have argued that the relative value units of the physician fee schedule should be at least partly based on a service's value to Medicare. Such an approach would focus on primary care services, as well as other valuable services. For example, if analysis of clinical effectiveness for a given condition were to show that one service were superior to an alternative service for a given condition, then Medicare's process of setting relative values might reflect that. This process would be a departure from the established method of setting relative values based only on the time, mental effort, technical skill and effort, psychological stress, and risk of performing the service.

In the longer term, the Commission is concerned that the nation's medical schools and residency programs are not adequately training physicians to be leaders in shaping and implementing needed changes in the health care system. Physician training programs must emphasize a new set of skills and knowledge. For example, programs need to train residents to measure their performance against quality benchmarks, use patient registries and evidence-based care guidelines, work in multidisciplinary teams, manage the hand-off of patients, and initiate improvements in the process of caring for patients to reduce medication and other costly errors.¹¹ Policymakers may want to consider tying a portion of the indirect medical education subsidy to specific programs or curriculum characteristics that promote such educational improvements.

Rethinking Medicare's cost-sharing structure

Cost sharing should encourage beneficiaries to evaluate the need for discretionary care but should not discourage necessary care. It should be higher for services that may be discretionary and could be overused, such as tests and imaging, and lower for services that are necessary or desirable, such as emergency and preventive services. Cost sharing can also be designed to steer patients to lower cost or more effective treatment options.

Medicare's FFS cost-sharing structure deviates substantially from this ideal. For example, Medicare imposes a relatively high deductible for hospital admissions, which are rarely optional. In contrast, Medicare requires no cost sharing for home health services, even though wide geographic disparities in the use of such services have raised concerns about their potentially discretionary nature. Unlike many plans, Medicare's cost-sharing requirements for visits to specialists are the same as for visits to primary care practitioners. Further, Medicare's FFS benefit does not protect against catastrophic levels of out-of-pocket spending.

About 90 percent of Medicare beneficiaries have supplemental coverage that provides some protection against out-of-pocket spending (MedPAC 2005a). But that coverage also reduces beneficiaries' sensitivity to the costs of care. Supplemental coverage that shields beneficiaries entirely from FFS cost-sharing requirements (e.g., certain medigap options) leads to greater use of services and higher Medicare spending—17 percent to 28 percent higher, by some estimates (Christensen and Shinogle 1997). These types of supplemental coverage therefore may undermine the role of cost sharing in health insurance: to encourage cost-effective use of services.

The Medicare benefit may need to be improved by combining increases in Medicare's cost-sharing requirements with a catastrophic cap on out-of-pocket spending, which would limit the financial burden on beneficiaries who need the most care. Cost sharing should not be raised indiscriminately, however, since doing so could impose financial barriers to essential care or cause hardship (Gluck and Moon 2000). Instead, cost-sharing requirements should be designed to encourage the use of cost-effective and necessary care while prompting beneficiaries to carefully consider the use of discretionary services. For example, cost sharing might not be applied to preventive services, and it might be higher for patient-initiated specialist visits than for those obtained upon referral (Robinson 2002). Since supplemental coverage would temper any savings from a policy that raised cost sharing, policymakers might want to simultaneously consider restricting first-dollar coverage, which could lead to sizable savings for the Medicare program—large enough to finance some catastrophic protection (MedPAC 2002).¹²

It is not clear whether or how much higher cost sharing would affect health outcomes. The RAND Health Insurance Experiment, which did not include elderly individuals, found no substantial differences in the health status of people who received free care versus those who faced higher cost sharing (Newhouse 1993).¹³ This body of work suggests that, although both positive and negative effects, on average, are likely to exist, higher cost sharing might not adversely affect health outcomes. RAND research also found, however, that higher cost sharing discouraged the use of some necessary as well as unnecessary care (Keeler 1992). More recent literature focusing on the elderly suggests that higher cost sharing inhibits the use of appropriate

services, particularly outpatient prescription drugs (Rice and Matsuoka 2004). For certain beneficiaries, higher out-of-pocket costs could undermine compliance with recommended care, coordination of services, and the use of preventive services (Robinson 2002). The Congress could minimize this effect by income-adjusting Medicare's cost-sharing requirements, as it has done for the Part D benefit.

Collecting and disseminating information

Lack of information about the appropriateness and effectiveness of services contributes to wide variation in practice patterns and use of services within the United States. Some unwarranted variation may reflect geographic differences in what physicians and other providers believe is appropriate care. To reduce this variation, providers need information about how their practice styles compare with those of their peers. In addition, where available, comparative-effectiveness research should be used to develop authoritative guidelines and build consensus around them.

Measuring resource use and providing feedback

Medicare beneficiaries in regions of the country where physicians and hospitals deliver many more health care services do not experience better quality of care or outcomes, nor do they report greater satisfaction with their care (Fisher et al. 2003a, 2003b). Thus, the nation could spend less on health care, without sacrificing quality, if physicians whose practice styles are more resource-intensive reduced the intensity of their practice—that is, if they provided fewer diagnostic services, used fewer subspecialists, used hospitals and intensive care units as sites of care less frequently, and performed fewer minor procedures.

In the March 2005 report to the Congress, the Commission recommended that CMS measure physicians' resource use over time and share the results with physicians (MedPAC 2005c). Physicians would then be able to assess their practice styles, evaluate whether they tend to use more resources than their peers or what evidence-based research (when available) recommends, and revise their practice styles as appropriate.¹⁴ Moreover, when physicians are able to use this information in tandem with information on their quality of care, they will have a foundation for improving the value of care beneficiaries receive.

Private insurers increasingly utilize resource use measurement to contain costs and improve quality (MedPAC 2004b).¹⁵ Evidence on measuring the effectiveness of resource use in containing private sector costs is mixed and varies depending on how the results are used. Providing feedback on use patterns to physicians alone has been shown to have a statistically significant, but small, downward effect on resource use (Balas et al. 1996, Schoenbaum and Murray 1992), but, when paired with additional incentives, the effect on physician behavior can be considerably larger (Eisenberg 2002).

Medicare's feedback on resource use is likely to be more successful than previous experience in the private sector. As Medicare is the single largest purchaser of health care, its reports should

command greater attention. In addition, because Medicare's reports would be based on more patients than private plan reports, they might have greater statistical validity and acceptance from physicians. Confidential feedback of the results to physicians might be sufficient to induce some change. Many physicians are highly motivated individuals who strive for excellence and peer approval (Tompkins et al. 1996). If identified by CMS as having an unusually resource-intensive style of practice, some physicians may respond by reducing the intensity of their practice. However, confidential information alone may not be sufficient to have a sustained, large-scale impact on physician behavior.

Using results for physician education would provide CMS with experience using the measurement tool and allow the agency to explore the need for refinements. Similarly, physicians could review the results, make changes to their practice as they deem appropriate, and help shape the measurement tool. Once greater experience and confidence were gained, Medicare could use the results for payment—for example, as a component of a pay-for-performance program (which rewards both quality and efficiency). Alternatively, the results could be used as a method allowing Medicare to create other financial incentives for greater efficiency or to enable beneficiaries to identify physicians with high-quality care and more conservative practice styles. Eventually, collaboration between the program and private plans could result in the development of a standard report card. At the same time, CMS could use the measurement tool to flag unusual patterns of care that might indicate misuse, fraud, or abuse.

MedPAC's recommendations on this topic can be found in our March 2005 report to the Congress (MedPAC 2005c). A discussion of MedPAC's work analyzing use of resources during episodes of care can be found in Chapter 10 of this report.

Encouraging the use of comparative-effectiveness information

Increasing the value of the Medicare program to beneficiaries and taxpayers requires knowledge about the costs and health outcomes of services. Until more information on the comparative effectiveness of new and existing health care treatments and technologies is available, patients, providers, and the program will have difficulty determining what constitutes good-quality care and effective use of resources.

Comparative-effectiveness information, which compares the outcomes associated with different therapies for the same condition, could help Medicare use its resources more efficiently. Comparative effectiveness has the potential to identify medical services that are more likely to improve patient outcomes and discourage the use of services with fewer benefits. CMS already assesses the clinical effectiveness of services when making decisions about national coverage and paying for certain services. But to date FFS Medicare has not routinely used comparative information on the costs of services, although Medicare Part D plans and other payers and providers, such as the Veterans Health Administration, do use comparative information (e.g., in drug formulary decision-making processes).

Medicare could use comparative-effectiveness information in a number of ways to improve the quality of care beneficiaries receive. Medicare could use such information to inform providers

and patients about the value of services, since there is some evidence that both might consider comparative-effectiveness information when weighing treatment options (Ginsburg 2004, Sacramento Healthcare Decisions 2001). Medicare might also use the information to prioritize pay-for-performance measures, target screening programs, or prioritize disease management initiatives. In addition, Medicare could use comparative-effectiveness information in its rate-setting process or in coverage decisions.

Private health plans and providers have not been at the forefront of effectiveness research. Private payers and providers may be reluctant to use comparative-effectiveness information extensively for fear that patients will criticize them as being more concerned about cutting costs than about patients' health. Litigation risks may also dissuade some private payers from using comparative-effectiveness information (Jacobson and Kanna 2001). In addition, private payers may anticipate problems keeping the information proprietary (thus aiding their competitors) and may fear that it would be difficult to capture the full return on their investment (Neumann 2005). Comparative-effectiveness analysis may be more useful for Medicare because the program covers its beneficiaries for a longer period (from age 65 to death, and starting at a younger age for some disabled persons) than do most private payers.

Given the potential utility of comparative-effectiveness information to the Medicare program, an increased role of the federal government in sponsoring the research may be warranted. Concerns have been raised about the variability and lack of transparency in methods and the potential bias of researchers conducting clinical- and cost-effectiveness research. Not all researchers follow the existing standards for conducting and reporting results of such studies. Lack of consistency in clinical assumptions can result in evaluations of the same disease showing different results (Eddy 2005). Drummond and Sculpher noted 11 methodologic and reporting shortcomings of cost-effectiveness analyses, including selectively reporting results and placing undue emphasis on certain results (Drummond and Sculpher 2005).¹⁶ Bekelman and colleagues showed that industry-sponsored studies were significantly more likely to reach conclusions favorable to the sponsor than were non-industry-sponsored studies (Bekelman et al. 2003).

A public-private partnership may more effectively address stakeholders' concerns about the use of comparative-effectiveness analysis than a noncollaborative process. A partnership that defines analytic standards would send researchers a clear, effective signal to improve their methods and develop valid and transparent comparative-effectiveness analyses. One option would be to house a comparative-effectiveness center within a quasi-governmental structure, such as a Federally Funded Research and Development Center (FFRDC) (Wilensky 2006). FFRDCs are sponsored by executive-branch agencies but operate as private, not-for-profit organizations. They can receive up to 30 percent of their funding from private sources. A comparative effectiveness FFRDC might be linked to an agency such as AHRQ and could be responsible for synthesizing new and existing research, making recommendations and assessments based on the research, and determining how to disseminate the findings.

The federal government could help set priorities for clinical- and cost-effectiveness review and research. Services could be selected based on disease prevalence, high per unit cost, high total expenditures, and other factors.¹⁷ One option for funding these priorities is for the Congress

to appropriate funds to a public agency (e.g., the Department of Health and Human Services) to conduct comparative-effectiveness analyses. Doing so would require policymakers to annually consider the priority of such research compared with other health programs. However, variations in the level of federal appropriations may reflect the budget cycle rather than the priority of the research. Another option is to dedicate some percentage of general revenues to fund effectiveness research. However, funding need not be linked to the federal budget. For example, a specified percentage of sales from drug manufacturers, health plans, and pharmacy benefit managers may be an appropriate and available source for funding needed research on effectiveness (Reinhardt 2004).

Implementing the findings from comparative-effectiveness analysis may not save money for the Medicare program. Wider use of cost-effective, underutilized services could result in increased Medicare spending, which might not be offset with savings elsewhere. For example, McGlynn and colleagues reported on the underuse of clinically effective treatments (McGlynn et al. 2003). Promoting the use of such services could increase Medicare spending, even as it raises the quality of care beneficiaries receive. On the other hand, over the long run, comparative-effectiveness research could save the Medicare program money if it encourages manufacturers to develop services that are more cost effective than current ones or if it helps inform providers and influences their patterns of care.

For a complete discussion of the Commission's views on the use of comparative-effectiveness analysis in Medicare, see our June 2006 and June 2005 reports to the Congress (MedPAC 2006a, 2005b).

Improving program integrity and provider standards

Increasing the value of the Medicare program to beneficiaries and taxpayers requires concerted efforts to identify and prevent misuse, fraud, and abuse. This effort includes supporting quality through the use of standards, ensuring that services are furnished by qualified providers to eligible recipients, and verifying that services are appropriate and billed accurately and that payments for those services are correct.

Using standards to ensure quality

CMS has set standards to ensure minimum qualification for various types of providers (e.g., hospitals and skilled nursing facilities), but there are few examples of federal standards that apply to physician offices. The primary exceptions are mammography and clinical laboratory tests, which are authorized by statute. The lack of standards may undermine efforts to improve quality of care and in some instances may encourage volume growth. Where appropriate, CMS needs to consider imposing quality standards as a condition of payment. The Commission recommended in the March 2005 report to the Congress that such standards be implemented for physicians who perform and interpret imaging studies (MedPAC 2005c).

The last several years have seen rapid growth in the volume of diagnostic imaging services compared with other services paid under Medicare's physician fee schedule. Historically, many imaging services were furnished by hospitals, where institutional standards govern the performance and interpretation of studies. Much of the recent growth in imaging has taken place in physician offices, where there is less quality oversight. In addition, according to published studies and private plans, some imaging services are of low quality. One study found that vascular ultrasound providers who were not accredited by a private organization produced a relatively high number of inaccurate carotid ultrasound examinations (Brown et al. 2004). Another study inspected 344 facilities in a single state and found that 34 percent had quality or safety problems (Orrison and Levin 2002). Therefore, we recommended in our March 2005 report to the Congress that Medicare develop quality standards for all providers who receive payment for performing and interpreting imaging studies (MedPAC 2005c).

As many physicians integrate imaging services into their office practices, ensuring that these studies are done by skilled technicians using appropriate equipment and interpreted by qualified physicians should improve the accuracy of diagnostic tests and reduce the need to repeat studies, thus enhancing quality of care and helping to control spending. Requiring physicians to meet quality standards as a condition of payment for imaging services provided in their offices would represent a major change in Medicare's payment policy. Traditionally, Medicare has paid for all medically necessary services provided by physicians operating within the scope of practice for the state in which they are licensed. We believe this policy change is warranted by the growth of imaging studies provided in physician offices, the lack of comprehensive standards for this setting, and the evidence of quality problems (MedPAC 2005c).

Because this policy would represent a new direction for Medicare, CMS requires statutory authority to implement it. Such a grant of statutory authority to a federal agency has a precedent: In 1992, the Congress gave the Food and Drug Administration authority to set standards for physicians who read mammograms.

CMS would need to address at least two key questions in developing standards for physicians who bill Medicare for performing and interpreting imaging studies: What criteria should the agency use to evaluate whether individual physicians are qualified to perform and interpret studies? How should CMS verify that physicians meet the standards without imposing undue burdens on the agency and providers?

CMS should develop criteria that are flexible enough to allow physicians with different specialties to receive payment for interpreting imaging studies. Similar to the requirements set by private accreditation organizations, Medicare's standards should be based on some combination of physician training, experience, and continuing education. Likewise, for providers who perform imaging studies, CMS should strongly consider setting standards for the imaging equipment, qualifications of technicians, qualifications and responsibilities of the supervising physician, technical quality of the images produced, and procedures for ensuring patients' safety. There will likely be a need for different performance and interpretation standards for each imaging modality. Because of the complexity involved in setting standards, the Congress should grant the Secretary flexibility in deciding how to carry out this task.

Because physician specialty organizations often have different criteria for determining qualifications for providing a service, CMS should consult with physician specialty groups and private accreditation organizations when developing standards for Medicare payments. The Intersocietal Accreditation Commission (IAC) has demonstrated that different specialties can agree on common standards. The IAC uses a process in which representatives of several specialty groups jointly develop facility and physician standards for three types of imaging services: echocardiography, nuclear medicine, and vascular ultrasound. In addition, the American College of Radiology and the American College of Surgeons have jointly developed an accreditation program for stereotactic breast biopsy.

CMS has limited administrative resources. Thus, the agency should develop the standards but select private accreditation organizations to verify physicians' compliance with them. CMS should have the authority to select the organizations and replace them if necessary. Many private organizations currently have authority from CMS to ensure that various types of providers—from hospitals to dialysis centers—meet Medicare's quality standards.

In the future, other types of services may be candidates for such standards. CMS has developed a broad set of assessment instruments to collect and measure care and is exploring additional options to improve quality through demonstrations and pilot projects. Where appropriate, CMS should use these data, along with its own knowledge and experience of quality problems, to impose quality standards as a condition of payment. CMS has begun moving in this direction for dialysis facilities.

Improving program integrity

Research suggests that significant fraud and abuse exist in the Medicare program. Estimates of the magnitude of the problem differ, but a recent demonstration of the use of recovery audit contractors to identify and rectify Medicare over- and underpayments found more than \$300 million in improper payments to providers in California, Florida, and New York in fiscal year 2006 (CMS 2006). Previous Department of Health and Human Services estimates of improper Medicare FFS payments have ranged from \$12 to \$23 billion, or 7 percent to 14 percent of all reimbursements (Becker et al. 2005). These estimates may over- or understate the extent of the problem. The total volume of improper payments likely includes waste and errors that are neither fraudulent nor abusive; because the estimates are obtained by comparing bills submitted to CMS with retrospective review of patient records, they exclude any fraudulent or abusive billings substantiated by medical records. During fiscal year 2005, the Part A trust fund was credited with about \$826 million from criminal fines and civil penalties collected under Medicare's fraud and abuse control program (Boards of Trustees 2006).

Changes in the systems and structure of Medicare's claims administration should provide opportunities for Medicare to improve program integrity. Until recently, different types of contractors paid Medicare Part A and Part B claims. These multiple interfaces with Medicare increased the frustration for beneficiaries and providers by making it difficult to get timely answers to coverage questions. Providers also may have faced increased expenses due to separate processing (DHHS 2005). The system created few incentives for the 25 fiscal

intermediaries, 18 carriers, 4 durable medical equipment regional carriers, and 4 regional home health intermediaries to pay claims accurately (Stanton 2001). CMS was prevented by law from competitively selecting its claims administration contractors or following certain other procedures that usually apply to selecting and managing government contractors. Medicare claims administration contractors were paid on the basis of their allowable costs, generally without financial incentives to encourage superior performance.

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) requires CMS to use competitive procedures to select Medicare administrative contractors and to follow the Federal Acquisitions Regulation (except where specific MMA provisions differ). By July 2009, CMS plans to substantially reduce the number of contractors responsible for paying Medicare claims and to make contractors responsible for both Part A and Part B claims. CMS also plans to institute performance incentives in the new contracts, which will be based on a number of factors, including Medicare error rates. At the same time, Medicare is consolidating its 14 data centers that conduct claims processing functions into 2 data centers.

These changes will improve program integrity by making it easier to determine whether beneficiaries are eligible for services and to “connect the dots” between health care providers and questionable claims or to spot spikes in particular types of services across localities (GAO 2005). This step is important in reducing improper payments. Until now, for example, it has been difficult for Medicare to link a nursing home stay with the number of days a patient previously stayed in the hospital so that coverage eligibility can be determined. The changes will also improve Medicare’s ability to implement many of the ideas outlined here. CMS should capitalize on its new flexibility to assemble needed data sets and disseminate information to providers and beneficiaries. For example, CMS will now be able to more effectively measure beneficiaries’ use of services across providers during episodes of care, which could help the program determine whether beneficiaries receive appropriate care and ultimately could help to improve quality of care as well as efficiency across sites of service.

Some have argued that contracting reform also provides an opportunity for Medicare to enhance its ability to measure performance, improve quality of care, and encourage coordination of care. Foote and Halaas (2006) suggest that, to measure performance and outcomes, contractors could help Medicare collect and analyze data about each region’s health plans and providers. In addition, contractors could help the program disseminate evidence-based guidelines and apply incentives to follow them. CMS could even reward contractors that demonstrate regional improvements in care—for example, through the use of bonus payments. These types of changes could help Medicare improve outcomes and reduce costs. ■

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Endnotes

- 1 CMS is conducting pay-for-performance demonstrations in a variety of health care settings, including hospitals and physician group practices, and for beneficiaries with chronic conditions.
- 2 Note that, although Medicare requires other providers to submit information on how they ensure or improve quality (e.g., the patient assessment information submitted by skilled nursing facilities, home health agencies, and inpatient rehabilitation facilities), the primary data Medicare receives from physicians are claims.
- 3 The Medicare Care Management Performance Demonstration, scheduled to begin in four states in 2007, could help promote the adoption of electronic medical records and other IT. The demonstration will pay bonuses to participating physicians based on their use of IT and adherence to evidence-based practice.
- 4 The National Committee for Quality Assurance (NCQA) has a recognition program that uses structural measures to encourage the adoption of IT and improve patient care. Physician offices applying for recognition report data on their practices using a web-based data collection tool. For example, if an office reports that it has a patient registry, it must identify patients with different chronic conditions (the function) and report whether the office sent reminders prompting office visits or other necessary follow-up (the outcome of the use of the registry). NCQA allows physician offices to receive credit without actually using IT but reports that physician offices that use IT to perform the functions have a far easier time complying.
- 5 The depth of information these measures provide on individual clinicians remains the subject of research, as does the ability to expand the set to measure even more physicians.
- 6 As part of the Agency for Healthcare Research and Quality's ongoing Consumer Assessment of Healthcare Providers and Systems Ambulatory Care initiative, a new survey for measuring and improving the experiences of patients with their physicians and medical groups is being developed and tested. The core questionnaire for the Clinician & Group Survey focuses on the essential functions of group practices and individual clinicians, such as physician-patient communication and care management.
- 7 Medicare FFS already covers some care coordination services in its current evaluation and management (E&M) codes. Although these commonly used codes technically include time for pre- and post-visit care coordination activities associated with office visits, they may not adequately account for the extra time and effort needed for complex patients either within the visit or between visits. This concern is compounded for physicians who have higher-than-average shares of patients with chronic illnesses. New medications and clinical protocols may warrant introducing new or higher payments for tracking and monitoring complex patient care. During our research, interviewees and experts repeatedly stated that

even upper-level E&M codes have not kept pace with the physician resources needed for pre- and post-visit time necessary to treat complex patients.

- 8 Implicit in the idea of bundling Part A and Part B services is the assumption that shared accountability arrangements such as gainsharing are allowed, as discussed in this chapter.
- 9 For beneficiaries with certain chronic conditions, a specialist may be best suited to provide routine primary care.
- 10 The proportion of U.S. medical school graduates entering the three primary care specialties (internal medicine, family medicine, and pediatrics) dropped from 50 percent in 1998 to 38 percent in 2006. This decline may be attributed in part to the growing disparity between the salaries of primary care physicians and other physicians, but other factors—such as reduced job satisfaction, pursuit of a more “controllable” lifestyle, and increased burden of educational debt—are important contributing factors as well (Dorsey et al. 2005, Woo 2006).
- 11 The culture and complexity of teaching hospitals make it difficult to introduce this emphasis into the curriculum. Current culture tends to value physician autonomy, which is counterproductive to fostering team-based care and using evidence-based care guidelines (Blumenthal and Ferris 2006). In addition, the diversity of teaching hospitals’ missions—research, teaching, and patient care—combined with the priority placed on research has led to hospitals underinvesting in their physician faculty and in patient safety (Blumenthal and Ferris 2006, Cooke et al. 2006). As a result, many programs do not have leaders with the vision and institutional support to make curriculum changes, including reallocating limited resident time and investing in initiatives for patient safety, which will likely be felt institution-wide.
- 12 Although approaches that increase cost sharing could lower Medicare spending, they could also raise state and federal Medicaid spending. For example, beneficiaries who are dually eligible for Medicare and a state’s full Medicaid benefit typically pay no Part B premium and little or no cost sharing for a package of medical services broader than Medicare’s benefit. Eligibility requirements vary among states, but, in general, individuals who qualify as full dual eligibles have very low incomes and assets; they are often a sick, poorly educated, and costly group of beneficiaries (MedPAC 2004b). Thus, if Medicare increased its cost-sharing requirements, the Medicaid program would pay for some of those changes on behalf of dual eligibles (unless the Medicaid fees were lower). At the same time, however, implementation of catastrophic caps in Medicare could result in savings for states.
- 13 Each of the Health Insurance Experiment’s insurance alternatives included a cap on out-of-pocket spending, which could have affected behavior.
- 14 Potential changes in practice style could include not only modifying the number and types of services provided and the sites of those services but also using more nonphysician, less-expensive resources to reduce spending and use of costly services.

- 15 MedPAC identified this trend in a series of interviews conducted with health plans and consultants. Nearly all plans and purchasers mentioned measuring resource use as central to their cost containment and quality improvement strategies. Some collected information and gave it back to patients or providers, while others used it as a basis to pay bonuses to providers, and still others used it to select providers to be in preferred tiers or limited network plans.
- 16 The methodologic and reporting shortcomings also include: omitting important costs and outcomes, omitting one or more alternative services, imprecisely comparing the clinical effectiveness of alternative services by using information from more than one clinical trial, not using all available clinical evidence, incorrectly modeling outcomes beyond the period observed in clinical studies, relying on assumptions rather than data, inadequately assessing the impact of uncertainty on the results, not sufficiently reporting all the results such as the costs and health effects of each service, reporting average cost-effectiveness ratios rather than the incremental ratio, and not sufficiently reporting on the generalizability of the results.
- 17 One option is to use the same criteria that CMS uses in its national coverage process. CMS initiates such a review if the service: (1) represents a significant advance and no similar service is currently covered under Medicare, (2) is the subject of controversy among medical experts as to its medical effectiveness, (3) is currently covered but is widely considered ineffective, or (4) may be significantly underutilized or overutilized. Research could also look at groups of services to treat a specific illness that have small differences in quality but large differences in cost.

C H A P T E R

4

Reconfiguring the national target system

Two aspects of the SGR system itself have contributed to the current projected fee cuts and budget issue (see Chapter 1). First, the SGR sets physician fee updates equal to the Medicare Economic Index (MEI) only when cumulative actual spending exactly matches a cumulative spending target. Actual spending that differs from this predetermined path triggers the formula to raise or lower the payment update. Second, the SGR is cumulative and limits the size of annual updates. As a result, if actual spending exceeds the SGR system's allowance for growth by more than can be recouped with one year's fee cut, excess spending accumulates until it is recouped, potentially over multiple years of fee cuts. This has happened for the past several years. Controlling cumulative spending amplifies the magnitude of annual fee cuts. For example, when spending exceeds the target, the SGR system must reduce future updates to slow future growth in spending and to recoup previous excess spending (see Chapter 2).¹ To explore ways to reduce the likelihood of fee cuts, we describe ways to reconfigure these two aspects of the current SGR.

Design

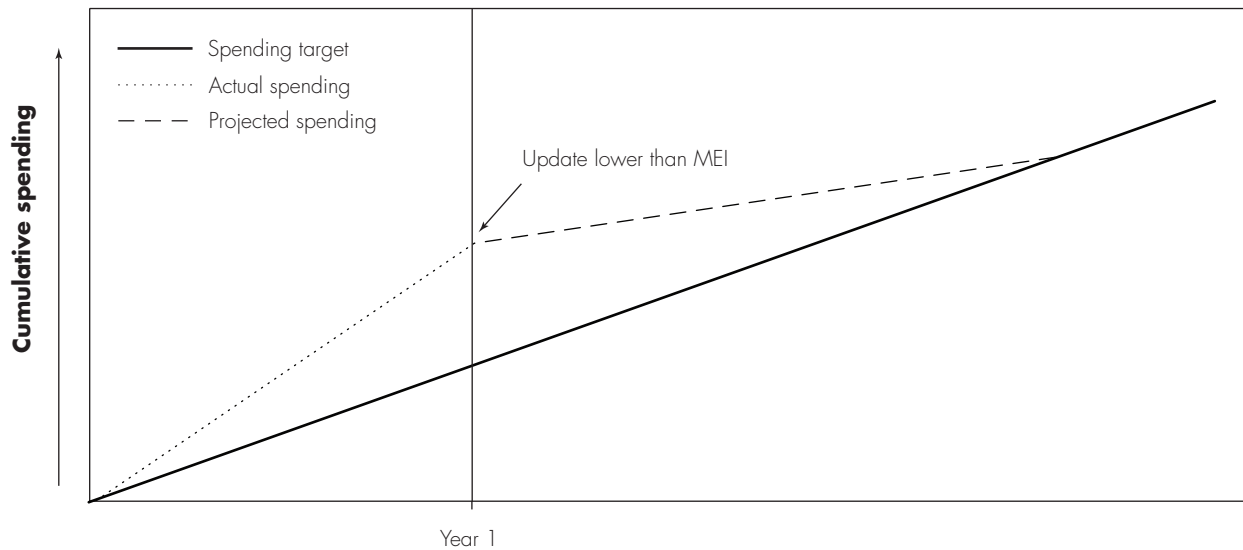
One option for decreasing the likelihood of multiple years of fee cuts is to eliminate the cumulative aspect of the SGR system's spending targets and return to a system of annual targets, as was used under the volume performance standard (VPS).² The VPS required excess spending from a single year to be recouped but limited the amount recouped with a floor on how deeply the update could be cut. Excess spending above the target that could not be recouped within the floor limits, in essence, was forgiven. That is, the update did not recoup all spending above the target. An alternative to eliminating the cumulative aspect of the SGR is to accumulate a portion of excess spending—for example, 50 cents of every dollar above the target.

Another option for mitigating the impact of the SGR system is to implement an additional allowance corridor around the allowed spending target line. Under the current SGR, if actual cumulative spending exceeds the target, updates are set lower than MEI to try to bring spending back in line with the allowed cumulative spending target (Figure 4-1, p. 68). For example, if actual cumulative spending exceeds the target by \$10, then the SGR tries to recoup all \$10. Alternatively, an allowance corridor would permit actual spending to exceed or come in below the target line within a corridor around the exact target, such as 2 percentage points. Spending that exceeds this additional allowance would still need to be recouped, but only enough to bring actual spending in line with the boundary of the corridor rather than all the way back to the specific target (Figure 4-1). As a result, some excess volume would be forgiven. Conversely, if the corridor is symmetrical, physicians would have to control volume enough in any year to come in under the target plus the corridor to get an update greater than MEI.

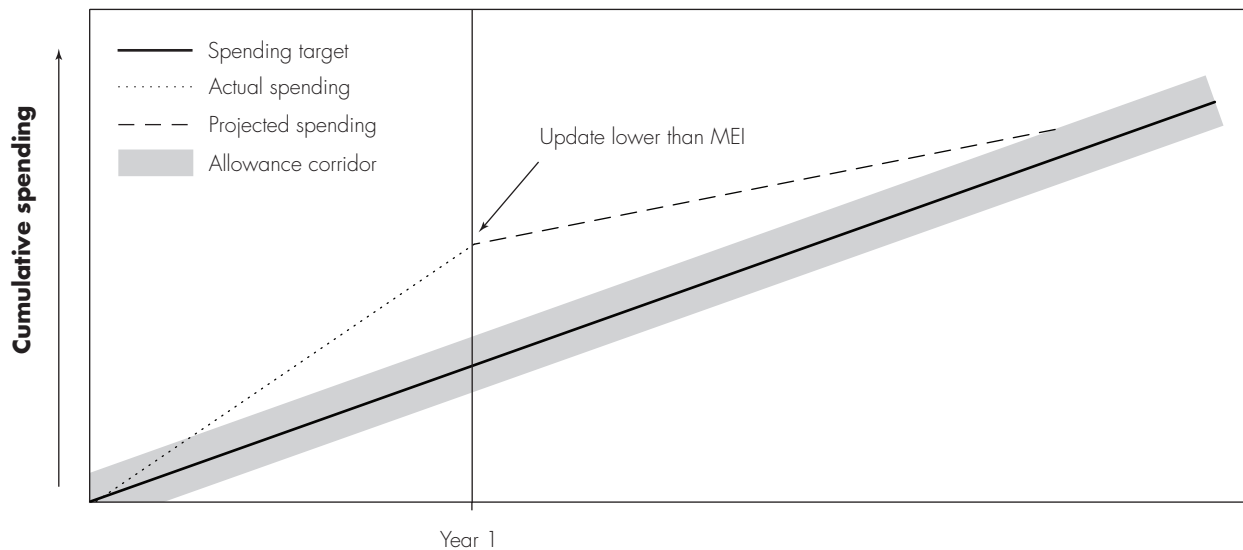
Figure 4-1

The SGR adjusts fees to try to keep cumulative spending in line with the target

Under the SGR, if actual cumulative spending exceeds the target at Year 1, updates are then set lower than MEI to try to bring projected spending back in line with the allowed cumulative spending target



An allowance corridor would reduce the SGR's impact on fee updates and spending



Note: SGR (sustainable growth rate), MEI (Medicare Economic Index). The SGR system allows excess spending to be recouped over multiple years to reduce volatility. We use "Year 1" for illustrative purposes. The SGR has one allowance; this corridor would be an additional one.

Table 4-1**Noncumulative target options would increase physician updates and spending**

	Update range (2002–2005)		Percent spending over cumulative approach
	Minimum	Maximum	
Cumulative approach	–4.0%	–2.4%	N/A
Noncumulative options			
No update limits	–4.0	3.7	4.2%
Allowance corridor ($\pm 2\%$)	–2.0	3.0	6.0
Limited range updates	0.0	3.0	7.3

Note: N/A (not applicable). The cumulative approach is similar to current law but does not include the results of misestimates or errors in calculating actual or target spending or congressional actions that overrode fee cuts called for by the sustainable growth rate.

Source: MedPAC analysis of Office of the Actuary 2006.

Analysis

To explore the effect of reconfiguring the national target system, we created an illustrative cumulative approach base case with which to compare options that incorporate revisions to the current SGR's cumulative target, update limits, and allowance for volume growth. (The Government Accountability Office also analyzed changes to the SGR in 2004. See text box, p. 70.) The base case uses actual SGR, volume, and MEI data from 2001 through 2005 to simulate how the current system would have worked if there had been no misestimates of and errors in calculating gross domestic product (GDP), enrollment, or expenditure growth, and if the Congress had not intervened by providing higher updates (see Chapter 2).

This illustrative base case produced updates and spending that differ from what happened during 2001 through 2005 because significant misestimations and errors contributed to spending that widely missed the target. As a result of total excess spending, the SGR called for negative updates each year starting in 2002. However, in every year after 2002, congressional and administrative actions overrode the SGR, resulting in positive updates. Even though it excludes misestimates and errors, the illustrative cumulative approach base case still results in missed targets and fee cuts because volume growth significantly exceeds the SGR's allowance—GDP growth—in every year during this time period (Table 4-1).

Next, we modeled three options that are more forgiving than the base case. Each option uses growth in GDP as the annual target for growth in expenditures. We model each option using the same GDP, enrollment, and volume growth data from 2001 to 2005 that we used to model the base case. Unlike current law, all three options are noncumulative, meaning that only the

Government Accountability Office study of alternatives to the SGR

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) required the Government Accountability Office (GAO) to study certain adjustments to physician fees, including the sustainable growth rate (SGR) system and alternatives to it (GAO 2004). Using simulations performed by CMS's Office of the Actuary, GAO considered several modifications to the current system: removing Part B drugs from the SGR, basing future SGR system targets on actual spending from a recent year, eliminating the cumulative aspect of spending targets, and modifying the allowance for growth in volume and intensity. GAO also analyzed combinations of these options. It is important to note that these projections were made in July 2004. Current projections of updates and spending would likely differ.

- ***Removing Part B drugs from the SGR system.*** GAO found that removing Part B drugs from the SGR system going forward would not prevent several years of fee declines and would not decrease volatility in the updates. Fees would decline by about 5 percent per year from 2006 through 2010, with a positive update in 2011—three years earlier than projected under current law. Removing Part B drugs from the SGR system would result in cumulative spending over the 10-year period from 2005 to 2014 that was 5 percent higher than projected under current law.
- ***Establishing a new base year.*** GAO considered modifying the system to specify a new base year from which to set future targets. Currently, the SGR system uses spending from 1996, trended forward by the SGR computed for each year, to determine allowable spending. If policymakers think the projected negative fee updates are inappropriately low, they can use actual spending from a more recent year as a basis for setting future SGR system targets. Using such an approach, policymakers could essentially forgive the accumulated excess spending attributable to MMA and other factors. The effect would be to increase future updates and overall spending. GAO estimated that forgiving the accumulated excess spending as of 2005—that is, resetting the cumulative spending target so that it equals cumulative actual spending—would raise fees in 2006. However, because growth in volume and intensity was projected to exceed the SGR system's allowance for such growth, negative updates would return beginning in 2008 and would continue through 2013. Resulting cumulative spending over the 10-year period from 2005 through 2014 would be 13 percent higher than projected under current law.
- ***Eliminating the cumulative aspect of spending targets.*** GAO considered eliminating the cumulative aspect of the SGR and returning to a system of annual targets, as was used under the volume performance standard (VPS). According to GAO estimates, eliminating the cumulative aspect of the SGR system would result in fee updates that vary less than projected under current law. For example, under a VPS-like system of

continued next page

Government Accountability Office study of alternatives to the SGR (cont.)

annual targets, from 2006 to 2014, the largest negative update would be –0.6 percent instead of –5.0 percent under current law, and the largest positive update would be 0.9 percent instead of 3.9 percent. Fees would be essentially flat over this period, instead of swinging from large declines to fee increases as they were expected to do under the SGR system. Relative to spending projected under current law, total spending under a VPS-like system would be greater each year from 2006 to 2014. GAO estimated that cumulative expenditures over the 10-year period from 2005 through 2014 would be 15 percent higher than under current law.

- ***Modifying allowance for volume and intensity growth.*** GAO considered increasing the SGR's volume and intensity growth allowance by some factor above the percentage change in real gross domestic product (GDP) growth per capita. The current SGR system's allowance for volume and intensity growth is approximately 2.3 percent per year—the 10-year moving average in growth in real GDP per capita—while projected volume and intensity growth are higher—about 3 percent per year for physician services alone and about 4 percent per year including Part B drugs. To offset the increased spending associated with higher volume and intensity growth, the SGR system will reduce updates below the increase in the Medicare Economic Index. In its 1997 report to the Congress, the Physician Payment Review Commission recommended adopting an allowance equal to real GDP per capita plus 1 or 2 percentage points to allow for advancements in medical capabilities. According to GAO, increasing the allowance for volume and intensity growth to GDP plus 1 percentage point would likely produce positive fee updates beginning in 2012—2 years earlier than projected under current law. Because fee updates would average more than under current law during the 10-year period from 2005 to 2014, Medicare spending for physician services would rise. GAO estimated that cumulative expenditures over the 10-year period would increase by 4 percent more than under current law. ■

previous year's spending performance is compared with the target and used to adjust the update. The three options are:

- no update limits
- allowance corridor
- limited range updates

The first option pegs the update to the SGR but without upper or lower limits. In contrast, the cumulative approach base case keeps the update between MEI plus 3 percentage points and MEI minus 7 percentage points. Compared with the base case, this option will result in higher updates (–4 percent to +3.7 percent rather than –4 percent to –2.4 percent) and spending (4.2 percent

greater) if volume remains above the target, because it does not take into account missed targets in the past (Table 4-1, p. 69).

The second option also is noncumulative but places a corridor around the system's target. Under an allowance corridor option, the update is equal to MEI unless expenditures fall outside the corridor. For illustrative purposes, we model a corridor of ± 2 percentage points. Thus, if spending were above or below the target by more than 2 percentage points, a penalty or reward would be applied to bring expected spending back to the corridor; however, it would not bring spending all the way back to the target. If volume remained above the target, this option would forgive excess growth in volume of up to 2 percentage points a year. The reverse would also hold: Physicians would not get updates higher than MEI unless they kept volume more than 2 percentage points below the target. This option results in even more favorable updates (-2.0 percent to $+3.0$ percent), but with 6.0 percent greater spending (Table 4-1).

The third option limits possible updates to a range between zero and MEI. If expenditures are at or below the target, then the update would equal MEI. If spending exceeded the target, the update would be less than MEI but never below zero. This option results in the highest updates (0 percent to 3.0 percent) and the greatest spending increase (7.3 percent) (Table 4-1).

Additional potential changes to the existing formula

Another aspect of the SGR could contribute to continued fee cuts. The SGR considers changes in four factors that are expected to contribute to spending growth: input prices, fee-for-service (FFS) enrollment, the 10-year moving average of real GDP per capita, and expenditures due to changes in law and regulations. The estimate of FFS enrollment is designed to raise or lower fees if the number of beneficiaries is expected to grow or shrink. The adjustment is designed to address future spending but may not be appropriate to deal with accumulated excess spending. If a much greater proportion of beneficiaries were to enroll in Medicare Advantage plans in coming years, then accumulated excess spending to date would need to be recouped across fewer FFS services, making the period of negative updates even longer. Adjusting the amount of accumulated excess spending that must be recouped would prevent this problem.

See “Ensuring accurate prices” section in Chapter 3 (p. 41) for a discussion of analyzing spending growth by type of service to identify mispriced services. ■

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Endnotes

- 1 Despite scheduled negative updates, administrative and legislative actions modified or overrode the SGR system, resulting in fee increases for 2003, 2004, and 2005 and in flat fees for 2006. These actions exacerbated the problem of actual spending exceeding allowed spending because they raised fees relative to the fee cuts the SGR called for but did not make a corresponding adjustment to the SGR's allowed spending target. The resulting increase in spending was not scored in budgeting terms, because it continues to accumulate and will be recouped by subsequent SGR fee cuts, absent congressional action.
- 2 The VPS's physician fee update for a year depended, in part, on whether actual spending two years earlier had exceeded or fallen short of the annual spending target for that year. The VPS spending target was based, in part, on a five-year historical trend in volume and intensity reduced by a specified number of percentage points. Because of this design and the fact that volume and intensity growth dropped dramatically after the adoption of the VPS system, the target for future volume and intensity increases also fell.

CHAPTER 5

Specialty-based alternative

A volume target system could be designed around physician specialties, an idea the Physician Payment Review Commission and others considered earlier but never adopted (Marquis and Kominski 1994, PPRC 1990). Some specialties have since established programs that could improve efficiency and control spending. Nonetheless, while it is possible that a specialty target system could induce specialty organizations to engage more in such efforts, the disadvantages of such a policy may outweigh any advantage.

Design

It may be possible to design a policy to set targets and adjust payments according to physician specialty. CMS asks physicians to designate their specialty and could use this information to determine total spending for each specialty, compare each specialty's spending with a target amount, and calculate payment adjustments according to whether a specialty is above or below its target.

Analysis

In analyzing growth in the volume of services by physician specialty, the Commission found that specialties vary (Figure 5-1, p. 78). Among the specialties with the largest shares of volume, volume growth in 2005 was near or below growth in real gross domestic product (GDP) per capita, the allowance for volume growth in the current SGR. General surgery was lowest, at 0.6 percent; internal medicine and ophthalmology were within a percentage point of the GDP allowance, with growth rates of 2.9 percent and 2.4 percent, respectively; and other specialties had volume growth that exceeded the allowance by wider margins, with urology and emergency medicine exceeding it by the widest margins at 8.0 percent and 8.8 percent, respectively. Depending on how targets are set, specialties with the highest growth in volume would be more likely to receive the largest negative payment adjustments under a specialty target system.

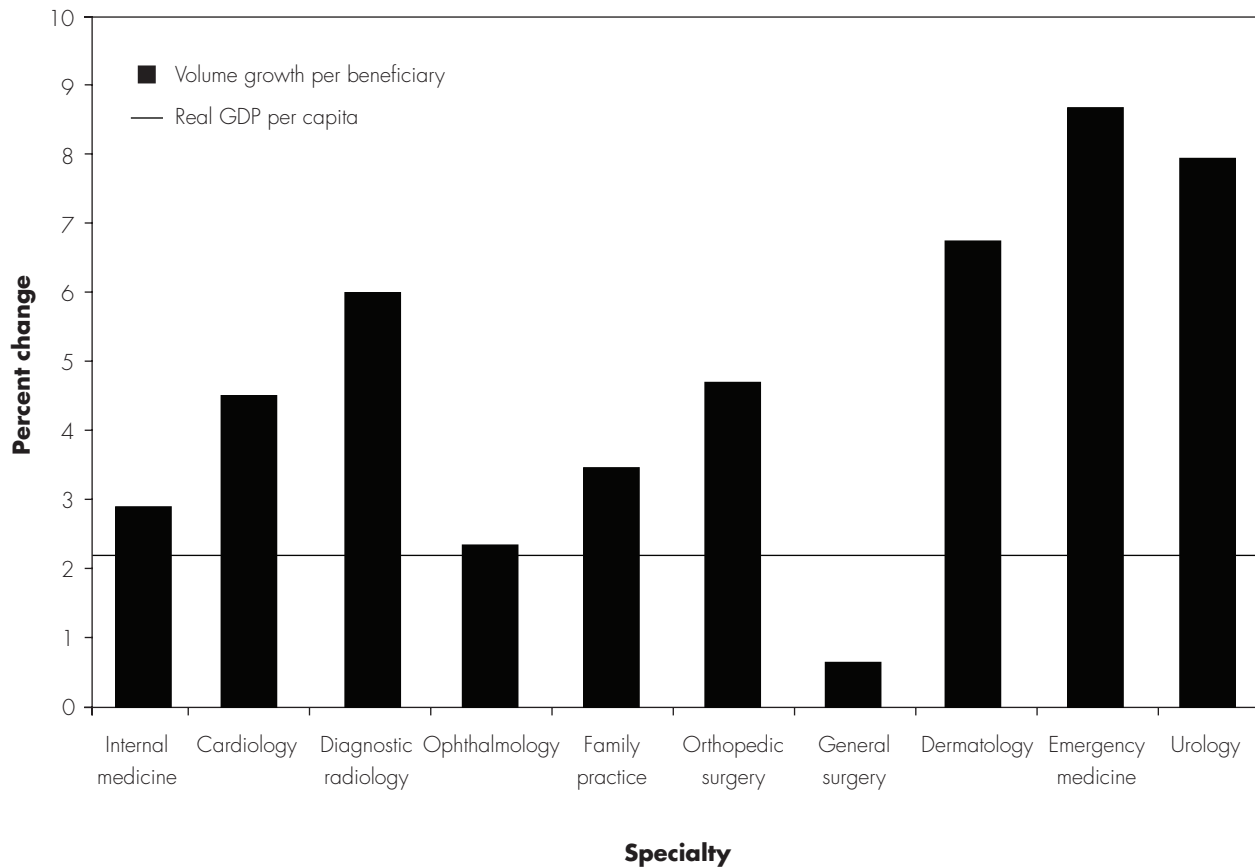
Advantages

Under a specialty target system, physician specialty could be a source of peer influence to induce physicians to change their behavior and control the volume of services they furnish. The assumption is that peer influence would occur by way of specialty organizations—societies, certifying boards, and residency review committees. A specialty target system would call on physician professionalism and give specialty organizations an incentive to develop and adopt strategies that could improve efficiency and help control spending.

Some specialty organizations already have initiatives that could help them promote efficiency. Some initiatives focus on the volume and appropriateness of services, while others emphasize quality; some address physician services only, while others include hospital care:

Figure 5-1

Volume growth, among specialties with the largest shares of volume, 2004–2005



Note: GDP (gross domestic product). Volume adjusted for change in physician designation of specialty among those billing Medicare in both 2004 and 2005.

Source: MedPAC analysis of claims data for 100 percent of beneficiaries and Health Care Information System, 2004–2005, from CMS.

- The American College of Cardiology and the American College of Radiology have developed appropriateness criteria for imaging services, which define when and how often to perform imaging studies. Some private payers and radiology benefit managers have adopted these criteria for use with their payment policies.
- The American Board of Internal Medicine (ABIM) has established a Maintenance of Certification program of periodic evaluation (every 6 to 10 years) to replace once-in-a-lifetime certification. The organization also offers practice improvement modules in preventive services, diabetes, and other areas. These modules include data collection (patient surveys, chart review, and practice surveys), performance reporting, and analysis. ABIM's preliminary research shows a positive relationship between physician knowledge and appropriate but more conservative care (Sennett and Wolfson 2006).

- The American College of Surgeons (ACS) has worked with the Department of Veterans Affairs to develop the ACS National Surgical Quality Improvement Program, which is designed to reduce surgical mortality and morbidity. The program includes a database of surgical patients' preoperative risk factors and postoperative outcomes. There is also a process for confidential reporting of risk-adjusted surgical outcomes to participating hospitals. The program started with a pilot study in 1999 at 3 hospitals in the private sector; 134 hospitals are now enrolled.
- The Society of Thoracic Surgeons has promoted the development of regional collaborative organizations that share data and identify best practices in cardiac surgery. One of these organizations has combined clinical and financial data so physicians and hospitals can monitor quality improvement and examine its impact on the cost of care.

The intent of a specialty target system is to induce specialty organizations to engage more in activities that emphasize improving efficiency and controlling spending.

Disadvantages

A specialty target system also raises questions:

- ***Would a specialty target system work against greater collaboration among physicians, including those in different specialties?*** Expectations for physician collaboration have increased. The Commission has discussed the need to better coordinate care for beneficiaries with complex needs. Achieving this goal would require the efforts of physicians—possibly in different specialties—and nonphysicians working as a team (MedPAC 2006). Separately, CMS is working with stakeholder groups composed of societies of physician specialties (and others) to develop quality measures for the Physician Voluntary Reporting Program. All such efforts require physicians in different specialties to put aside parochial interests and work together to improve value in Medicare. A specialty target system—with each specialty having its own spending target—could be inconsistent with such efforts.
- ***Can CMS address the issue that physician specialty is self-designated?*** In billing Medicare, physicians designate their specialty when they initially apply for a billing identification number and submit an enrollment application to a claims-processing contractor. Physicians can also submit an enrollment application when they wish to change their information because they have added a billing location or for some other reason. While the existing policy accommodates changing circumstances, it does so in an environment in which physicians have no financial incentive to change their designated specialty. By law, Medicare's payment rates do not vary by specialty, but incentives would change under a specialty target system. Without further administrative controls on how physicians designate their specialty, a specialty target system could lead them to change their designated specialty to avoid reduced payment rates, undermining the purpose of this alternative.

- ***How would the Congress or the Secretary set targets for a specialty target system?*** As with other alternatives, targets for a specialty target system could be based on a volume standard such as growth in GDP or on trends in the volume of services—in this case, by specialty. These two options present some difficulties, however. Targets for all specialties based on growth in GDP may be deemed inappropriate because of a belief that for some specialties spending should grow faster than GDP. For example, there could be a view that specialties such as geriatrics should have higher targets because of the primary care services they furnish to Medicare beneficiaries. On the other hand, specialty-specific targets based on volume trends would not be responsive to changes in medical practice, technology, or beneficiary health needs that are unique to a specialty. In short, it is unclear how to set targets by specialty in a way that would allow for desired growth in volume. ■

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C H A P T E R

6

Geographic area alternative

The Congress directed MedPAC to explore an SGR-like target system that applied to subnational geographic areas. This could help to address a shortcoming of the current SGR—it measures physicians’ spending as a whole for the nation and does not address the variation in regional practice patterns that contribute differentially to overall spending and spending growth. Therefore, when spending growth exceeds the SGR’s allowance, all physicians are penalized with fee cuts, regardless of whether their regional practice patterns contributed to the excessive growth.

A geographic target system’s target and updates could address spending by measuring the variation in regional volume levels, volume growth over time, or a combination of both. Over time, different regional updates could help to reduce the amount of regional variation in practice patterns. Geographic areas would have to be large enough to limit year-to-year volatility driven by small numbers of observations. One concern is that rapid volume growth is widespread, so few geographic areas would fall within the existing SGR’s allowance for volume growth. However, there are large differences in the volume levels per beneficiary, and targets could be administered on that basis.

Design

The current SGR system is designed to constrain growth in spending. A geographic target system could be designed to measure and respond to the different rates of growth in each area. Alternatively, it could be designed to address the different initial volume levels that determine spending in each area, or it could address a combination of the two. Ideally, in a subnational target system, geographic areas with both low volume growth and a low volume level would be rewarded with better physician fee updates. Conversely, geographic areas with both high volume growth and a high volume level would be penalized with lower fee updates.

If a geographic target system focuses on either levels or growth exclusively, there will be certain undesirable consequences; for example, a geographic target system that addresses only growth risks rewarding high-cost areas, such as Miami, for keeping the rate of growth low and penalizing low-cost areas, such as Minneapolis, for potentially higher growth rates. However, a geographic target system that focuses only on initial levels could fail to provide an incentive for physicians in low-cost areas, such as Minneapolis, to control future growth and could cut physician fees so deeply in high-cost areas, like Miami, that beneficiary access could be jeopardized. One option for addressing this tradeoff is to design a target system that addresses a hybrid of levels and growth—contribution to growth. Contribution to growth is equal to an area’s per capita growth divided by national per capita growth (see Chapter 11). Applying expenditure targets to geographic areas would require CMS to estimate spending and some of the four factors that determine the SGR (input prices, fee-for-service (FFS) enrollment, the 10-year moving average of real gross domestic product per capita, and expenditures due to changes in law and regulations) for each area. In addition, because beneficiaries’ health status varies across geographic areas, regional per capita spending would need to be adjusted for risk. For example, in the following analysis, we used CMS’s scores for hierarchical condition categories (HCCs) to adjust for risk.

Analysis

To illustrate the potential impact of using a geographic target system, we use the 50 metropolitan statistical areas (MSAs) with the greatest number of beneficiaries in FFS Medicare in 2004. Using all MSAs and nonmetropolitan areas introduces smaller, less populous regions, which introduces the risk of greater volatility in year-to-year spending.

Our analysis of physician claims for 2004 revealed that the level of volume per beneficiary (measured by relative value units (RVUs) per beneficiary enrolled in FFS Medicare) adjusted for risk varied widely across the 50 largest MSAs—from 44 to 81 RVUs per beneficiary—with an average volume of 58 RVUs per beneficiary (Table 6-1, Figure 6-1). The rate of growth in volume of services per beneficiary from 2000 to 2004 also varied widely—from 9 percent to 37 percent—with average growth of 25 percent (Table 6-2, p. 88; Figure 6-2, p. 88).

To avoid the volatility we found when observing smaller MSAs and nonmetropolitan areas, we replicated the analysis with a geographic area grouping that uses larger geographic areas: CMS's 34 prescription drug plan (PDP) regions.¹ We again explored the various effects of designing a target system to address levels, growth, and a hybrid of both—contribution to growth. We did this by analyzing claims for physician services, using a different data set that included the years 2001, 2002, and 2003. Unlike the previous analysis, these data are not risk adjusted.

Results were similar to those of our first analysis. Volume level (measured by spending per beneficiary enrolled in FFS Medicare) varied widely across the 34 PDP regions—from \$1,401 to \$2,806 per beneficiary—with an average volume of \$1,929 per beneficiary (Table 6-3, p. 89). The rate of growth in volume of services per beneficiary from 2001 to 2003 also varied widely—from 4 percent to 14 percent—with average growth of 8 percent (Table 6-4, p. 90).

For PDP regions, we ranked the areas by volume level, growth rate, and contribution to growth in each of the three years studied. We then compared the ranks to see how strongly one correlated with another. For example, did the region ranked highest in 2001 remain highest in 2003?

We found the following:

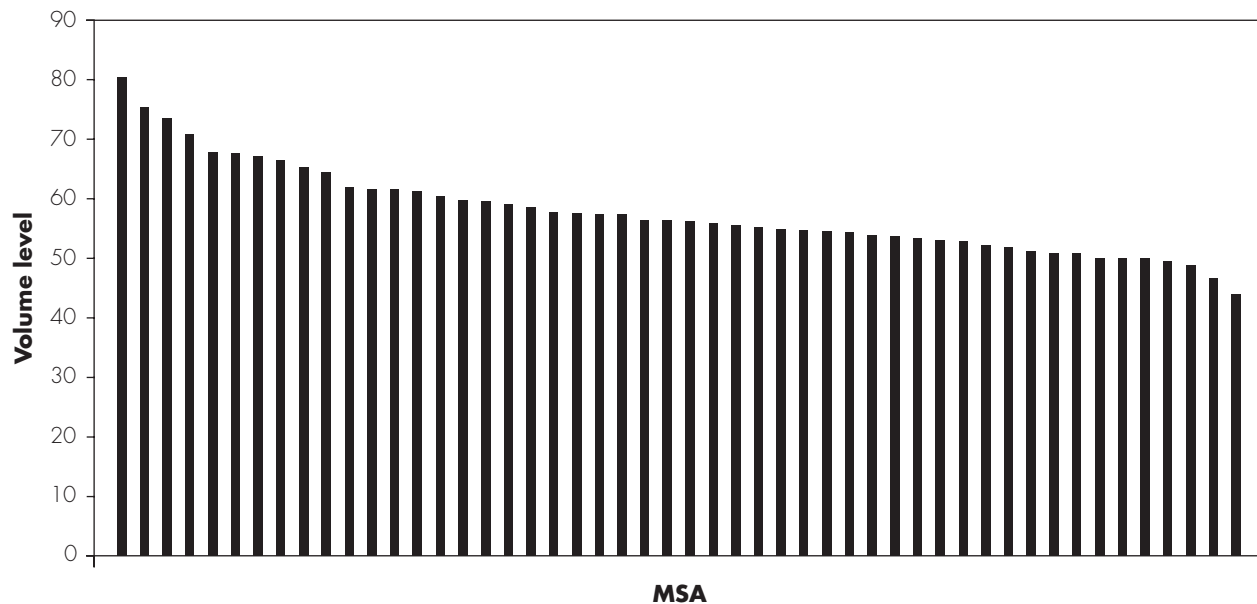
- Areas with high volume levels strongly tended to remain high and areas with low volume levels strongly tended to remain low (Table 6-5, p. 91).
- Areas' volume-level rank in 2003 had almost no correlation with rankings by volume growth from 2001 to 2003. In other words, areas with a high volume level experienced both high and low growth.
- Areas' contribution-to-growth ranks were strongly correlated with their volume-growth ranks and weakly correlated with their volume-level rank in 2003. Therefore, contribution to growth accounts for both volume level and volume growth, with greater weight given to volume growth.

Table 6-1**Volume level of physician services per beneficiary in 50 largest MSAs, 2004**

MSA	Volume
Three highest volume MSAs	
Miami–Ft. Lauderdale, FL	81
Sarasota–Bradenton–Venice, FL	76
Las Vegas, NV	74
Average	58
Three lowest volume MSAs	
San Francisco–Oakland–Fremont, CA	49
Sacramento–Arden Arcade–Roseville, CA	47
Portland–Vancouver–Beaverton, OR–WA	44

Note: MSA (metropolitan statistical area). Volume is measured as the number of relative value units per fee-for-service Medicare beneficiary and is risk adjusted using hierarchical condition category scores.

Source: MedPAC analysis of 5 percent Physician Standard Analytic File from CMS.

Figure 6-1**Volume level of physician services per beneficiary in 50 largest MSAs, 2004**

Note: MSA (metropolitan statistical area). Volume is measured as the number of relative value units per fee-for-service Medicare beneficiary and is risk adjusted using hierarchical condition category scores.

Source: MedPAC analysis of 5 percent Physician Standard Analytic File from CMS.

Table 6-2

Growth in volume of physician services per beneficiary in 50 largest MSAs, 2000 to 2004

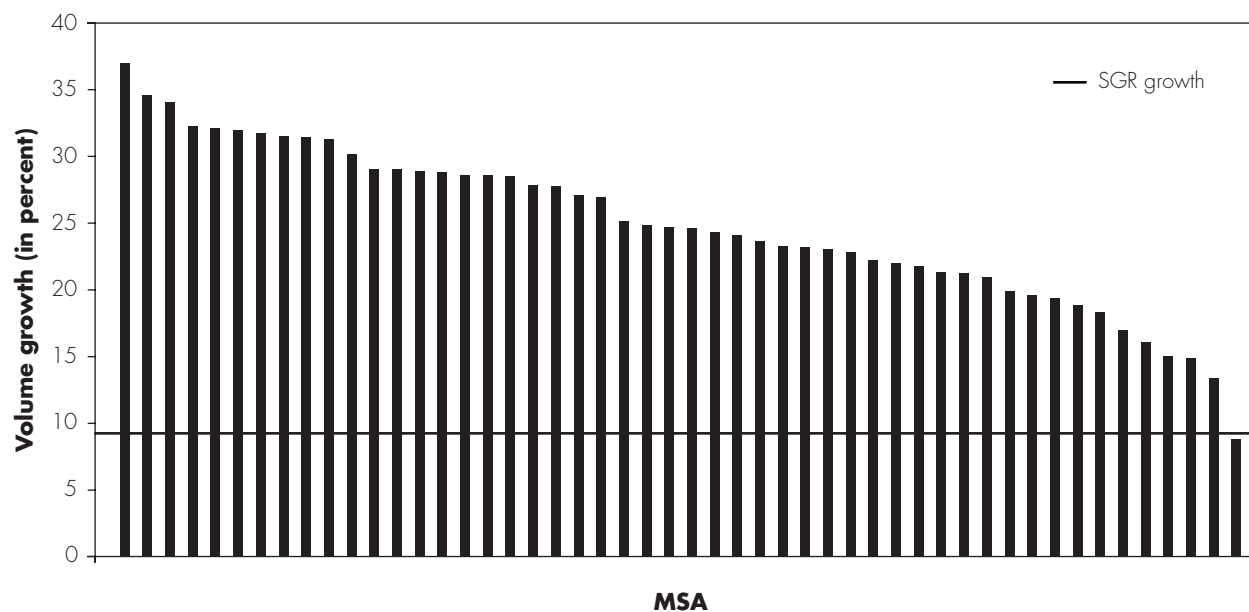
MSA	Volume growth
Three highest growth MSAs	
Indianapolis, IN	37%
Minneapolis–St. Paul–Bloomington, MN–WI	35
New Haven–Milford, CT	34
Average	25
Three lowest growth MSAs	
New Orleans–Metairie–Kenner, LA	15
Allentown–Bethlehem–Easton, PA–NJ	13
Houston–Sugar Land–Baytown, TX	9

Note: MSA (metropolitan statistical area). Volume is measured as the number of relative value units per fee-for-service Medicare beneficiary and is risk adjusted using hierarchical condition category scores.

Source: MedPAC analysis of 5 percent Physician Standard Analytic File from CMS.

Figure 6-2

Growth in volume of physician services per beneficiary in 50 largest MSAs, 2000 to 2004



Note: MSA (metropolitan statistical area). Volume is measured as the number of relative value units per fee-for-service Medicare beneficiary and is risk adjusted using hierarchical condition category scores.

Source: MedPAC analysis of 5 percent Physician Standard Analytic File from CMS.

Table 6-3**Per capita spending on physician services in 34 PDP regions, 2003**

PDP region	Per capita spending
Three highest volume PDP regions	
Florida	\$2,806
New Jersey	2,612
Nevada	2,468
Average	1,929
Three lowest volume PDP regions	
Midwest multistate	1,560
New Mexico	1,530
Alaska	1,401

Note: PDP (prescription drug plan). Per capita spending is standardized to remove geographic variation in payment rates. The Midwest multistate PDP region includes Iowa, Minnesota, Montana, North Dakota, Nebraska, South Dakota, and Wyoming.

Source: MedPAC analysis of 5 percent Physician Standard Analytic File from CMS.

Two selected PDP drug regions, Florida and the Midwest multistate region, illustrate our results (Table 6-6, p. 91). For 2001 and 2003 spending levels, the two regions are near opposite ends of the rankings, with Florida ranked highest and the Midwest multistate region ranked close to the bottom. However, for growth rates the two regions rank more similarly. Finally, comparing ranks for growth from 2001 to 2003 with those for contribution to growth highlights the impact of measuring this hybrid. Although Florida ranks 16th in growth, it moves up to 4th in contribution to growth because the growth rate is added to an already high volume level. The Midwest multistate region remains in a low rank.

Advantages

Setting different fee update amounts by region would begin to address the problem of the SGR applying a single update amount to all physicians regardless of the contribution of their regional practice patterns. Over time, different regional updates also could help to reduce the amount of regional variation in practice patterns. However, we do not think different regional updates would address all the inequities. A physician who practices conservatively within a high-volume region would still be penalized, whereas a physician with high resource use in a low-volume region would receive more favorable updates.

Applying a spending target system to smaller pools of physicians—in this case geographic regions—rather than a single national pool of all physicians serving Medicare beneficiaries may

Table 6-4

**Growth in volume of physician services per beneficiary
by 34 PDP regions, 2001 to 2003**

PDP region	Volume growth
Three highest growth PDP regions	
Colorado	14%
Nevada	13
Arizona	11
Average	8
Three lowest growth PDP regions	
Alaska	5
Missouri	5
Pennsylvania–West Virginia	4

Note: PDP (prescription drug plan).

Source: MedPAC analysis of 5 percent physician standard analytic file from CMS.

increase the likelihood that the behavior of physicians within the pools will be influenced by volume-control incentives. However, this depends on the size of the areas—physicians in smaller areas would be more likely to know and communicate with each other, which could facilitate efforts to work together to control volume.

Disadvantages

This alternative raises a number of concerns. One concern is that rapid growth in volume is widespread. Only 1 of the 50 largest MSAs experienced a rate of growth that fell within the current SGR's allowance for growth (Figure 6-2, p. 88). If a geographic alternative kept the same national allowance, few areas would qualify for positive fee updates, although some areas might fare better than they would under the SGR. Should areas with especially high volume levels and growth fare worse than they would under the current SGR? A geographic alternative target system might consider deeper cuts where both volume growth and volume levels (i.e., contribution to growth) are much greater than the national average. A key question is how much difference among regional payment rates could be tolerated.

Another concern is picking the optimum geographic unit. We have analyzed the impact of using the 50 largest MSAs and all 34 PDP regions as examples. Picking the size of the geographic unit involves a tradeoff between physician accountability, year-to-year volatility, and feasibility of administration. (We discuss these tradeoffs in more detail in Chapter 11.) For example, using smaller units, such as counties, would create target pools that might increase physician

Table 6-5

Correlation of PDP regions' volume levels, growth rate, and contribution to growth in per capita spending for physician services

PDP region characteristic	Comparison characteristic	Spearman correlation coefficient
2001 volume level	2003 volume level	0.98
2003 volume level	2001–2003 growth rate	0.15
Contribution to growth	2003 volume level	0.60
Contribution to growth	2001–2003 growth rate	0.85

Note: PDP (prescription drug plan). Spearman correlation coefficients measure how the ranks of items in two different lists compare (e.g., in lists of geographic areas sorted in rank order from highest to lowest spending in two different years). A perfect correlation of 1.00 means that the items are at exactly the same rank in both lists. A coefficient of 0 means that there is no relationship between the rank of items on the two lists. Contribution to growth is an area's per capita growth divided by national per capita growth.

Source: MedPAC analysis of 5 percent sample of 2001–2003 Medicare claims.

accountability because, with fewer physicians in each pool, each individual's actions would be more likely to affect the update. But using such small units would also increase year-to-year volatility; since several counties have very few beneficiaries, catastrophic health care use by one or two beneficiaries can skew the volume for the whole county. Further, because CMS's Office of the Actuary would have to analyze data and make projections for spending and each of the SGR's four factors for each of the multiple geographic units, using smaller units could increase administrative complexity and the level of accuracy demanded of the data.

A third disadvantage is the need to make decisions to account for border crossing. The most extreme example of this involves snowbirds—beneficiaries who spend part of the year in the northern part of the country and the rest of the year in a warmer state. These beneficiaries may

Table 6-6

Selected PDP regions' ranks on physician spending per capita

PDP region	Level of spending		2001–2003 growth	Contribution to growth
	2001	2003		
Florida	1st	1st	16th	4th
Midwest multistate	32nd	32nd	26th	31st

Note: PDP (prescription drug plan). There are 34 PDP regions. The Midwest multistate PDP region includes Iowa, Minnesota, Montana, North Dakota, Nebraska, South Dakota, and Wyoming. Contribution to growth is an area's per capita growth divided by national per capita growth.

Source: MedPAC analysis of 5 percent sample of 2001–2003 Medicare claims.

visit physicians in both areas. While it may be ideal for a snowbird's New York physicians to coordinate with their Florida counterparts, it may not be reasonable to hold them financially responsible for the others' practice patterns. Border crossing can also affect beneficiaries who have a single, year-long residence. For example, in a geographic target system that uses MSAs, beneficiaries who live near the borders of MSAs may choose to cross them when visiting a physician's office. In addition, beneficiaries in any location may travel longer distances for some health care—for example, driving into a metropolitan area for surgery or flying across the country to a noted cancer treatment center. Although it is possible to address this problem, the decisions must balance competing concerns, and they risk being perceived as arbitrary.

A fourth potential disadvantage is that varying updates by geographic areas over time could cause wide disparities in payment rates by area. This would result in Medicare paying physicians in different areas very differently for providing the same service. Beneficiaries, taxpayers, physicians, and policymakers might resist paying different amounts for the same service across the country. ■

Endnotes

- 1 CMS's PDP regions are used for illustrative purposes only. Other geographic area groupings are possible.

C H A P T E R

7

Type-of-service alternative

As an alternative to the current SGR, there is precedent for targets that vary by type of service. Under the volume performance standard (VPS) policy, targets were set for three types of services: surgery, primary care, and other nonsurgical services. To be clear, primary care was defined in the VPS system as selected billing codes without consideration of the specialty of the physician furnishing the services. The Congress eliminated multiple targets when it established the SGR, however, because a concern emerged about how the VPS was undermining the purpose of the payment system for physician services. The physician fee schedule includes relative value units (RVUs) that make payments higher or lower depending on the resources used to furnish each service. The concern was that the VPS was distorting the relationship among payments. In addition to variability in the RVUs, the VPS led to conversion factors in the fee schedule that varied by type of service. For example, by 1997, the conversion factor for surgical services had risen to \$40.96 while that for primary care services was only \$35.77. In effect, payments for primary care services were lower relative to surgical services for a given level of resource requirements. The difference developed under the VPS system because the volume of surgical services was growing more slowly than the volume of primary care services.

Design

A type-of-service option could have separate adjustments to fees for different types of services. For example, fees for imaging services could depend on actual expenditures for those services compared with a target. The target could be specific to imaging services, or it could be uniform. The system would apply to all imaging services regardless of the specialty of the physicians providing them.

Under such a system, practitioners who provide a given type of service that is growing rapidly—and, therefore, subject to payment cuts—might have an incentive to control the volume of services. For example, they could develop and disseminate practice guidelines indicating the appropriate use of their services.

With a type-of-service option, policymakers would have to choose a method for classifying services at higher or lower levels of aggregation. In addition, they would have to decide how to set targets. As discussed in Chapter 11 of this report, the targets could apply to the volume level, volume growth, or contribution to growth. The targets could be based on a volume standard, such as gross domestic product (GDP), or they could be based on historical trends in spending for each type of service.

Classifying services

Services could be grouped into five broad categories—evaluation and management (E&M), imaging, major procedures, other procedures, and tests. Alternatively, a more detailed breakdown is possible with further detail in each category (Table 7-1, p. 98). For instance, the other procedures category includes minor procedures, ambulatory skin procedures, cataract removal, colonoscopy, upper gastrointestinal endoscopy, cystoscopy, and others as shown in Table 2-3

Table 7-1**Two options for type-of-service groupings**

Broad types	More specific types
Evaluation and management	Office—new and established Consultations Hospital Emergency room All other
Imaging	Advanced Standard All other
Major procedures	Orthopedic Cardiovascular All other
Other procedures	Eye Ambulatory Oncology Endoscopy All other
Tests	Electrocardiogram and monitoring Cardiovascular stress test All other
Source: Berenson-Eggers Type of Service (BETOS) classification from CMS.	

(p. 16) of this report. Such detail may be important because of varying rates of growth in the volume of specific services within the broader categories.

Setting the targets

Growth in spending is the most logical way to apply a type-of-service alternative. Spending growth has varied widely among different types of services, with the most rapid growth occurring in imaging and tests. From 2004 to 2005, spending per beneficiary for all physician services increased 7 percent, but some types of advanced imaging increased more than 15 percent.¹ These growth rates raise questions about the value of such growth for Medicare beneficiaries and taxpayers.

Is it possible instead to establish desirable levels of spending for each type of service and use those levels as targets? Answering this question poses a problem. To establish a desirable level of spending, we need a reference point that allows us to judge whether a given level of spending is too high or too low. When considering spending by type of service, it is not clear that we have a set of reference points that allow us to make that judgment, at least not when we consider the nation as a whole. If one were to organize an SGR alternative by type of service and geography, each type of service would have reference points. For example, spending per beneficiary for imaging in Miami could be compared with such spending in other areas. Perhaps the best way to establish targets for levels of spending by type of service is to do so in the context of an SGR alternative that considers both type of service and geography. Even so, combining a type-of-service approach with geography would allow us to recognize unusual levels of spending or growth in spending in different areas, but it would not necessarily show the optimal mix of services.

Analysis

To analyze the type-of-service option, we compared various options for type-of-service targets with growth in the volume of services. In doing so, we assumed that the factors other than volume that determine spending—prices, enrollment, and the effects of law and regulations—would be addressed in a type-of-service target system just as they are in the current SGR. Taking these other factors out of the comparison allowed us to compare volume growth with various targets, such as growth in GDP, and clearly see how fee updates would change depending on the type of target considered.

Volume standard

If the choice were to simply modify the current SGR and establish a target for each type of service, growth in GDP would be the volume standard. GDP, the measure of goods and services produced in the United States, is used as a benchmark of how much additional growth in volume society can afford.

In a type-of-service target system, what are the likely impacts of using a standard for volume growth equal to GDP growth? If we consider broad categories of services—E&M, imaging, major procedures, other procedures, and tests—recent trends in volume growth for each type of service would have exceeded an allowance equal to growth in GDP (Table 7-2, p. 100). E&M and major procedures, with volume growth of 2.9 percent and 3.5 percent, respectively, would have been closest to the allowance of 2.2 percent. Imaging, other procedures, and tests would have exceeded the allowance by wide margins. The 8.7 percent volume growth for imaging exceeded growth in GDP by 6.5 percentage points, the 8.5 percent volume growth for other procedures exceeded it by 6.3 percentage points, and the 6.2 percent volume growth for tests exceeded it by 4.0 percentage points. Thus, for the latter three types of services, negative payment adjustments would have ranged from 4.0 to 6.5 percentage points, assuming no limit on the magnitude of the negative adjustments.²

Table 7-2

**Growth in volume by type of service compared
with possible national targets for update**

Type of service	Growth in volume per beneficiary 2004–2005	Targets	
		Growth in real GDP per capita	Growth in real GDP per capita plus 1
All services	5.5%	2.2%	3.2%
E&M	2.9	2.2	3.2
Imaging	8.7	2.2	3.2
Major procedures	3.5	2.2	3.2
Other procedures	8.5	2.2	3.2
Tests	6.2	2.2	3.2

Note: GDP (gross domestic product), E&M (evaluation and management). Growth in real GDP per capita is a 10-year moving average, consistent with the current sustainable growth rate.

Source: Kuhn 2006 and MedPAC analysis of claims data for 100 percent of Medicare beneficiaries.

Volume standards could be higher than the GDP. In preparing the report of the trustees of the Medicare trust funds, CMS uses an assumption equal to growth in real GDP per capita plus 1 percentage point. Use of this assumption followed advice from the 2000 Technical Review Panel on the Medicare Trustees Report (2000). The panel concluded that this assumption is more realistic than an assumption of just growth of real GDP per capita, given the history of Medicare spending.

Returning to our illustration and using GDP plus 1 percentage point as the standard for volume growth, E&M met the standard, with volume growth 0.3 percentage point below the standard (Table 7-2). Major procedures nearly met the standard, exceeding it by only 0.3 percentage point. The rapid growth in volume of imaging, other procedures, and tests in recent years exceeds the standard by 5.5, 5.3, and 3.0 percentage points, respectively. Those services would still be subject to negative payment adjustments with a standard of GDP plus 1 percentage point.

Of course, if more detailed categories of services were used, payment adjustments could vary more widely. Services growing rapidly, such as outpatient therapy, might be subject to large cuts while others, such as coronary artery bypass grafts, might receive payment adjustments that are both positive and relatively large. Results of this sort would stimulate questions about clinical indicators and the value of these services.

Table 7-3

Growth in volume by type of service compared with target based on recent growth trends for the service

Growth in volume per beneficiary for service			
Type of service	2004–2005	Target: Average annual 2000–2004	Difference
All services	5.5%	5.5%	0.0%
E&M	2.9	3.6	–0.7
Imaging	8.7	10.3	–1.6
Major procedures	3.5	3.8	–0.3
Other procedures	8.5	6.4	2.1
Tests	6.2	8.2	–2.0

Note: E&M (evaluation and management).

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

Targets based on trends

Targets based on trends should be designed to account for changes in health status of beneficiaries, technological advances, and other factors thought to represent good value for Medicare. Accounting for these factors is a challenging task, as discussed in the section on disadvantages. Putting this issue aside for now, it is possible to use readily available data on volume trends to illustrate how targets based on trends might work and the kinds of impacts that would result from their use, remembering that recent trends in volume likely include a mix of desirable and undesirable growth in volume.

Separating growth that occurred from 2004 to 2005 from growth that occurred in previous years (from 2000 to 2004), we can compare volume growth and illustrate how a type-of-service target system might work with separate targets for each type of service (Table 7-3). Volume growth for the other procedures category was higher from 2004 to 2005 than it was from 2000 to 2004. By contrast, volume growth for E&M, imaging, major procedures, and tests was lower from 2004 to 2005 than it was during the earlier period. In this illustration, the differences in growth patterns mean that, all other things equal, E&M, imaging, major procedures, and tests would have received positive payment adjustments while other procedures would have received negative payment adjustments. As in the case of one national target, use of more detailed categories of services could lead to variable and volatile updates if the targets are based on trends for each category of service.

Making exceptions for particular services

A type-of-service target system could have targets based on a combination of volume standards and trends. This option would be designed to account for trends but could also address standards for volume growth. For example, there could be a standard for overall growth in the volume of services and then the allowed growth could be allocated among different types of services in a way that still allows for some consideration of trends. Combining volume standards and trends would require judgment, which increases the complexity of this option compared with options that include only one type of target.

Consider a three-stage process for setting targets (Table 7-4). The first-stage decision could establish an overall standard for volume growth equal, for instance, to GDP growth. A second stage could allow certain services to have targets based on trends. E&M services might be allowed to have a trend-based target to create incentives for the availability of primary care, for example, while major procedures might be allowed to have a trend-based target because they are less discretionary than other services. The final step might establish a target for the remaining services so that the weighted average of all targets must equal a national target for volume growth (GDP growth in this example). Policymakers could also choose among alternatives for the national target, as we illustrate with overall targets of GDP growth plus 1 percentage point and an all-services volume growth target minus 1 percentage point. Payment adjustments would be based on differences between the targets chosen and actual volume growth.

In the preceding example, broad categories of services, such as E&M and imaging, can include a mix of more- and less-discretionary services. For instance, the other procedures category includes colonoscopy, which is thought to be cost effective. But this category includes a variety of other services with less clear evidence of cost effectiveness. This difference among services within a broad category suggests that the issue raised earlier—the alternative ways to classify services—is important in a type-of-service option.

Advantages

Type-of-service targets—and deviations from them—could serve as a signal that physician services are mispriced. As discussed in Chapter 3, mispricing is a problem the Commission has considered in several contexts, including payment for practice expense and the five-year review of relative values for physician work. In the context of an expenditure target, high growth in volume may be a signal that Medicare's payments for some services are too high relative to the cost of furnishing them.

Disadvantages

A service-specific target system presents a number of difficulties. One problem is that the volume of specific kinds of services depends only in part on the physicians who provide them.

Table 7-4

A national target could be combined with targets for some services that are based on recent trends

Type of service	Growth in volume per beneficiary 2004–2005	Target for all services		
		Growth in real GDP per capita	Growth in real GDP per capita plus 1	Actual total volume growth minus 1
All services	5.5%	2.2%	3.2%	4.5%
Based on own trend				
E&M	2.9	3.6	3.6	3.6
Major procedures	3.5	3.8	3.8	3.8
Based on national target				
Imaging	8.7	0.5	2.7	5.5
Other procedures	8.5	0.5	2.7	5.5
Tests	6.2	0.5	2.7	5.5

Note: GDP (gross domestic product), E&M (evaluation and management). Targets for E&M and major procedures are based on their own trends in average annual growth from 2000 to 2004. Targets for the other service categories were set such that the weighted average of all targets equals the national target (growth in real GDP per capita, growth in real GDP per capita plus 1 percentage point, or all-services growth in volume per beneficiary minus 1 percentage point).

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

For example, the volume of imaging services depends in large part on the referral patterns of physicians seeking diagnostic services for their patients as well as on the physicians who provide them. Therefore, the system would not achieve accountability for all physicians responsible for the volume of such referral services.

Another problem—discussed at the beginning of this chapter—was encountered with the type-of-service targets in the VPS. If such targets were readopted, over time they could undermine the purpose of the fee schedule, which is to account for the differences among services in resource requirements. Updates would vary, so the conversion factor would not be the same for all types of services. The result would be that payment rates would vary not just because of differences in RVUs but also because of differences in conversion factors. One way to address this concern may be to adjust, at least periodically, the fee schedule's RVUs instead of the conversion factor.

A third concern is that the more type-of-service groupings there are, the greater the risk that physicians will shift their provision of services from one type of service to another to avoid negative payment adjustments. Consider, for instance, a service experiencing rapid volume growth that represents good value for Medicare because it is less invasive and less risky for the patient than alternative services. Depending on the target for that service, payment adjustments

under a type-of-service option may be negative because of the service's volume growth. The result would be a reduction in value for Medicare if physicians opt to avoid the negative payment adjustments and substitute services of lower value for services of higher value.

A fourth concern is that a type-of-service option could put the government in the position of making difficult decisions about what represents good care. Setting targets by type of service inevitably requires choosing among services. We do not have an evidence base that is broad enough to support such choices, however. Moreover, the volume of some services may need to grow due to factors such as the greater care coordination and collaboration among physicians we discuss in Chapter 3. Other factors that could affect desired levels of volume growth include changes in the health status of beneficiaries and technological advances that represent good value for Medicare. By contrast, desired volume growth does not include growth due to factors such as mispricing. Sorting among the different forces affecting volume and making choices for each type of service would involve complex and contentious debate.

A fifth concern is that a type-of-service option could undermine collaboration among physicians. As discussed in the chapter on the specialty-based option (Chapter 5), expectations for collaboration among physicians have increased as a way to improve value in Medicare. This collaboration requires physicians to put aside their parochial interests and work together, which may include furnishing more of certain types of services. If, instead, physicians are concerned about the level of payment rates and negative payment adjustments for those services, collaboration could become more difficult.

A type-of-service option would also require some reconsideration of how CMS changes RVUs in the physician fee schedule. Such changes occur, for instance, when the agency changes methods for determining RVUs. This occurred in 2006 when CMS adopted a new methodology for calculating RVUs for practice expense. Other changes occur when RVUs are reviewed and revised in the process known as the five-year review.³ In any case, changes in RVUs affect payment rates, but, under a type-of-service option, they might also affect achievement of expenditure targets. Targets would have to account not only for a desired level of spending but also for any changes in RVUs that affect spending. ■

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Endnotes

- 1 Growth in spending per beneficiary was estimated as the total (product) of growth in volume per beneficiary and a payment update for 2005 of 1.5 percent. Growth in volume per beneficiary is shown in Table 2-3 (p. 16) in Chapter 2.
- 2 Under the current SGR, the limit on negative payment adjustments is -7.0 percentage points.
- 3 For more information on the five-year review, see Chapter 3 of MedPAC's 2006 report to the Congress (MedPAC 2006).

C H A P T E R

8

Multispecialty group practice alternative

The Congress asked MedPAC to analyze an alternative to the SGR that might adjust payment based on physicians' participation in group practices. Although we consider the option of separating physicians into qualifying group and nongroup SGR pools, we find more promise in rewarding desired activities, which may provide payment incentives for physicians to organize into the types of groups that can best perform them. These activities could include quality measurement, use of evidence-based medicine, care coordination, use of information technology (IT) to improve quality of care, and compensation practices that promote these objectives.

Design

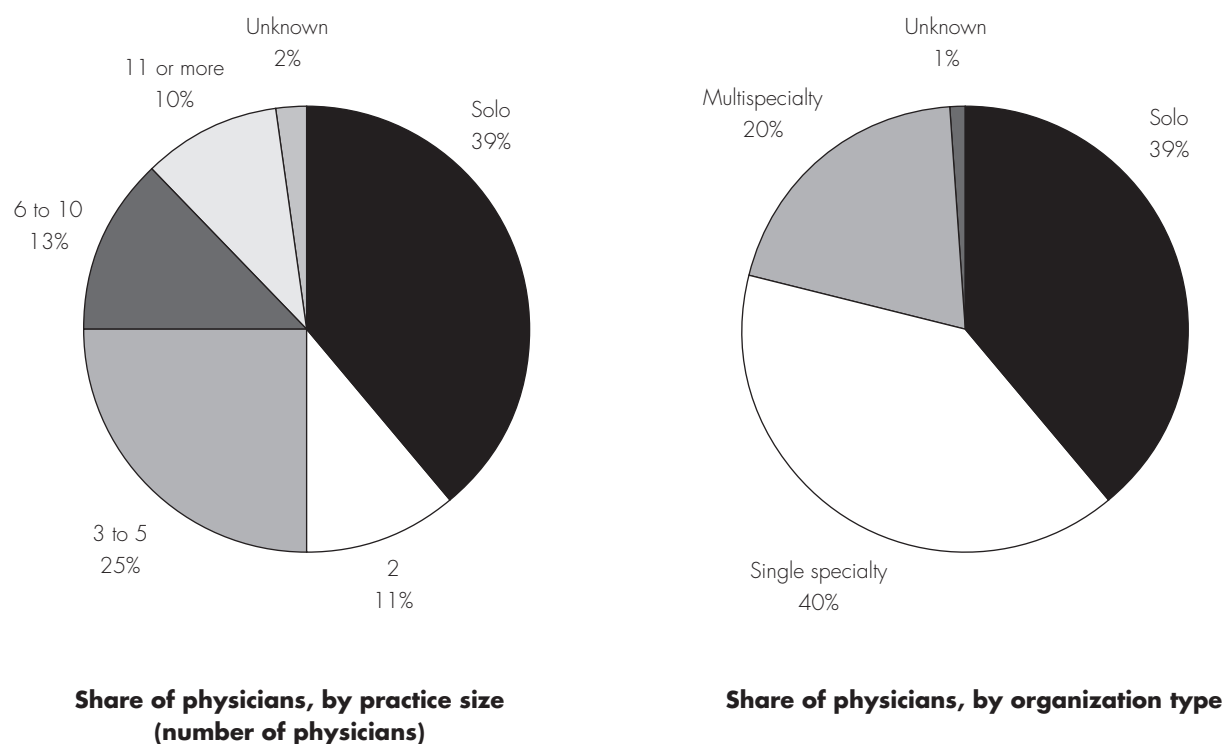
In its simplest form, this alternative divides physicians into two SGR-like pools. One pool would consist of physicians in medical groups that meet certain criteria. Participation would be voluntary, and all groups in the pool would face the same spending target and performance update relative to the target. Beneficiaries would be attributed to the medical groups in the voluntary SGR pool based on an algorithm (e.g., majority of evaluation and management (E&M) spending or through some other formalized process). The other SGR pool would include the remaining physicians, who would share a spending target and performance update relative to the target.

This option could also create more than two voluntary pools. They could consist of as few as one multispecialty group (similar to the current demonstration project described in the text box, p. 122) or they could contain several multispecialty groups in an area. Physicians who are not members of any of these pools could be in one shared pool, or they could be in separate pools according to geographic regions. Again, members of each pool would face the same target and performance update.

The Commission considers a third option that does not include an SGR target or pools. Rather, this option focuses on developing payment incentives for desired activities that could apply to all physicians, including smaller practices. Currently, however, such desired activities are more often associated with multispecialty groups. Rewarding providers who perform the following desired activities may encourage physicians to join or form high-performing multispecialty medical groups:

- quality measurement and improvement activities,
- use of evidence-based medicine,
- care coordination (includes care management),
- IT use for quality-enhancing activities,
- efficient provision of services, and
- compensation practices that promote these objectives.

The Commission considers these activities essential to improving value in the Medicare program and discusses them in Chapter 3 of this report.

Figure 8-1**Physician practice size and organization, 2005**

Note: Includes only office-based, nonfederal physicians.

Source: National Center for Health Statistics, National Ambulatory Medical Care Survey (Burt et al. 2006).

Background: The organization of physician practice

The Institute of Medicine (IOM) report, *Crossing the Quality Chasm*, asserts repeatedly that the U.S. health care delivery system is poorly organized. This fragmentation leads to overly complex and uncoordinated treatment that fails to ensure that care is appropriate, timely, and safe. The problem is particularly apparent in the treatment of chronic conditions (IOM 2001).

Even before the IOM report was released, many health policy experts were discussing ways to achieve more organized systems of care under the premise that cohesive provider groups can deliver care of higher quality and efficiency than providers who work independently. To date, limited research has investigated this assumption, with generally inconclusive findings. Intuitively, however, structural and financial environments that foster clinical collaboration among physician specialties seem to have the potential to improve coordination of patients' care and could result in better health outcomes and more efficient use of health care resources. The Commission has noted in previous reports that Medicare's fee-for-service (FFS) system lacks incentives for such collaboration, quality, and efficiency. We outline these issues in more detail in Chapter 3 of this report.

Practice size and type

Physicians tend to work in small practices (Figure 8-1). Half of all office-based, nonfederal physicians work in practices with only one or two physicians, and another quarter work in practices with three to five physicians. About 10 percent of physicians work in group practices with more than 10 physicians (Burt et al. 2006).¹ Approximately 1 percent of all groups have more than 100 physicians, but those groups account for about one-third of physicians in group practice (Burns 2006).

Single-specialty group practices are more common than multispecialty group practices. Specifically, 40 percent of physicians work in single-specialty groups and 20 percent work in multispecialty groups (Burt et al. 2006). Thus, among the physicians in nonsolo practices (60 percent), roughly two-thirds work in single-specialty practices and one-third work in multispecialty practices. In the last decade, the number of single-specialty groups has grown, but we see little to no growth in multispecialty group practices (Casalino et al. 2004).

Researchers have attributed the last decade's growth in single-specialty practices to health plans' retreat from tightly managed care. By the late 1990s, specialists had less need to join primary care physicians to win capitated contracts. Today, specialists who form large, single-specialty groups can gain negotiating leverage with health plans that need them in a network. Further, relatively small single-specialty groups can gain this leverage, compared with multispecialty groups (Burns and Wholey 2000).

Some researchers suggest that the lack of growth in multispecialty group practices is partly due to the continued financial profitability of solo and single-specialty practice styles, particularly under FFS revenue models, which contain inherent incentives to increase the number of procedures and services performed (Grumbach 2002). Orthopedics and cardiology practices, in particular, have grown rapidly; both use new technologies that increase the number of diagnostic imaging and surgical procedures that can be provided in outpatient settings (Casalino et al. 2004).

Reasons physicians give for practice size preferences

Several researchers have explored reasons why we do not see growth in the number of physicians joining or forming large, multispecialty group practices. For example, the Community Tracking Survey (CTS), which includes site interviews of physicians and executives from health plans and hospitals, asks participants to discuss the main benefits and barriers they perceive for large medical group practices.²

From these interviews, Casalino and colleagues compiled a list of the most frequently cited benefits and barriers physicians perceive when they contemplate forming or joining group practices (Table 8-1, p. 112). Interviewees most frequently cited gaining leverage with health plans as a benefit of group practices. Another often-cited benefit was gaining economies of scale, which allows greater return on their investment for clinical IT and other equipment and supplies, as well as full use of physician and nonphysician staff time for implementing organized processes

Table 8-1

Benefits and barriers of large medical group practices frequently cited by physicians

Perceived benefits	Perceived barriers
<ul style="list-style-type: none"> • Leverage with health plans • Economies of scale • Leverage with hospitals • Profit from ancillary services • Better lifestyle (e.g., less time on call) • Improved clinical quality 	<ul style="list-style-type: none"> • Lack of physician cooperation • Lack of capital, IT, and desire for investment • Lack of physician management/leadership • Failure to manage costs for capitated patients* • Failures of other groups • Conflicts between primary care and specialists
<p>Note: IT (information technology).</p> <p>*Physicians (particularly in California) also cited added costs for capitated patients generated by regulatory mandates, such as laws defining minimum hospital lengths of stay for obstetric patients.</p>	
<p>Source: Casalino et al. 2003b. Data are derived from site-visit interviews of the Community Tracking Survey.</p>	

to improve quality and control costs. Other benefits included leverage with hospitals, profits from ancillary services, better lifestyle (e.g., less time on call), and improved clinical quality.

Interviewees also cited several barriers to forming group practices, with the desire for autonomy and difficulty cooperating with other physicians cited most frequently. Lack of capital and IT and the reluctance of physicians to invest in their group were also frequently cited. Another obstacle was the lack of physician leadership. Physicians typically lack management training and are often unwilling to value or compensate management leaders for administrative and operational work (as opposed to direct patient services that bring in direct revenue), even when it includes quality improvement program management (Casalino et al. 2003b). News of financial difficulties of other groups and problems with conflicts between primary care physicians and specialists about income distribution were also cited as barriers.

Other research on why physicians have not consolidated corroborates this survey's findings and lends further insight into the lack of growth in large, multispecialty group practices. For instance, several studies have indicated that patients show some preference for solo and small group practices (Goodman and Wolinsky 1982, Rubin et al. 1993); consequently, physicians may be responding to consumer demand.

Some observers note that physicians' desire for autonomy and independence stems to some degree from medical school education, which seeks to train all physicians to become independent decision makers. Preference for autonomy often makes physicians uneasy assuming the role of followers who bestow leadership positions onto others in their practice (Burns and Wholey 2000, Crosson et al. 2004). Becoming a team player may require deconditioning for physicians who are used to working independently (Chin Hansen 2003).

Researchers have also suggested that physicians' financial status in solo and small practices is comfortable enough, particularly under FFS payments, that they do not see the need to change their practice style (Burns and Wholey 2000). Also, physicians often lack the capital needed to grow and are reluctant to invest budgetary surplus (Robinson 2004, 1998).³ Antitrust issues may also impede physicians' ability to form large groups (Burns and Wholey 2000).⁴

Overcoming the barriers to forming or joining medical groups presents opportunities for changing the delivery of care. For example, initiatives for fostering good leadership and quality measurement may increase physician preferences for group practice (Crosson et al. 2004, Schneider 2006). Also, younger physicians are more likely than older ones to practice in medium and large groups due, in part, to lifestyle preferences (e.g., less time on call). Additionally, some large groups report many more physician applicants than they can accept in some specialties. These trends suggest that we may see more movement toward medium and large groups over the next 20 years (Casalino 2006).

Analysis: Comparisons of quality, IT, and spending by practice type

Reliable and valid analyses comparing group practice with solo or very small group practice are relatively scarce. Some limited data suggest that groups have the potential to improve quality, use IT, operate more efficiently, and contain costs of medical care, but in many cases this potential does not appear to be fulfilled. For example, groups' use of care management processes and IT is not standard practice, though medical groups use them more frequently than solo physician offices. Following is a summary of published articles that offer some comparative information.

Quality and patient satisfaction

A meta-analysis of published research did not find conclusive, systematic differences in outcomes of care between multispecialty medical groups and solo, small, or single-specialty physician practices (Chuang et al. 2004). However, other recent studies suggest that group practices outperform other types of practices on selected measures.

Use of standard care management processes has been linked to improved quality of care (Wagner et al. 2001). A recent national study of the management of chronic illness for patients with selected chronic conditions found that large, multispecialty medical groups were significantly more likely to use recommended care management processes (e.g., disease registries, reminder systems, and clinical guidelines) than more loosely organized groups (Shortell and Schmittdiel 2004). Other research also suggests that groups affiliated with or owned by HMOs, hospitals, or health systems use more care management processes than unaffiliated groups (Chuang et al. 2004, Shortell and Schmittdiel 2004).

Another analysis found that health plans using organized physician groups score higher on several preventive health care indicators than plans that rely on more fragmented physician care systems (Gillies et al. 2006). The authors suggest that organized medical practices are more

likely to engage in disease screening and prevention practices because they have shared goals that facilitate the use of quality measures. Health plans working with physician practices with a higher ratio of primary care physicians to specialists also scored higher on quality measures for disease prevention. An earlier study found that primary care physicians in large groups were more likely to use disease management processes than physicians in smaller practices (Rittenhouse et al. 2004).

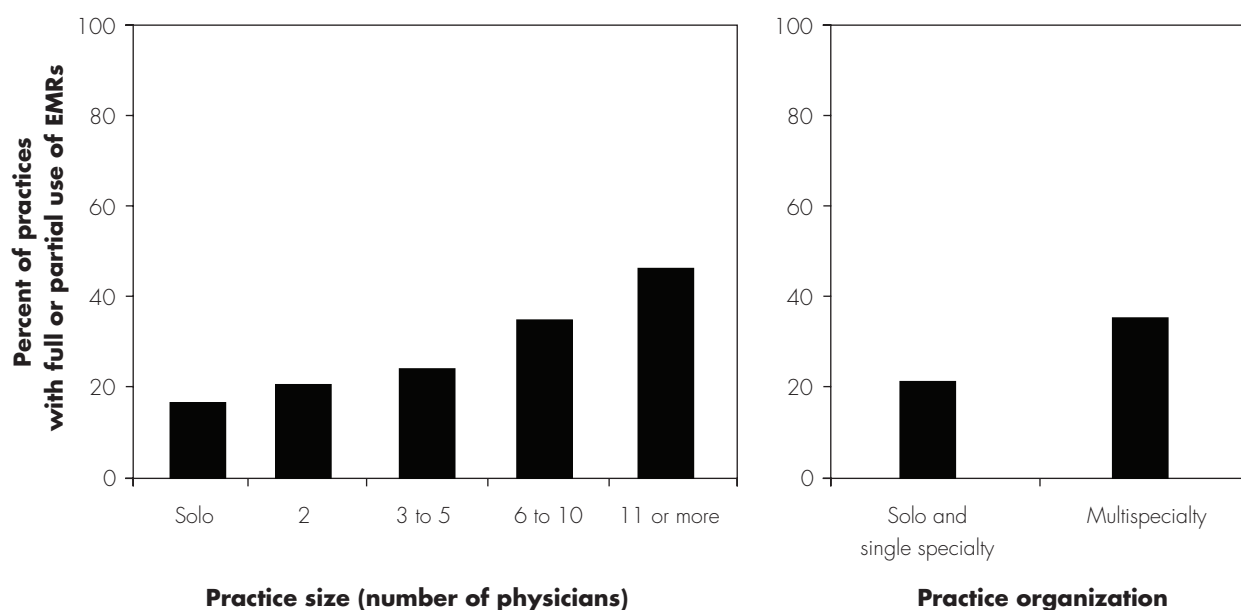
These studies suggest that large multispecialty medical groups and integrated hospital delivery systems have the potential to provide higher quality care, especially for patients with chronic conditions. Nonetheless, this advantage is often unrealized. Even in large groups, the use of quality-improving care management processes, as envisioned by the IOM, is not widespread. Half the medical groups with 20 or more physicians used no more than 4 of 16 selected care management processes (Casalino et al. 2003a). However, we see a boost in the likelihood of groups using these processes if they receive public recognition for scoring well on quality measures.

Some research has found that solo practices and practices that receive most of their revenue on a FFS basis enjoy higher rates of patient satisfaction than prepaid group practices and group model HMOs (Chuang et al. 2004, Safran et al. 2002). In some of these studies, the lower satisfaction appears to be true for measures of access to care (ability to get a timely appointment) and measures of patient–physician communication and perceived quality of services received. Other research, however, has not found a significant correlation between the use of organized physician groups and patient satisfaction, as measured with Consumer Assessment of Health Plans Survey data (Gillies et al. 2006). Further, some observers assert that very large and well-established prepaid group practices have high rates of patient satisfaction (Casalino 2006).

Another factor contributing to the lack of comparative data on quality is the lack of quality measurement by physicians. Medical school education and residency training offer little focus on collecting, analyzing, and acting on quality measures (Schneider 2006). More widespread pay-for-performance initiatives that include public reporting may help newer physicians learn these important skills.

Information technology

According to the National Ambulatory Medical Care Survey, an average of 24 percent of physicians reported using electronic medical records (EMRs) in their office-based practices in 2005—up from 18 percent in 2001 (Burt et al. 2006). This survey found that, as medical groups increase in size, their use of IT also increases, but many large groups still lack clinical IT (Figure 8-2). Specifically, 16 percent of solo practitioners, 34 percent of practices with 6 to 10 physicians, and 46 percent of practices with 11 or more physicians used EMRs in 2005. Multispecialty practices are more likely to use IT: About 34 percent of multispecialty practices and 22 percent of solo and single-specialty practices used EMRs in 2005.

Figure 8-2**EMR use is higher in large and multispecialty practices**

Note: EMR (electronic medical record). Includes only office-based, nonfederal physicians.

Source: National Center for Health Statistics, National Ambulatory Medical Care Survey (Burt et al. 2006).

Greater use of EMRs has the potential to improve the quality of medical care (Shortell and Schmittiel 2004). Shared EMRs can serve as effective communication tools among physicians treating the same patient. Additionally, physicians know that their peers may review their medical decisions. To the extent that multispecialty groups are more likely to use IT—such as EMR and computerized drug-order entry systems—they may have greater ability to reduce medical errors than smaller practices. However, no studies have compared safety issues by practice type.

While physicians in larger practices are more likely to have IT, they may use it more to focus on streamlining coding and billing processes than on activities to enhance safety and quality. Only about 40 percent of physician offices that have EMRs use them for the following four activities: ordering prescriptions, ordering tests, obtaining test results, and writing physician notes (Burt et al. 2006). Use of IT for clinical reminders and public health reporting was even lower. Other research has shown that small and solo practices use EMRs most commonly for viewing patient records and billing; few practices use them for quality improvement, performance reporting, and patient-provider communication (Miller et al. 2005).

Future technological innovation should make it increasingly possible for physicians in smaller practices to use IT. As with larger practices, smaller physician offices could use IT to connect to patients, other physicians, and insurers, as well as to facilitate effective clinical management.

Cost and efficiency

There is no comprehensive research comparing resource use between multispecialty group practice and solo, small, or single-specialty practices. Acknowledging this deficit, many researchers have extrapolated from studies examining prepaid group practices (typically associated with staff/group model HMOs) to practices with other types of revenue, primarily FFS. This extrapolation confounds the results because it obscures whether differences in patient costs can be attributed to group practice style or to revenue incentives associated with capitation.

Several studies have found that prepaid groups are associated with lower resource use and patient costs (Chuang et al. 2004, Kralewski et al. 2000, Manning et al. 1984). Additionally, delivery systems that include hospitals and physicians had lower overall costs (less inpatient hospital care but more outpatient care) than more decentralized and independent systems and networks (Bazzoli et al. 2004). Other studies have shown that rates of inpatient hospitalizations for large multispecialty groups in California are lower than state and national averages for both Medicare and commercial patients (Robinson and Casalino 1995).

Some studies have compared use of resources in solo practices with use in larger practices. One study used clinical vignettes from the CTS of physicians to identify factors that increased the likelihood that physicians would order or recommend more services. This study found that, for ambulatory symptoms or conditions that do not have a clear consensus on the best clinical response, solo practice physicians were more likely than physicians in groups or institutional settings to treat or make referrals rather than to recommend no immediate action (O'Neill and Kuder 2005). The authors suggest that solo practice physicians may have less interaction with physician colleagues, which may increase their propensity to refer to specialists. Research from the Medical Outcomes Study shows that physicians who work in groups have lower rates of patient hospitalization and use of procedures (Greenfield et al. 1992).

Some investigators have analyzed the impact of individual physician compensation (e.g., salary adjustments, bonus incentives) on service volume and costs. Their findings indicate that some physician groups seek to align individual compensation incentives with those that their organizations face in the market (Robinson et al. 2004).⁵ That is, physicians in practices that rely heavily on FFS revenue are more likely to have their compensation determined by the volume of their services; conversely, physicians who work in organizations with higher shares of revenue from capitation are a little more likely to report incentives to reduce services. However, most physicians—including those in practices that rely mostly on capitated contracts—indicated that they did not face incentives to increase or reduce volume of service (Kralewski et al. 2000, Pedersen et al. 2000, Reschovsky et al. 2006, Robinson 2004).

Other market incentives that can affect individual physicians' compensation include the degree to which managed care is used in their geographic market, Medicaid caseload, supply of physicians in a specialty, specialty mix, and ownership. Smaller medical groups are more likely than larger groups to base salaries on the number of services the individual provides (Robinson 2004).⁶ Only a small number of groups use quality of care as a measure for individual compensation (Pedersen et al. 2000).

Preliminary claims analysis comparing spending and utilization

We conducted a preliminary claims analysis to compare spending and utilization among beneficiaries whose main physicians are in multispecialty or hospital-affiliated groups with those who are not. In three of four metropolitan statistical areas (MSAs), beneficiaries whose main physician (i.e., the physician who generally accounted for most of their spending on physician office visits) was in a multispecialty or hospital-affiliated group had lower annual spending than those whose main physician was not in such groups. Looking only at high-cost beneficiaries, beneficiaries attributed to multispecialty or hospital-affiliated practices had lower spending in all four MSAs. We also found that patients whose main physician was in a multispecialty group were more likely to see multiple physicians in the same practice. Although these results are a useful starting place for continued analysis on this topic, our analysis has several limitations, including lack of risk adjustment, and should be interpreted with caution.

Methods and results

We examined spending and utilization in four MSAs: Boston, MA; Minneapolis–St. Paul, MN; Greenville, SC; and Orange County, CA. Using 100 percent of hospital (inpatient and outpatient), skilled nursing facility, physician, and home health claims from FFS beneficiaries in these areas, we identified a beneficiary’s “main” physician as the one who accounted for the highest share of the beneficiary’s spending on E&M services between 2001 and 2003. If no physician accounted for at least 25 percent of a beneficiary’s E&M spending during that time, then the beneficiary was not assigned to a main physician and was excluded from our analysis. Through this attribution methodology, we retained almost two-thirds of the beneficiaries residing in each area for our analysis.⁷ Using CMS files that link physicians to medical groups, we identified whether a physician was part of a multispecialty or hospital-affiliated group (e.g., a faculty practice group) with at least five providers who billed Medicare. All other physicians were considered to be in solo, small, or single-specialty groups. We standardized payments across all areas to control for differences due to input price differences and payment policies.⁸

We see variation in spending among our four study areas, similar to well-documented previous research examining geographic differences in spending and utilization (Fisher et al. 2003). Specifically, we found that mean per capita total spending in 2003 varied among areas, from \$4,430 in Minneapolis–St. Paul to \$5,989 in Orange County. We found that average physician spending per person generally paralleled average total spending per person. That is, Greenville and Minneapolis–St. Paul—the areas with lower physician spending—had lower total spending. Conversely, Orange County and Boston—the areas with higher physician spending—had higher total spending. We found that the average number of physicians that beneficiaries saw in 2003 did not vary as greatly—ranging from 7.7 in Minneapolis–St. Paul to 8.7 in Boston and Orange County.

In three of the four areas, beneficiaries whose main physician was in multispecialty or hospital-affiliated groups had lower average annual spending than beneficiaries whose main physician was in solo or single-specialty groups (Table 8-2, p. 118). At the highest quintile of spending, all four areas show lower average spending for beneficiaries whose main physicians were in multispecialty or hospital-affiliated groups.

Table 8-2**Beneficiaries' spending varies by their main physician's type of practice, 2003**

Main physician practice type for four MSAs	Percent of beneficiaries	Mean total payments	Mean physician payments	Average number of physicians seen by beneficiary	Average number of practices seen by beneficiary
Greenville, SC					
All beneficiaries					
Multispecialty	16%	\$4,272	\$1,553	7.9	5.2
Small or single specialty	84	4,781	1,724	7.9	5.7
High-spending beneficiaries					
Multispecialty	16	15,664	4,431	16.5	9.1
Small or single specialty	84	16,832	4,820	16.4	9.7
Minneapolis-St. Paul, MN					
All beneficiaries					
Multispecialty	42	4,489	1,463	7.8	4.1
Small or single specialty	58	4,388	1,564	7.7	4.9
High-spending beneficiaries					
Multispecialty	43	14,605	4,379	17.2	7.3
Small or single specialty	57	14,956	4,513	16.2	8.5
Orange County, CA					
All beneficiaries					
Multispecialty	18	4,758	2,258	8.3	6.1
Small or single specialty	83	6,218	2,867	8.8	7.6
High-spending beneficiaries					
Multispecialty	14	16,753	7,355	18.5	12.4
Small or single specialty	86	18,913	8,225	17.7	14.1
Boston, MA					
All beneficiaries					
Multispecialty	25	5,718	1,655	8.8	5.0
Small or single specialty	75	6,080	1,715	8.7	5.9
High-spending beneficiaries					
Multispecialty	24	21,721	4,873	19.5	9.2
Small or single specialty	76	22,469	4,998	19.2	11.0

Note: MSA (metropolitan statistical area). High-spending beneficiaries are in the top 20 percent of the distribution of total spending. Results are preliminary and subject to several limitations. For this analysis, "small" practices have no more than five providers. Multispecialty medical groups include physician groups that are associated with hospitals. A beneficiary's main physician is the physician who accounted for the highest share of the beneficiary's spending on evaluation and management services between 2001 and 2003. If no physician accounted for at least 25 percent of a beneficiary's evaluation and management spending during that time, then the beneficiary was not assigned to a main physician and was excluded from this analysis. Payments are standardized to control for differences due to input price differences and payment policies but are not risk adjusted. Mean total payments include claims for the following services: hospital (inpatient and outpatient), skilled nursing facility, physician, and home health. Percentages may not sum to 100 due to rounding.

Source: MedPAC analysis of 100 percent of claims for beneficiaries living in the four listed MSAs, 2003.

For overall spending, Minneapolis–St. Paul is the only one of the four areas where total spending for beneficiaries attributed to multispecialty or hospital-affiliated practices is higher (by about 2 percent) than for those attributed to small or single-specialty practices. Minneapolis–St. Paul has a considerably larger share of beneficiaries whose main physician is in a multispecialty practice (about 42 percent) than the other areas. Because multispecialty practices are more common in Minneapolis–St. Paul, practice patterns may not vary as much by practice type. Thus, we may expect to see a smaller difference in spending by practice type for this region.

When focusing on average physician spending (rather than total spending), all four MSAs show lower average physician payments for beneficiaries whose main physician is part of a multispecialty or hospital-affiliated group. Additionally, these beneficiaries visited fewer physician practices—but not fewer physicians—on average, than beneficiaries whose main physician was in small or single-specialty practices. Thus, beneficiaries attributed to a physician in multispecialty or hospital-affiliated groups may be more likely to see multiple physicians at a given practice.

Although these findings were generally consistent across the four areas, they should be interpreted with caution. As a first step, our analysis provides a starting place for evaluating the differences in spending patterns by practice type. Several limitations apply to this analysis, as described next.

Limitations of results

This preliminary analysis has several limitations. First, spending and utilization comparisons are not adjusted for health status risk. Therefore, if sicker beneficiaries are more likely to obtain most of their E&M services from smaller or single-specialty practices, then differences in spending could reflect poorer health status rather than lower practice efficiency. In the highest quintile of spending, the percentage of beneficiaries whose main physician is in a multispecialty practice is slightly lower for all areas. This could suggest that sicker beneficiaries may be a bit less likely to see physicians in multispecialty practice, or that multispecialty groups could be treating sick patients more efficiently. Either way, we also see that, in three of the four MSAs, the average beneficiary whose main physician was in a multispecialty practice was older (data not shown), indicating that health status—to the extent that it correlates with age—was not necessarily better for this group.

Although we show spending differences by geographic area and practice type, many other factors may contribute to these differences. For example, market area characteristics, such as managed care penetration, may influence practice patterns and spending. Medicaid status may also affect beneficiaries' likelihood of being attributed to different practice types and sizes. Also, we are unable to compare spending by practice type in areas where multispecialty practice is particularly uncommon, such as Miami.

Another limitation to this preliminary analysis concerns physician services in teaching hospitals. Medical residents who see patients in a teaching hospital may not bill Medicare for the services they provide through their residency program.⁹ Consequently, payments for patients attributed to medical groups associated with multispecialty faculty practices may be lower because resident

services were not billed. However, attending physicians may bill Medicare for services provided by their residents when they directly supervise them.

Another caveat we must attach to our preliminary analysis stems from the challenge of classifying physicians as part of a multispecialty group. For each tax number, CMS data files identify a practice name, a practice specialty, and the physicians associated with the practice. Physicians may be affiliated with multiple practices and therefore bill multiple tax numbers. We attributed physicians with multiple tax numbers to the practice where they saw the most beneficiaries. Thus, physicians who split their time between, for example, solo practice (70 percent) and multispecialty group practice (30 percent) are classified as a solo practitioner in this analysis, even if the services were provided in a multispecialty clinic. Also, a single practice may have multiple tax numbers for business purposes, masking the true size and specialty mix of the entire practice. Or, a physician practice management company may use a single tax number to bill for many unrelated practices, but these companies do not account for a very large portion of Medicare claims.

In future analyses, we may be able to use private data to refine practice type classification. We may also be able to examine patterns of care through the Commission's ongoing analysis of episodes of care.

Advantages

Creating incentives to encourage physicians to form or join high-performing multispecialty groups could achieve more organized systems of care and thereby improve the health care provided to Medicare beneficiaries while reducing costs. Many studies cited in this section suggest that physicians in multispecialty groups may have different practice patterns than physicians in solo, small, or single-specialty practices. That is, they may be more likely to use care management processes and IT and may use fewer resources. Large groups may more easily foster consultation among physicians in different specialties, which could improve quality and manage costs. Team-based care may also be easier in group practices. Options that encourage medical group accountability may encourage patients and physicians to develop stronger relationships and perhaps establish more regular sources of care (along the lines of a “medical home”). The goals for care coordination in particular (including care management) are also discussed in Chapter 3 of this report.

Rewarding desired activities may provide incentives for physicians to organize into the types of groups that can best perform them—namely, multispecialty group practices and integrated delivery systems. This focus on rewarding activities rather than simply group status, per se, is akin to the Commission's recommendation in its March 2005 report to develop policies that encourage the *use* of functions of IT to improve quality, rather than simply purchasing it (MedPAC 2005). Pay-for-performance incentives could help physicians view EMRs as more than simply a way to improve their coding and billing abilities. Rather, their EMRs could assist in quality-improvement activities such as capturing and reporting data as well as posting clinical reminders (Miller et al. 2005).

Quality measurement is another activity that multispecialty groups and integrated delivery systems are well-suited to perform. Statistically speaking, medical groups can serve as units of analysis for more valid quality measurement than solo practitioners (Hofer et al. 1999). With larger patient panel sizes, medical groups can provide more reliable performance data than individual physicians who likely have fewer patients. Furthermore, groups may be better able to bear some degree of financial risk for performance on quality and patient costs.

If continued research finds that multispecialty and hospital groups perform better on quality and efficiency, policymakers and insurers would have a strong incentive to encourage movement toward more organized delivery systems and to avoid policies that promote fragmentation (Gillies et al. 2006). CMS has begun a demonstration pilot—the physician group practice (PGP) demonstration—that, when complete, will contribute considerably to the body of research we have on how multispecialty physician groups affect spending and quality health care. (The text boxes, pp. 122 and 123, discuss this pilot program in more detail and highlight one PGP program.)

Disadvantages

Considering the small share of physicians in multispecialty groups and that not all multispecialty groups engage in activities that improve quality and manage costs, payment policies that focus simply on group status, per se, may not effectively elicit desired activities. Rather, encouraging specific actions, such as coordinating care or investing in IT functions, could be more successful than varying reimbursement levels based on whether a physician is in a multispecialty group.

A major disadvantage of separate SGR pools for group and nongroup physicians is the inequity of physicians' ability to qualify for the group pool. Physicians in smaller practices may provide high-quality care and be extremely efficient, yet they would be ineligible for payment updates earned by their counterparts in group practice. Also, rural physicians may have few, if any, multispecialty practice options. Other arrangements (e.g., independent practice association networks) may allow rural physicians to collaborate, but these arrangements may not offer the same benefits in quality, coordination, and cost savings as multispecialty group practice organizations.

Another disadvantage is that one cannot expect greater physician accountability from creating just two pools subject to a spending target. The number of physicians in each pool would still likely be too large to foster peer pressure and eliminate free-rider problems. Establishing many more pools, perhaps by geographic area, would strengthen the incentives for individual groups and physicians to change their behavior, but would significantly increase the administrative burdens for CMS. Risk adjustment and reliable attribution methodologies become increasingly important as the number of pools increases and the size of each pool decreases.

Finally, data lags and the ability of physician groups to enter and exit the pools could prove to be significant implementation challenges. If physician groups qualified and chose to be counted in the group pool then they would not be able to receive updates earned by their new pool until they had actually contributed to data in the measurement year. At best, this would create a one-year lag.

Physician group practice demonstration

The Benefits Improvement and Protection Act of 2000 created the physician group practice (PGP) demonstration to study the effect of providing financial incentives for large group practices to achieve three goals—coordination of Part A and Part B services, infrastructure investment, and quality improvements. The three-year demonstration began on April 1, 2005, and will run through March 31, 2008.

Physician groups with at least 200 physicians were eligible to participate in the demonstration. CMS selected 10 groups from the 26 that applied.¹⁰ The groups include freestanding multispecialty PGPs, faculty group practices, physician groups that are part of integrated health care systems or that have affiliations with hospitals, and physician network organizations, such as the Middlesex Health System (described in the text box, opposite page). The groups comprise 5,000 physicians serving more than 200,000 Medicare beneficiaries.

The demonstration uses 32 measures that focus on common chronic illnesses (diabetes, congestive heart failure, and coronary artery disease) and preventive care. Measures are collected over three years.

CMS assigns beneficiaries to a participating physician group if they receive the plurality of their outpatient evaluation and management visits from the group.¹¹ Once beneficiaries are assigned to a participating physician group, CMS will create a comparison group of beneficiaries who reside in the service area and meet similar assignment criteria. The expenditure growth for the comparison group is calculated and used as the target for the participating physician group's bonus calculations.

Bonus payments

The PGP demonstration pays participating physician groups a share of the savings if Medicare spends less for their beneficiaries than for comparison beneficiaries in the same service area. Annual performance targets are set for each group based on the rate of growth in fee-for-service Medicare spending in the local area (as determined by the comparison group methodology described previously). Participating groups earn bonus payments of up to 80 percent of any Medicare savings that exceed 2 percent of their expenditure target. The group is not penalized if it does not meet its target.¹² Medicare retains the remaining 20 percent of savings achieved by the participating group plus any bonus set aside for quality performance that the group does not earn. ■

Middlesex Health System

The Middlesex Health System is a unique physician group practice (PGP) demonstration participant because it is more of a virtual network of physicians than the other groups. The legal entity that participates in the demonstration is Integrated Resources for the Middlesex Area, LLC (IRMA), which was established in 1996 around the Middlesex Hospital—the sole community hospital in Middlesex County, Connecticut. About 85 percent of the area’s physicians participate solely on the hospital’s medical staff. Many participating physicians are in small or solo practices. Each signed an “opt-in” agreement to participate in the PGP demonstration. IRMA administers disease management and chronic care programs and provides feedback on quality measures to participating physicians. ■

Additional policy directions

The Commission considers multispecialty groups a promising vehicle for improving the quality and efficiency of medical care to Medicare beneficiaries. Considering the advantages and disadvantages discussed previously, future policies should focus on rewarding physicians for performing desired activities rather than simply for their practice size and type. Establishing such incentives for physicians may encourage them to organize into the types of groups that can best perform such desired activities and thus expand multispecialty group practice in the U.S. These desired activities include:

- quality measurement and improvement activities,
- use of evidence-based medicine,
- care coordination (includes care management),
- IT use for quality-enhancing activities,
- efficient provision of services, and
- compensation practices that promote these objectives.

A review of previous research and our preliminary analysis suggest that currently multispecialty group practices and integrated delivery systems may be better suited to perform these activities. However, because policy initiatives would focus on rewarding the activities listed, physicians in smaller practices and practices with other sorts of affiliations who perform these activities well would also be rewarded. ■

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Endnotes

- 1 Other surveys show similar distributions. For example, research using the Community Tracking Survey also finds that almost half of all office-based, nonfederal physicians work in practices with 1 or 2 physicians; another third work in practices with 3 to 9 physicians, leaving about 18 percent in group practices with 10 or more physicians (Casalino et al. 2003b).
- 2 The CTS is a nationally representative telephone survey of physicians involved in direct patient care. It is sponsored by the Robert Wood Johnson Foundation and conducted by the Center for Studying Health System Change.
- 3 Also, many physician practices do not retain earnings, since they would be subject to additional taxation on them (Burns and Wholey 2000).
- 4 These Federal Trade Commission guidelines stipulate that the physician network include no more than 20 percent of practitioners in the case of exclusive panels or no more than 30 percent for nonexclusive panels. In both cases, physicians must share substantial financial risk for services provided through the network (e.g., physician payments based on capitation) (Burns and Wholey 2000).
- 5 Approximately one-quarter of medical groups compensate physicians purely on the number of services the individual provides (i.e., on a FFS basis). Approximately the same percentage base none of the compensation on productivity (i.e., straight salary or capitated amount), and the remaining half pay physicians using a blend of retrospective and prospective mechanisms (Robinson 2004).
- 6 Small physician offices unaffiliated with an independent practice association were least likely to experience pressure to see more patients and limit the number of tests and referrals (Rittenhouse et al. 2004).
- 7 We also evaluated spending using an attribution threshold of at least 35 percent of E&M spending. As would be expected, fewer beneficiaries were attributed to a main physician at this higher threshold. However, the relative differences between spending in the multispecialty and solo or single-specialty groups remained the same in all four MSAs. Thus, the results were not sensitive to this higher threshold.
- 8 For more detail on how we standardized payments, see our June 2006 report (MedPAC 2006).

- 9 If medical residents have state licensure to practice medicine, they may bill Medicare for services they provide outside of the residency program at a different hospital.
- 10 The demonstration participants include the following groups: Dartmouth-Hitchcock Clinic (Bedford, NH); Deaconess Billings (Billings, MT); The Everett Clinic (Everett, WA); Geisinger Health System (Danville, PA); Middlesex Health System (Middletown, CT); Marshfield Clinic (Marshfield, WI); Forsyth Medical Group (Winston-Salem, NC); Park Nicollet Health Services (St. Louis Park, MN); St. John's Health System (Springfield, MO); and University of Michigan Faculty Group Practice (Ann Arbor, MI).
- 11 Beneficiary assignment is determined for the base year of the demonstration—2004—and then redetermined for each of the performance years, retrospectively based on claims. Thus, a beneficiary assigned in one year of the demonstration may or may not be assigned in the following or preceding years.
- 12 The demonstration is required by law to be budget neutral. If the physician group qualifies for a bonus, a portion (30 percent the first year and rising to 50 percent by the third year) is tied to the physician group's performance on quality targets.

CHAPTER

9

Hospital medical staff alternative

CMS could use Medicare claims to associate physicians and beneficiaries with hospitals to define empirically based hospital medical staffs. These empirical physician groups could then be held accountable for the Medicare services used by the beneficiaries attributed to them. These accountable groups in turn could be used in an SGR-like system to reward groups that provide more value to the Medicare program. Using such groups as accountable entities could better align incentives to control volume and, in the longer run, possibly moderate decisions to increase capacity in the health system at large. However, implementation might run counter to some current trends in physician–hospital relationships and face legal barriers and operational challenges.

Design

The Congress directed MedPAC to investigate the hospital medical staff as an SGR pool option. The original SGR mechanism, meant to limit volume growth, is failing in part because the group incentive (a decrease in the update for all physicians) holds no power for individual physicians, who have a continued incentive to increase the volume of services they provide. As an alternative, if an entity could be held accountable for all the care a group of beneficiaries receives, then that entity could also be held accountable for growth in the volume—and eventually the quality—of care those beneficiaries receive. That entity could then be subject to an SGR-like mechanism and could be rewarded for meeting targets for growth and penalized for exceeding those targets. The incentive for the entity would be aligned with the goal of controlling volume growth and—to the extent physicians identify with the entity—their incentives will align as well.

One candidate for such an accountable entity is the empirically based extended hospital medical staff (EHMS). Introduced by Fisher and colleagues, the EHMS is essentially a hospital-associated group of physicians that is empirically defined by their direct or indirect referral patterns to a hospital. Physicians are assigned to an EHMS by virtue of where they see inpatients or where the patients they see are hospitalized. Beneficiaries are assigned to a physician based on claims and, through that physician, to a particular EHMS. Physicians are assigned to an EHMS whether or not they are formally members of any group or have any contractual relationship with a hospital. Fisher’s analysis defines about 4,800 EHMSs nationwide (Fisher et al. 2006).

A target for growth in services would be determined either nationally, as is done now, or regionally, with a different target for each geographic region. The services actually delivered to beneficiaries in the EHMS would be summed at the end of the year and compared with the target. Updates for the physicians assigned to the EHMS could be increased or decreased depending on whether the EHMS met or exceeded the target. The target could be limited to physician services or expanded to include Part A, Part B, and Part D services. The goal would be to encourage physicians to work together to curb excessive growth in the volume of services while improving patient outcomes.

This goal could also be pursued by initially using these empirically derived groups for reporting purposes to inform physicians of their collective use of resources. Under the phased approach

option (path 2 discussed in Chapter 12), physicians in EHMSs could then voluntarily elect to become an accountable group and become eligible to share in savings if, as a group, they could control resource use. (As discussed in Chapter 12, EHMSs and other configurations of physicians could form accountable groups if they met the requisite criteria.) Those physicians who did not become an accountable group could not share in savings and would be governed by the overall update for their geographic area.

Analysis

Would EHMSs be good candidates for an accountable entity that could be used to control volume in an SGR-like system? Two key analytic questions need to be answered:

- Is it feasible to use Medicare claims data to define EHMSs?
- Does an EHMS have the right characteristics to be an accountable entity?

Is an empirical definition feasible?

In a recent *Health Affairs* article, Fisher and colleagues demonstrate the feasibility of defining EHMSs through Medicare claims data (Fisher et al. 2006). They show that almost all physicians billing Medicare can be assigned to an EHMS. Looking at more than 600,000 physicians with valid Unique Physician Identifier Numbers in a 20 percent sample of claims, they assigned 95 percent of physicians to an EHMS at an acute care hospital in the United States. In addition, they found virtually all Medicare beneficiaries can be assigned to an EHMS at an acute care hospital as well. Of the 5.5 million beneficiaries in the 20 percent sample of fee-for-service beneficiaries aged 65 and over, excluding those with no outpatient physician visits and those outside the United States, 5.1 million (93 percent) were successfully assigned to an EHMS.

The authors used claims from a three-year period (2002 through 2004) to assign physicians to EHMSs in two ways. First, physicians who do inpatient work (62 percent of those billing Medicare) were assigned to the hospital where they provided care to the greatest number of inpatients. Second, the remaining physicians (the 38 percent who do no inpatient work) were assigned to the hospital where the plurality of their patients were admitted.

The next step assigned beneficiaries to physicians. Claims from the same three-year period were used to assign beneficiaries to the physician who provided most of their visits in the ambulatory setting, whether the physician was a primary care physician or a medical subspecialist.¹ Beneficiaries were then assigned to that physician's EHMS.

Does an EHMS have the right characteristics to be an accountable entity?

To work well as accountable entities, EHMSs would need to be of a reasonable size and composition, account for most of the assigned physicians' work and assigned beneficiaries' care, and CMS would need to be able to measure their performance. In addition, the physicians in the EHMS would need to be able to cooperate to change practice patterns.

Size and composition of EHMSs

Fisher and colleagues (2006) find that the medical groups defined by this method appear reasonable in terms of their size and composition. The average hospital is assigned an empirical medical staff of 88 physicians per 100 beds (Table 9-1, p. 134). More physicians are assigned to larger hospitals and to hospitals in nonrural areas. Those hospitals are more likely to have more medical specialists, surgeons, and other physicians (e.g., radiologists and pathologists) per 100 beds. However, the average number of primary care physicians per 100 beds is about 30 across all groups of hospitals.

The absolute number of physicians assigned to an EHMS varies widely: Ordering EHMSs by the number of physicians assigned, 5 physicians were assigned at the 10th percentile, 50 at the median, and 318 at the 90th percentile (Fisher and Gottlieb 2006). The small EHMSs account for an even smaller percentage of physicians. In fact, small hospitals (defined as fewer than 500 discharges) account for 40 percent of hospitals but less than 6 percent of physicians. This wide range in the size of EHMSs would have to be considered when setting targets and measuring performance against them. It might be preferable to combine some small EHMSs, particularly if they are already part of an organized health care system or are geographically proximate.

Concentration of physician work and beneficiary care in EHMSs

Fisher and colleagues also find a strong association of physicians with their hospitals. For the 62 percent of physicians who perform inpatient work, 90 percent or more of that work is at their assigned hospital. Of those physicians, most do all their work at a single hospital; the remainder, who provide services at multiple hospitals, do three-quarters of their inpatient work at their primary hospital. A slightly larger proportion of the staff perform inpatient work in smaller and rural hospitals, as might be expected. About 38 percent of physicians do not do inpatient work. When patients assigned to those physicians are admitted to a hospital, about half are at the hospital to which their physicians are assigned.

The authors also find that Medicare beneficiaries' care is highly concentrated within these empirically defined delivery systems (Table 9-2, p. 135). On average, 73 percent of beneficiaries' physician visits for evaluation and management services (inpatient and outpatient) are with physicians within the beneficiaries' assigned EHMS. Also, 64 percent of all hospital admissions are at the assigned (or primary) hospital. The authors also describe the concentration of care provided at the single other hospital that is most frequently used by a given hospital's Medicare population (the secondary hospital). The primary and secondary EHMSs together account for

Table 9-1**Characteristics of extended hospital medical staffs**

	Urban hospitals				Rural hospitals	
	All	Large ^a	Medium	Small	Large/ Medium	Small
Hospitals	4,772	766	1,708	568	368	1,362
Physicians	572,000	301,000	218,000	15,000	20,000	18,000
Mean number of physicians per 100 beds^b	88	103	83	57	66	45
Primary care	30	30	29	30	28	27
Medical subspecialist	21	26	18	8	12	5
Surgeon	21	25	20	11	15	7
Other	37	45	34	18	25	11
Mean share of physicians with inpatient work^c	62.1%	58.5%	63.2%	71.5%	67.3%	74.1%
Percent of work at assigned hospital	90.1	89.5	89.4	91.8	94.0	93.7
Percent working at only one hospital	62.5	59.4	62.4	68.3	74.5	72.0
If working at multiple hospitals, percent of work at assigned hospital	74.9	75.5	73.5	74.9	76.8	76.5
Mean share of physicians with no inpatient work^c	37.9	41.5	36.8	28.7	32.7	25.9
Percent of their patients' admissions at physician's assigned hospital	55.8	56.2	55.5	53.0	56.9	53.8

Note: Numbers may not sum due to rounding. Extended hospital medical staffs are groups of physicians defined by the hospital where their patients seek care. For physicians with inpatient work, the relationship is measured by their own encounters in the hospital; for those with no inpatient work, it is based on their patients' encounters.

^a Hospital size is defined by the number of Medicare discharges in 2003, categorized as large (more than 5,000 discharges), medium (between 5,000 and 500 discharges), and small (fewer than 500 discharges). Rural hospitals are those whose ZIP code is classified as small rural town or isolated rural town according to the four-level Rural-Urban Commuting Area code; all other hospitals are urban.

^b Hospital beds are those reported in the American Hospital Association file or, if missing, from the CMS Provider of Service file.

^c Inpatient work is defined as services billed under Part B for a hospitalized patient, or work performed by an attending physician or surgeon.

Source: Fisher et al. 2006

82 percent of evaluation and management services and for 76 percent of admissions. Secondary hospitals may be important to consider when the primary hospital is small, because many services are provided only at larger or more specialized hospitals. How secondary EHMSs would be considered in an SGR-like system would have to be determined.

Table 9-2**Most beneficiaries' care is concentrated in one (primary) EHMS**

	EHMSs at:					
	Urban hospitals				Rural hospitals	
	All	Large*	Medium	Small	Large/ Medium	Small
Hospitals	4,772	766	1,708	568	368	1,362
Beneficiaries	5,139,000	2,474,000	1,891,000	130,000	307,000	337,000

Primary EHMS

Percent of all E&M billings	73%	76%	72%	62%	72%	58%
Percent of hospital admissions						
All	64	66	63	51	67	54
Medical	68	67	68	62	77	69
Surgical	52	63	49	25	41	16

Primary or secondary EHMS**

Percent of all E&M billings	82	84	83	79	82	77
Percent of hospital admissions						
All	76	77	76	73	78	73
Medical	79	78	80	80	84	82
Surgical	71	76	69	60	66	55

Note: EHMS (extended hospital medical staff), E&M (evaluation and management). EHMSs are groups of physicians defined by the hospital where their patients seek care. For physicians with inpatient work, the relationship is measured by their own encounters in the hospital; for those with no inpatient work, it is based on their patients' encounters. Concentration is based on all claims (including those for other physicians) for patients seen by physicians in an EHMS.

* Hospital size is defined by the number of Medicare discharges in 2003, categorized as large (more than 5,000 discharges), medium (between 5,000 and 500 discharges), and small (fewer than 500 discharges). Rural hospitals are those whose ZIP code is classified as small rural town or isolated rural town according to the four-level Rural-Urban Commuting Area code; all other hospitals are urban.

** Secondary hospital is the second most frequently used hospital, based on hospital admissions for the cohort of patients assigned to a specific primary hospital.

Source: Fisher et al. 2006

Looking at the set of beneficiaries assigned to an EHMS and its primary hospital, on average that hospital accounts for 64 percent of their hospital admissions. The primary hospital accounts for slightly more of the beneficiaries' medical admissions (68 percent) and less of their surgical admissions (52 percent).

Surgical admissions show the greatest variation across hospital types. In large urban hospitals, 63 percent of surgical admissions for the assigned beneficiaries are in the primary hospital, whereas

that figure is only 16 percent in small rural hospitals. If admissions at secondary hospitals are included, that statistic for surgical admissions increases to 55 percent in small rural hospitals and 76 percent in large urban hospitals.

Thus, the EHMS to which a beneficiary is assigned provides a high percentage of the beneficiary's total care. That percentage is highest in EHMSs at large and medium-sized hospitals in all areas of the country. The vast majority (more than 90 percent) of the beneficiaries in the sample are assigned to those groups. The concentration is less for EHMSs at smaller hospitals, although when secondary hospitals are taken into account, a high degree of care is concentrated even in those EHMSs. In some cases, small, primary EHMSs and a secondary EHMS may already be formally organized as delivery systems. In such cases, it may be possible to consolidate them and thus account for a high percentage of assigned beneficiaries' care.

Would EHMSs contribute to performance measurement?

Measuring quality at the EHMS level instead of at the individual physician level would have some advantages because the panel of patients would usually be larger. Other things being equal, larger numbers of patients provide more observations for quality measurement and more confidence in the resulting statistics. Fisher and colleagues find that, at the EHMS level, 98 percent of physicians are affiliated with EHMSs that serve more than 500 Medicare beneficiaries. (However, some physicians will be in EHMSs that are too small for meaningful quality measurement for some conditions; 10 percent of EHMSs have 88 or fewer assigned beneficiaries.)

Another important finding with regard to using EHMSs in an SGR-like system is that EHMSs with high levels of use are correlated with high growth in physicians' services. Fisher and Gottlieb found that when EHMSs were stratified by a model of absolute growth in dollars per year for physician services per beneficiary from 1999 to 2003, the lowest quintile had an absolute change of \$198 and the highest changed by \$936 (Table 9-3) (Fisher and Gottlieb 2006). The highest quintile also had the largest percent change over those years and started from the highest level. This means that targets set in terms of percent growth, absolute growth, or contribution to growth would all tend to capture the same set of EHMSs and, on average, capture the set of EHMSs with the highest level of spending.

Advantages

The immediate advantages of the EHMS model are the improved alignment of incentives in the system and the potential for peer communication and review to moderate use of services and improve quality of care (assuming physicians accept assignment to an EHMS as legitimate). If this potential were realized, using EHMSs as accountable groups might help moderate decisions to increase capacity throughout the U.S. health care system.

Table 9-3

EHMSs for which physician payment grew more started at higher levels of payment

Quintile of growth*	Growth		Level of payment	
	Absolute	Percent	1999	2003
Lowest	\$198	11%	\$1,824	\$2,022
Second	431	22	1,918	2,349
Third	551	27	2,017	2,568
Fourth	675	32	2,123	2,798
Highest	936	40	2,344	3,280

Note: EHMS (extended hospital medical staff). EHMSs are groups of physicians defined by the hospital where their patients seek care. For physicians with inpatient work, the relationship is measured by their own encounters in the hospital; for those with no inpatient work, it is based on their patients' encounters.

*Absolute change from 1999 to 2003 in average annual spending on physician services per beneficiary at EHMS. Payments are standardized using 2003 relative value unit (RVU) conversion of \$36.70/RVU; therefore, payments can be viewed as being fully adjusted for inflation. They only reflect increases in RVU per beneficiary.

Source: Fisher and Gottlieb 2006.

Immediate advantages of EHMS-level targets

An SGR-like system that sets targets at national or regional levels for EHMSs could more closely align incentives between the accountable group and the member physicians than the current SGR system. Although the size of EHMSs would vary substantially, each would be much smaller than the current national pool of all physicians. Individual physicians could more readily see a link between their actions and their EHMS meeting its target than in the current SGR. Also, because of the empirical construction of the groups, based on where they practice and where their patients go, physicians should have some stake in the EHMS to which they are assigned.

Peer-to-peer communication within the EHMS may make incentives at the EHMS level more effective than the current nationwide incentive. Because EHMSs are local and related by referral patterns, physicians in the groups may know each other and the hospital staff, certainly more so than in the current system. Simply reporting resource use and quality scores confidentially within the group might have a salutary effect on practice patterns. Some of these measures could be at the level of the individual physician. This might mitigate, to some extent, the problem of a physician with a poor score relying on the group's good score, the "free-rider problem." Scores at the EHMS level could also be made public. Physicians in EHMSs with poor scores might then be motivated to improve their EHMS so it would compare more favorably with others.

For individual physicians, the immediate reward from scheduling an additional visit or performing an additional test may still outweigh longer range concerns about their EHMS

meeting its target. However, they would still have some incentive to modify practice and, in particular, referral patterns because referrals do not generate an immediate financial reward but could well influence the success of the EHMS.

Longer run advantages of EHMS-level targets

In the longer run, using EHMSs in an SGR-like system has two potential advantages: making performance measurement more practical and moderating decisions to increase capacity throughout the U.S. health care system.

Performance measurement

As discussed previously, assigning physicians and patients to EHMSs and measuring quality at that level would increase confidence in the measures' accuracy because there would usually be more patients and medical encounters at the EHMS level than at the level of the individual physician. Analysis at the EHMS level might also allow use of more longitudinal measures across the entire episode of care because most of the physicians who provide care to a patient population over a period of time would be included in the EHMS.

Moderating decisions to increase capacity

Research shows that higher spending in certain regions of the United States is largely due to greater use of discretionary “supply-sensitive” services: specialist consultations, tests, imaging services, and the use of intensive care units in the last six months of life (Wennberg et al. 2002). Patient preferences and differences in malpractice insurance do not explain these differences. Other research shows that physicians in higher spending regions have more intensive practice patterns in these discretionary settings (Sirovich et al. 2005).

The key question is: Would using EHMSs in an SGR-like system tend to decrease growth in the supply of resources, such as computed tomography scanners and hospital beds, that have been associated with increased spending levels? Over time, if physicians and institutions in EHMSs were judged on their performance and resource use, decisions to increase capacity might be moderated. For example, on the one hand, recruiting additional specialists into an EHMS and purchasing advanced imaging equipment might be discouraged, because these actions would make it more difficult to keep growth within targets. On the other hand, investing in care management and efficiently using post-acute care might be encouraged, because they could reduce overall use of resources and result in higher quality care. Progress on this front would probably require that EHMSs develop an organizational identity and capability beyond simple identification as an empirically derived group. As such organizational capabilities developed, they might in turn lead to increased investment in health information systems, care management protocols, and quality improvement initiatives. These capabilities might converge with the criteria discussed in the multispecialty group practice option.

Disadvantages

While the potential advantages of fostering accountability at the level of the hospital medical staff are substantial, there are serious barriers to this option.

Are hospital medical staffs an effective vehicle for change?

In a recent *Health Affairs* article, Smithson and Baker argue that medical staff organizations do not function well now and have little potential to do better in the future (Smithson and Baker 2006). They point out that medical staff organizations developed as a compromise between physicians seeking to maintain their autonomy and hospitals seeking to increase organizational efficiency. They contend that current medical staff organizations have had little success improving quality and that the involvement of office-based physicians in medical staff organizations is declining.

Berenson, Ginsburg, and May find that hospitals increasingly see physicians as potential competitors for profitable services, such as ambulatory surgery and complex imaging, and as unwilling to provide coverage in the emergency department (Berenson et al. 2006). In addition, many physicians no longer go to the hospital when their patients are admitted. Instead, hospitalists and other hospital-based physicians care for patients in the hospital. They conclude, “Although there are increasing expectations that health system challenges will lead hospitals and physicians to collaborate, in many markets the willingness and ability for hospitals and physicians to work together is actually eroding.”

The combination of a history of ineffective medical staff organizations and current trends dividing hospitals and physicians might make it difficult to energize and organize EHMSs. In most cases, when first defined, EHMSs would have no formal structure. They would have to organize and create structures and mechanisms for control. Present conditions might make this unlikely and prevent them from becoming an effective vehicle for change.

Would physicians resist assignment to an EHMS?

Physicians may well resist being assigned by CMS to an entity toward which they feel no affinity and over which they have no control. Holding them accountable for the behavior of the entity might also be judged as arbitrary and going against the tradition of professional autonomy and individual responsibility. Moreover, for physicians without hospital visits, their assignment would depend on their patients’ decisions about what other doctors they see and to what hospitals they are admitted. These physicians in particular might believe the assignment was something over which they had little influence. Organized resistance might make this option infeasible.

Other obstacles

There would also be many legal and implementation challenges that would be difficult to overcome. There are legal obstacles to physician–hospital collaboration. For example, currently case-by-case exceptions to anti-kickback rules have to be granted for gainsharing arrangements between hospitals and physicians. Implementation challenges would include setting targets, selecting measures, constructing risk adjusters, collecting data, and making assignments as well as myriad other steps, which would constitute administrative burdens for CMS and present difficult technical problems. In addition, decisions will need to be made about what to do with physicians who practice in psychiatric, rehabilitation, and long-term care hospitals. Any of these obstacles would present a challenge; overcoming them all would require a concerted effort.

Other policy directions

In addition to being the platform for an SGR-like volume control mechanism as we have discussed, the EHMS could be useful to further other policy goals. Performance measurement and public reporting could be done at the EHMS level. Reporting at this level instead of at the level of the individual physician may be more practical and timely and would mitigate the problem of attributing patient care when a patient sees multiple doctors. In addition, there may be less resistance to public reporting at the EHMS level. (Confidential reporting of resource use should also be pursued at the individual level as the Commission recommended in its March 2005 report.) ■

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Endnotes

- 1 Beneficiaries are assigned to physicians based on the number of visits in the 24-month period after the first visit. The full three years of claims are used for assigning physicians to EHMSs.

C H A P T E R

10

Outlier alternative

The Congress asked the Commission to look at outliers, which are commonly understood to mean very unusual providers or cases, as one of the options for reforming the SGR. We have interpreted this request as signaling an interest in looking at provider practice patterns or clinical resource measurement. A clinical resource measurement policy could be used to identify physicians with very high use of resources relative to their peers, or it could be used more broadly to affect the practice patterns of all physicians. It could also be used to identify physicians with average overall resource use relative to their peers but with high use for certain cases or conditions. A clinical resource measurement policy could be viewed as part of the existing SGR payment system or as another option to be pursued outside the SGR. The policy could also be used in conjunction with some of the other options discussed in this report.

Design

Private plans are increasingly measuring physicians' resource use to contain costs and improve quality. The Commission identified this trend in a series of interviews staff conducted with health plans and consultants (MedPAC 2004). Nearly all plans and purchasers mentioned measuring the use of clinical resources and identifying outliers as central to their strategies for cost containment and quality improvement. Some collected information and gave it to patients or providers, others used it as a basis for bonus payments to providers, and still others used it to select providers for preferred tiers or limited network plans. While the use of claims data can result in the loss of some of the nuance and medical judgment that comes with reviewing medical charts, it is a relatively low-cost way to assess the performance of doctors.

Episode groupers are software packages that use clinical logic to assign claims to clinically distinct episodes of care—a series of clinically related health care services over a defined time period, such as all claims related to a patient's diabetes. Episode groupers use all types of health care claims: inpatient admissions, physician visits, other outpatient services, and prescription drugs.

A physician's resource use for selected episodes of care can be compared with the average resource use for similar episodes by peers. This may provide information that is more detailed and thus more actionable than analyses that look at all types of care provided in a physician's practice. For example, a physician might treat certain patients or conditions in a more resource-intensive manner than others, but when all the physician's patients are combined in an analysis of per capita spending, the physician appears to have average resource use. An episode grouper has the potential to identify differences in practice patterns as well as the reasons why a physician treats certain patients or conditions differently from his or her peers.

Several available policy options could use episode groupers to identify outliers. CMS could provide confidential feedback of results to physicians in the hope that knowing about their performance relative to their peers will spur physicians with more extreme practice patterns to change their practice style. Providing feedback on patterns of use directly to physicians has been shown to have a statistically significant, but small, downward effect on resource use (Balas et al.

1996, Schoenbaum and Murray 1992). Because Medicare is the largest single purchaser of health care, its feedback on clinical resource measurement is likely to be more successful than previous experience in the private sector. In addition, because Medicare's reports would be based on more patients than reports produced by private plans, they may have greater validity and acceptance from physicians. Using such reports to inform physicians confidentially would allow CMS to gain experience with the measurement tool and engage with physicians in identifying any need for refinements. Physicians could review the results, change their practice as they see appropriate, and help shape the measurement tool.

Once CMS gained experience and confidence in tools for measuring clinical resource use, policymakers could use the information in other ways. For example, a clinical resource measurement policy could be used as a component of a pay-for-performance program (which rewards both quality and resource use) or to enable beneficiaries to identify physicians with high-quality care and more conservative practice styles. Alternatively, a high clinical resource measurement score could trigger an external medical review of a physician's practice. Another alternative would be to assign providers to different tiers or change their payments or payment updates based on their clinical resource measurement status. A final policy option would be to exclude outlier providers from the Medicare program.

Analysis

Little is known about the distribution of outliers among Medicare physicians. We first present information from a national snapshot of physician spending, using average per capita spending as the benchmark. We find that a significant share of spending comes from physicians with the highest per patient spending for their specialty.

Then, we explore the feasibility of using episode groupers to identify physician outliers and discuss technical issues that need to be addressed when using episode groupers. Our analysis shows that episode groupers can be used with Medicare data. These grouping systems are able to provide considerable detail on why physicians might differ from their comparison group, including the mix of services they furnish, the types and severity of patients they see, and the mix of resources they use or order in patient care.

The magnitude of Medicare spending on physician outliers

By definition, outliers are considered extremely unusual observations that fall well beyond the general pattern of a distribution. Before investing the resources to measure and report resource use, we ask: Do payments to outlier physicians account for enough Medicare dollars to warrant efforts to reduce outlier spending? We find that the small percentage of physicians that we consider to be outliers account for 7.5 percent of Part B payments (\$4.6 billion) (Table 10-1).

Table 10-1**Percent of physicians and spending increase
as outlier thresholds decrease, 2005**

Outlier threshold (standard deviations)	Percent of physicians	Total payments to these physicians (in billions)	Percent of Part B payments
≥2.0	1.9%	\$4.6	7.5%
≥1.5	3.1	6.5	10.9
≥1.0	5.6	10.4	17.0

Note: The outlier distribution compares physicians' mean per capita payments with those of their entire specialty. This analysis includes doctors who are nonphysician providers, such as chiropractors and podiatrists. All payments are adjusted by the geographic adjustment factor to control for payment differences due to geographic practice cost indices.

Source: MedPAC analysis of CMS Health Care Information System data, 2005.

We analyzed Part B payments to individual providers in 2005 to identify statistical outliers within specialties, based on per capita spending.¹ We defined outliers as having a mean per capita spending at least 2 standard deviations above the mean for their specialties. We used per capita payments, rather than total payments, to control for the size of physicians' Medicare caseloads. We computed these payments within each specialty, rather than among all physicians, to control for differences in the types of services different specialties typically provide. For example, cardiothoracic surgeons' mean per patient spending is considerably higher than that of dermatologists. We also adjusted payment by the geographic adjustment factor to control for payment differences due to geographic practice cost indices. However, this method of identifying outliers is still imperfect; for example, it does not control for the relative severity of conditions among each physician's patients. Instead, the goal here is to provide a sense of the distribution of per capita physician spending.

In 2005, 1.9 percent of physicians had per capita spending more than 2 standard deviations above the mean for their specialty. Part B payments to these physicians totaled \$4.6 billion—7.5 percent of Medicare's total physician payments for that year. (Table 10-1 shows statistics if we use lower thresholds to identify outliers.) If the Part A spending associated with the patients of outlier physicians is also well above average, policies to change physician practice patterns in Part B could affect Part A spending.

This example provides a sense of the dollars Medicare could capture by introducing policies to change physicians' practice styles. Of course, if physicians practiced more conservatively, these dollars would not be eliminated, but the total could be reduced. Under any payment policy, the methodology for identifying physician outliers would have to be accurate enough to account for physicians who regularly see particularly high-acuity patients and patients with extremely rare diseases.

Using episode groupers on Medicare claims

One way to identify outliers is to examine resource use within episodes of care. The following discussion explores the use of episode grouper software to identify outlier physicians. Our analysis focuses on a number of technical and policy issues that could affect how Medicare uses episode groupers as a component of a physician outlier payment policy. We find that:

- Episode groupers can assign Medicare claims to episodes, and the patterns of assignment may have face validity from a clinical perspective.
- We can assign episodes to physicians.
- We can use the episodes to identify physicians within a market and specialty whose practice patterns differ from those of their peers.
- Episode groupers have risk adjustment capabilities that can account for differences in disease severity and the presence of comorbidities.

We conclude the chapter with an illustration, based on actual Medicare claims data, of how episode groupers can be used to assess the performance of a cardiologist in Boston.

Our analysis uses the types of episode groupers that private health plans use. We applied them in six market areas to look at geographic differences. To eliminate payment differences beyond providers' control, we took out the effects of payment policy differences among providers and areas.

Grouping programs and methods

We used two commercially available grouper tools—Episode Treatment Groups (ETGs), developed by Symmetry Health Data Systems, and Medstat Episode Groups (MEGs), developed by Thomson Medstat. The results presented here pertain to application of the ETG and MEG groupers to a 100 percent sample of Medicare claims from calendar years 2001, 2002, and 2003 in six selected metropolitan statistical areas (MSAs). This work is intended to assess the suitability of these groupers for processing Medicare claims and building physician-level indicators of clinical resource use. It also speaks to the feasibility of developing the building blocks of a payment strategy based on identifying outliers.

We used Medicare claims for beneficiaries living in six MSAs: Boston, MA; Greenville, NC; Miami, FL; Minneapolis, MN; Orange County, CA; and Phoenix, AZ. We processed 213 million claims from the physician, hospital inpatient, hospital outpatient, skilled nursing facility, and home health settings from calendar years 2001, 2002, and 2003 through both episode groupers.²

Measuring resources through Medicare payments

To help compare resource use in each episode, we standardized payments by excluding variation in resource costs due to geographic differences in input costs or policy considerations (e.g.,

Table 10-2**Almost all claims could be assigned to an ETG episode**

Type of claim	Boston	Greenville	Miami	Minneapolis	Orange County	Phoenix
All	96%	97%	97%	97%	96%	97%
Critical access hospital	100	100	100	100	100	100
Home health care	96	96	97	97	97	97
Long-term care hospital	96	98	97	98	97	98
Outpatient	96	96	96	96	94	95
Physician	96	97	97	97	96	97
PPS hospital	100	99	99	100	100	100
Psychiatric hospital	98	99	98	96	99	99
Rehabilitation hospital	98	100	99	97	99	99
Skilled nursing facility	97	97	97	98	97	98

Note: ETG (Episode Treatment Group), PPS (prospective payment system).

Source: MedPAC analysis of 100 percent sample of 2002 Medicare claims using the ETG grouper from Symmetry Health Data Systems.

teaching payments). For example, for the same discharge diagnosis, Medicare pays a rural community hospital less than it pays a major teaching hospital in an urban area because of differences in the wage index, disproportionate share hospital, and indirect and direct graduate medical education payments. For this analysis, we wanted resources spent on, for example, a hospital admission for stroke to be comparable across geographic areas and facility types. Removing the effects of payment policies allows us to conclude that underlying differences in clinical resource use are due to differences in practice patterns.

Payment rates were easier to standardize in some settings than in others. For inpatient prospective payment system (PPS) hospitals, linking each diagnosis related group (DRG) to the appropriate standardized base payment and then multiplying by the weight for that DRG was a relatively straightforward task. For physician claims, we matched the line item on each claim to the physician fee schedule relative value file and multiplied by the conversion factor.

We also developed ways to address differences in payment formulas that are more difficult to standardize. Among them are pass-through payments for devices in hospital outpatient departments during the study period, laboratory payments, and payments under the skilled nursing facility PPS.³

Assigning Medicare claims to episodes

Both groupers assigned a high share of Medicare claims to episodes. Across all MSAs, the software grouped more than 95 percent of claims to episodes (Table 10-2). The groupers were

also successful at assigning claims from all types of providers to episodes, including settings where Medicare is the dominant payer, such as long-term care hospitals (LTCHs), rehabilitation hospitals, and psychiatric hospitals. The proportion of LTCH claims assigned to episodes ranged from 96 percent in Boston to 98 percent in Greenville, Minneapolis, and Phoenix. Similarly, the proportion of rehabilitation hospital claims ranged from 97 percent in Minneapolis to 100 percent in Greenville (Table 10-2). Hospital outpatient department claims had the lowest grouping rates, ranging from 94 percent in Orange County to 96 percent in Boston, Greenville, Miami, and Minneapolis.

The types of episodes to which claims were assigned also appeared to have clinical face validity. Specifically, we examined the types of episodes to which claims from the rehabilitation, psychiatric, and LTCH settings were most frequently grouped, and the results suggested that the groupers were assigning claims from these settings to appropriate episodes. For example, more than 90 percent of psychiatric hospital claims were grouped to episodes involving schizophrenia, bipolar disorder, dementia, or alcohol or drug dependence. Most claims for rehabilitation hospitals were grouped to episodes involving hip replacement or other joint injuries, stroke or other brain trauma, and cardiovascular disease (data not shown).

Assigning episodes to physicians

One of the main goals of grouping claims into episodes is to attribute episodes to physicians and ultimately to identify efficient physicians across the variety of episodes attributed to them. In the private sector, some plan types formally assign patients to a provider, so attribution is relatively straightforward. However, in other plan types and the Medicare fee-for-service program, patients have greater freedom to see any physician. This structure makes attribution less straightforward. Users of episode grouper software must use patterns in claims data to identify an individual physician who sees a patient for a significant portion of his or her care during a given episode.

In an earlier analysis of a 5 percent sample of Medicare data, we found that the key factor in attributing episodes to physicians was where we picked the threshold for attribution (MedPAC 2006). For this analysis using 100 percent data from six MSAs, we used a 35 percent threshold of evaluation and management (E&M) dollars; that is, if a physician was responsible for at least 35 percent of the E&M dollars in a given episode, we attributed that episode, and all its costs, to that physician.

Our analysis for this report is consistent with results from the earlier analysis using a 5 percent sample of Medicare claims published in the Commission's June 2006 report (MedPAC 2006). In that analysis, using a 35 percent threshold of E&M dollars, 88 percent of a selected set of episodes were attributed to providers, including 83 percent of coronary artery disease (CAD) episodes, 93 percent of hypertension episodes, and 95 percent of sinusitis episodes. In the analysis for this report, using a 35 percent threshold of E&M dollars, 80 percent of all episodes were attributed to providers, including 83 percent of CAD episodes, 88 percent of hypertension episodes, and 94 percent of sinusitis episodes. (One would expect attribution rates across all conditions to be somewhat lower because it may be difficult to assign responsibility for very

Table 10-3**Most episodes could be attributed to a physician**

MSA	All ETGs	CAD	Hypertension	Sinusitis
All six MSAs	80%	83%	88%	94%
Boston	81	83	88	95
Greenville	82	82	88	95
Miami	78	84	89	85
Minneapolis	79	76	85	94
Orange County	80	86	90	93
Phoenix	79	84	87	94

Note: MSA (metropolitan statistical area), ETG (Episode Treatment Group), CAD (coronary artery disease).

Source: MedPAC analysis of 100 percent sample of 2001–2003 Medicare claims in six MSAs using the ETG grouper from Symmetry Health Data Systems.

low incidence episodes). These attribution results are generally consistent across the six selected MSAs (Table 10-3).

Policymakers should not interpret our use of a 35 percent threshold of E&M dollars as a recommendation. While the Commission has focused its analyses primarily on technical approaches to attribution, we acknowledge that the extent to which accountability should be derived from these types of attribution rules needs further discussion. In a payment system with as many providers as Medicare fee-for-service, a physician with 35 percent of the E&M dollars in a given episode may not be aware of the type of care others are providing within the same episode. For some episodes, meaningful accountability might rest with a single physician, while accountability for other episodes might rest with a team of physicians or even a facility. In some instances, the cooperation of a hospital and its physicians is important for efficiency. A single attribution approach may not fit all types of episodes. On the other hand, the use of different attribution methods may lead to confusion among providers, particularly if a single provider is attributed multiple episodes by different attribution methods.

Once we attribute individual episodes to providers, we must then aggregate all episodes provided by a unique provider to construct a caseload of all the care provided by that physician. From this sample of physician-level episode totals, the final pool of physicians to be measured will be defined and averages will be calculated for comparison. Researchers and private plans using these tools generally agree that it is statistically invalid and unfair to calculate clinical resource use scores for an individual who has too few episodes. Generally, physicians should have at least 20 to 35 episodes for clinical resource use scores to be measured or reported.

For this analysis, we excluded any physician with fewer than 20 attributed episodes. With this threshold, we captured 60 percent to 70 percent of physicians in each specialty who provided any Medicare services in most MSAs.

Deciding which types of episodes to use to measure performance

Ideally, measuring resource use would give physicians an idea of how they perform relative to their peers for the types of cases that are representative of what they do. One would not want physicians' scores to be driven by rare or atypical episodes. Our analysis found that some specialties, particularly those that deliver primary care, treat a wide variety of episodes. Other, more specialized types of medicine focus much more on a narrower set of episodes.

Our next step in using the groupers to compare physicians addressed the question of the minimum number of each type of episode. For example, in addition to having at least 20 total episodes, should a physician have at least 3 of any type of episode for them to count toward the overall score? On the one hand, deriving part of a score from a type of episode that a physician rarely treats may be unfair. On the other hand, physicians with relatively diffuse practice styles may have a large number of total episodes but a small number of any given type of episode. For example, some oncologists focus on certain kinds of cancer while others see a broad range of cancers. Excluding physicians who do not meet minimum individual episode thresholds could affect specialties such as general practice and internal medicine and limit the pool of comparison physicians.

One way to ensure that reports do not penalize physicians for low-incidence episodes is to restrict comparisons to a market basket of the most frequent types of episodes for each specialty. One can evaluate specialties on what they do most frequently and eliminate potentially confounding results brought about by incorporating scores from low-volume episodes. However, in preliminary analysis, we found little difference in overall average physician scores by specialty when we calculated scores across all episodes or selected episodes thought to be more representative of that specialty's market basket.

To assess the amount of dispersion in types of episodes by specialty, we analyzed the most frequently occurring episodes for a range of specialties. The types of episodes seen by different specialties are quite diffuse. Among episodes attributed to general practitioners or internal medicine physicians, 70 or more different episode types account for 80 percent of all their episodes (Table 10-4). In other specialties such as urology, dermatology, and cardiology, most episodes (and dollars) are concentrated among a small number of episodes. For example, while urologists see 290 different types of episodes, 7 (benign and malignant neoplasm of the prostate, urinary tract infection, urinary incontinence, kidney stones, inflammation of the genitourinary system, and urological disease signs and symptoms) account for more than 80 percent of the total. Similarly, 20 episode types account for 80 percent of all episodes seen by cardiologists (Table 10-4).

Table 10-4**Some specialties treat many types of episodes, but focus on a few**

Specialty	Number of different types of episodes	Number of episode types that make up 80 percent of total episodes
Dermatology	268	3
Urology	290	7
Orthopedic surgery	289	9
Cardiology	354	20
Pulmonary disease	343	43
General surgery	358	62
Family practice	385	63
General practice	369	70
Internal medicine	384	71

Source: MedPAC analysis of 100 percent sample of 2001–2003 Medicare claims in six metropolitan statistical areas using the Episode Treatment Group grouper from Symmetry Health Data Systems.

Comparing physicians

To calculate physician scores, a physician’s resource use for a given episode must be compared with an expected value. Ideally, one would use an evidence-based guideline, but in most cases we do not know the ideal mix of inputs to produce the best outcome. Instead, we tend to compare individual physician scores with the average. For this analysis, we compared physicians with other physicians in the same market area and the same specialty. Depending on the policy goal, one could choose other comparison groups. We find there is a distribution of performance within each of the six market areas, with quite a similar distribution within each of them.

Expected values can be calculated in many ways, including, but not limited to:

- averaging episode costs nationally
- averaging episode costs regionally—for example, at the state or MSA level
- averaging episode costs by specialty, either nationally or regionally

Distribution of performance within markets

For this analysis, we calculated the average cost per type of episode within each MSA for each specialty. For example, the costs for an endocrinologist with an episode of type 1 diabetes were compared with the average cost for all endocrinologist type 1 diabetes episodes in that MSA. If

Table 10-5**Distribution of resource use scores for cardiologists in six MSAs**

MSA	10th percentile	25th percentile	Median	Mean	75th percentile	90th percentile
Boston	0.64	0.75	0.92	1.00	1.14	1.45
Greenville	0.67	0.78	0.99	1.00	1.12	1.33
Miami	0.65	0.75	0.94	1.00	1.10	1.47
Minneapolis	0.63	0.79	0.98	1.00	1.18	1.37
Orange County	0.61	0.77	0.97	1.00	1.20	1.42
Phoenix	0.58	0.72	0.92	1.00	1.19	1.62

Note: MSA (metropolitan statistical area). Resource use score is the ratio of a provider's resource use to the average for the specialty within the area.

Source: MedPAC analysis of 100 percent sample of 2001–2003 Medicare claims in six metropolitan statistical areas using the Episode Treatment Group grouper from Symmetry Health Data Systems.

a physician's resource use for a given episode was \$120 and the expected value (average clinical resource measurement across all episodes of that type within that specialty) for that episode was \$100, the physician's score for that episode would be 1.2 (1.0 being the average). We aggregated each physician's score on each episode into an overall unweighted average score for that physician.

Our results are largely consistent with a Cave Consulting Group analysis of Medicare data performed using an episode grouper (MedPAC 2005). For example, 25 percent of cardiologists that could be measured in the Boston MSA have an overall clinical resource measurement score of 0.75 or lower, which means they use at least 25 percent fewer resources than the average physician in Boston. At the other end of the spectrum, 10 percent of the cardiologists that could be measured in the Boston MSA had an overall clinical resource use score of 1.45 or higher, which means they use at least 45 percent more resources than the average cardiologist in Boston (Table 10-5).

Overall scores such as these could be used to identify outlier physicians, although there would have to be additional research and discussion on the appropriate outlier threshold. Alternatively, scores could be given to all physicians to affect practice patterns more broadly. These patterns are relatively consistent across MSAs, although the average physician score at each percentile differs somewhat, most notably at the 90th percentile in Phoenix, where cardiologists above this threshold use at least 62 percent more resources than average. However, several additional issues that could affect a physician's final score need to be considered. We discuss these next.

Comparing physicians across market areas

One long-term goal for Medicare could be to reduce variation in practice patterns across the nation. Before the Commission began this work using a national sample of Medicare claims, few researchers had used episode groupers on a national sample of claims. Such an approach is similar to work by Fisher and colleagues, who have examined geographic differences in practice patterns (Fisher et al. 2003). Many health plans currently using episode groupers are restricted not only to the regions where they do business but also to the physicians with whom they have contracted; few health plans contract with all physicians in a given region.

However, in recent research the Commission has found that systematic differences in episode costs across certain regions might lead to situations in which most or all physicians in a given region could be unfairly determined to be inefficient. For example, per episode costs for CAD are significantly lower in Miami than they are in Minneapolis, yet per capita costs for the same patients show the opposite effect, with per capita costs higher in Miami. This is because beneficiaries in Miami have more episodes of care than beneficiaries in Minneapolis, thus reducing their per episode costs (MedPAC 2006) (see text box, p. 164). While the ultimate goal should be for all physicians to treat patients efficiently, in the short-term, holding physicians accountable to a national expected value might be unrealistic and might hinder their acceptance of episode grouping approaches. By measuring within specialty and within a market, physicians can be introduced to the concept of being measured against the performance of their most proximate peers, who probably practice medicine in a similar way. In the long-term, however, cross-market comparisons need to be examined if the goal is to change regional differences in practice patterns. Per capita information, in addition to per episode information, needs to be included in these comparisons.

Example of comparing a physician with peers

In this section, we compare the resource use of an actual physician with the averages for his specialty within the market area. We demonstrate how the comparison can be broken down by type of case—both the stage of disease and the presence of comorbidities in patients. We then break down the comparison by the types of services that went into the selected episodes. The result is a comparison that can provide useful feedback to physicians about why their performance differs from that of their peers.

As discussed previously, we choose to compare the physician with others in the same specialty. In practice, an average is calculated across all occurrences of a given episode and each physician's resource use for each occurrence of that episode is compared with this expected value. However, different physician specialties may care for a given disease at different stages in its progress, and these stages might have very different levels of clinical resource measurement. For example, cardiologists may generally deal with more advanced episodes of CAD than general practitioners, with correspondingly higher clinical resource measurement.

In other words, specialty-specific expected values could also be viewed as a proxy for risk adjustment. This would compare specialists with similar specialists and could mitigate concerns

Table 10-6**Resource use scores for a Boston cardiologist vary by type of episode**

Type of episode	Episodes		Score compared with:	
	Number	Percent	All Boston physicians	All Boston cardiologists
Total	250	100%	0.97	1.04
Essential hypertension	156	62	1.56	1.69
CAD	46	18	0.85	0.98
Arrhythmias	32	13	0.47	0.45
All other	16	7	0.31	0.28

Note: CAD (coronary artery disease). Resource use score is the ratio of the cardiologist's resource use to the average for cardiologists in Boston.

Source: MedPAC analysis of 100 percent sample of 2001–2003 Medicare claims using the Episode Treatment Group grouper from Symmetry Health Data Systems.

that different specialties treat different stages of the same episode. However, calculating specialty-specific expected values could also blunt any ability to distinguish whether certain specialties treat similar conditions in a less resource intensive way than others (i.e., a primary care physician may use fewer resources to treat stage 1 hypertension than a cardiologist). Over time, it may be useful to move toward cross-specialty comparisons.

Overall comparison before taking patient differences into account

We look at an example of an individual cardiologist in Boston to compare a physician's clinical resource use with an overall expected value (an average across all specialties for the Boston MSA) and with a specialty-specific expected value. This cardiologist has 250 episodes; most (93 percent) are for hypertension, CAD, and arrhythmias (Table 10-6). Observed clinical resource measurement is compared with expected clinical resource measurement and ratios are calculated for each episode type. Ratios greater than 1.0 indicate higher-than-average values for clinical resource measurement (observed greater than expected) and ratios less than 1.0 indicate lower-than-average values for clinical resource measurement (observed lower than expected). Using an expected clinical resource measurement value based on all physicians in the Boston area, our selected cardiologist's overall observed-to-expected ratio for all episodes is 0.97, or slightly lower than average clinical resource measurement. However, when we use an expected clinical resource measurement value for cardiologists in Boston, his overall observed-to-expected ratio is 1.04, or slightly higher than average clinical resource measurement. Because our cardiologist's overall clinical resource measurement score increases when we change the peer group comparison from all Boston physicians to Boston cardiologists, one can extrapolate that Boston cardiologists treat these conditions with slightly fewer resources than all Boston physicians.

Additionally, observed-to-expected ratios vary by type of episode. Our sample cardiologist uses more resources than average to treat hypertension (1.69), an average amount of resources to treat CAD (0.98), and fewer resources than average to treat arrhythmias (0.45) (Table 10-6). This pattern of clinical resource measurement was relatively consistent regardless of whether our selected cardiologist was compared with all physicians in the Boston MSA or only cardiologists in the Boston MSA.

Taking patient differences into account

An important question about episode groupers is whether they account for the underlying health status of beneficiaries. Some researchers and physicians are concerned that differences in health status among patients may influence treatment costs within episodes and that the average health status of patients may differ among physicians (Thomas 2006). Without adjusting for risk, physicians who care for less severely ill patients may look more efficient than those who care for more severely ill patients. When we consider the differences in the patient mix for our sample physician, we find he sees a less severely ill mix of patients, which makes him even more resource intensive than his peers. We also see that the mix of patients varies by the type of condition he treats.

Both the ETG grouper and the MEG grouper have additional capabilities that can be used to risk-adjust episodes.⁴ Risk adjustment can account for differences in health status that go beyond a particular disease (which the episode grouper is trying to capture). The ETG software uses a companion product known as Episode Risk Groups, which classifies a patient by episode and then looks at a person's age, gender, and mix of episodes to create a clinical and demographic risk profile. Using this risk profile, the software computes both a retrospective and a prospective risk score for each person.

The MEG grouper uses the Diagnostic Cost Grouper method, which considers the conditions and diseases for which a person receives treatment over a specified time (usually one year) and the person's age and gender. The model estimates the level of expected clinical resource measurement in a given year as a function of medical problems treated in that year and creates a relative risk score (Thomson Medstat 2005). Combined with the disease staging approach, researchers can segment episodes according to both episode severity and patient complexity (sample size permitting).

This approach can further refine comparisons within and across episodes. Ultimately, it also makes it possible to construct an overall risk score for a physician's caseload of patients, which can indicate whether a physician saw a patient population that was more healthy or less healthy than average. Under this risk-adjustment technique, each hypertension episode stage is subdivided into five categories of overall patient complexity, ranging from 1 (low complexity) to 5 (high complexity), and then resource use is compared for each category. Average clinical resource measurement in our analysis increases as patient complexity increases. Average clinical resource measurement for stage 1 hypertension episodes with a relative risk score of 1 is \$251, while average clinical resource measurement for stage 3 hypertension episodes with a relative risk score of 5 is \$2,066 (Table 10-7, p. 158).

Table 10-7

Selected Boston cardiologist sees a larger proportion of patients with low-severity and low-complexity hypertension than his peers

	Total episodes		Overall patient complexity level (low to high)				
	Number	Percent	1	2	3	4	5
Stage 1 hypertension							
Selected Boston cardiologist	141	90%	26%	29%	22%	8%	4%
All Boston cardiologists	6,371	80	19	24	20	11	6
Average resource use			\$251	\$307	\$369	\$409	\$450
Stage 2 hypertension							
Selected Boston cardiologist	4	3	0%	1%	1%	1%	1%
All Boston cardiologists	856	11	1	1	2	2	2
Average resource use			\$368	\$465	\$573	\$635	\$764
Stage 3 hypertension							
Selected Boston cardiologist	11	7	1%	3%	1%	3%	1%
All Boston cardiologists	741	9	2	2	2	2	1
Average resource use			\$554	\$899	\$1,276	\$1,656	\$2,066

Note: Stage indicates the progression of the disease, with 1 being the mildest form. Overall patient complexity level indicates the presence of other diseases. Average resource use is measured as the average (standardized) spending for a stage/complexity combination for Boston cardiologists. Percentages may not sum to total due to rounding.

Source: MedPAC analysis of 100 percent sample of 2001–2003 Medicare claims using the Medstat Episode Group grouper from Thomson Medstat.

The hypertension episodes our selected Boston cardiologist sees are less severe and less complex than those all other Boston cardiologists see (Table 10-7). For example, of the 156 hypertension episodes this cardiologist sees, 141, or 90 percent, are classified as stage 1 hypertension, compared with 80 percent for all cardiologists in the Boston MSA. Further, 55 percent (26 percent plus 29 percent) of this cardiologist's episodes are in the lowest two patient complexity groups in stage 1 hypertension, compared with 43 percent (19 percent plus 24 percent) for all cardiologists in the Boston MSA (Table 10-7).

In general, both observed and expected clinical resource measurement increase as severity and complexity increase (Table 10-8).⁵ For this selected cardiologist, the observed clinical resource measurement values for stage 1 hypertension episodes are significantly above the expected clinical resource measurement values for 4 of the 5 complexity levels. For example, the expected clinical resource measurement value for stage 1, complexity level 2, is \$307 but the average per episode clinical resource measurement for this cardiologist's 45 episodes in this category is \$660,

Table 10-8

Selected Boston cardiologist has higher clinical resource measurement for hypertension than his peers

		Overall patient complexity level (low to high)				
		1	2	3	4	5
Stage 1 hypertension						
Number of episodes	141	41	45	35	13	7
Clinical resource use						
Selected Boston cardiologist	\$623	\$453	\$660	\$814	\$630	\$410
Average for all Boston cardiologists	\$357	\$251	\$307	\$369	\$409	\$450
Selected cardiologist’s resource use score	1.74	1.80	2.15	2.21	1.54	0.91

Note: Stage indicates the progression of the disease, with 1 being the mildest form. Overall patient complexity level indicates the presence of other diseases. Resource use score is the ratio of the cardiologist's resource use to the average for cardiologists in Boston.

Source: MedPAC analysis of 100 percent sample of 2001–2003 Medicare claims using the Medstat Episode Group grouper from Thomson Medstat.

or 2.15 times the expected clinical resource measurement value. Similarly, the average (expected) value for all Boston cardiologists for stage 1, complexity level 3, is \$369 but the average per episode clinical resource measurement for each of this cardiologist's 35 episodes in this category is \$814, or 2.21 times the expected clinical resource measurement value.

Incorporating the effects of risk adjustment, which adjusts for the healthier-than-average population this physician sees, increases the physician's observed-to-expected ratio across all his episodes to 1.13, making him look even more resource intensive than other Boston cardiologists (Table 10-9, p. 160). Therefore, this physician's overall clinical resource measurement score changed from 0.97 when he was compared with all Boston physicians to 1.04 when he was compared with all Boston cardiologists (Table 10-6, p. 156), and to 1.13 when he was compared with all Boston cardiologists and after adjusting for risk.

Constructing overall scores

A question about reporting scores for clinical resource measurement is whether a physician's scores should be averaged across each type of episode or whether some episodes should carry more weight than others. As stated earlier, for the analysis presented in Table 10-5 (p. 154) a simple average was computed, giving all episodes equal weight. However, one could also choose to weight the results differently. For example, the results in Table 10-9 are weighted by dollars. Because CAD and hypertension represent most of the physician's resource use, the scores on these episodes influence the overall physician's score more than the arrhythmias or other episodes. As an example of the difference weighting can make, we take a physician with

Table 10-9

Risk adjustment increases overall score for clinical resource use for selected Boston cardiologist by taking into account the lower complexity level

Type of episode	Number of episodes	Resource use score	
		Before risk adjustment	After risk adjustment
Total	250	1.04	1.13
Essential hypertension	156	1.69	1.76
Coronary artery disease	46	0.98	1.01
Arrhythmias	32	0.45	0.48
All other	16	0.28	0.44

Note: Resource use score is the ratio of the cardiologist's resource use to the average for cardiologists in Boston.

Source: MedPAC analysis of 100 percent sample of 2001–2003 Medicare claims using the Medstat Episode Group grouper from Thomson Medstat.

20 episodes, 10 of which had an observed-to-expected ratio of 1.2, and 10 of which had an observed-to-expected ratio of 0.8. The physician's overall score would be 1.0. However, if all the episodes with a score of 0.8 had an average clinical resource measurement of \$100, while the episodes with an average score of 1.2 had an average clinical resource measurement of \$1,000, it might make sense to give additional weight in the physician's overall score to the more expensive episodes. Under this weighting approach, the physician's overall score would no longer be 1.0, but 1.16, reflecting the fact that the 1.2 scores on the \$1,000 episodes receive a higher weight than the 0.8 scores on the \$100 episodes.

Reporting resource use to physicians

A major advantage of episode groupers is that, in addition to creating episode-level data, they retain the claim-level information to reveal the components of each episode. Therefore, once overall scores for physician clinical resource measurement have been generated, more detailed analyses can be conducted on physicians who use high and low levels of resources to identify the drivers of their clinical resource measurement. Both episode groupers permit the reporting of detailed information, at the individual claim and claim-line level to physicians. One of the most important issues in any physician outlier program is how the information is presented to physicians. A report with too little information—for example, consisting of a single score—may be meaningless for physicians. They may become frustrated that the report does not contain sufficient information to reveal the drivers behind their overall scores that would let them know how to adjust their practice style. However, a report that contains too much information may be overwhelming.

Table 10-10**Hypertension episode resource use and scores by type of service**

	Total	E&M	Procedures	Imaging	Tests	Other
Stage 1 hypertension						
Selected Boston cardiologist	\$623	\$359	\$4	\$50	\$118	\$92
All Boston cardiologists	357	206	6	32	85	28
Selected Boston cardiologist's resource use score	1.74	1.74	0.67	1.56	1.39	3.29

Note: E&M (evaluation and management). Stage indicates the progression of the disease, with 1 being the mildest form. Resource use score is the ratio of the cardiologist's resource use to the average for cardiologists in Boston.

Source: MedPAC analysis of 100 percent sample of 2001–2003 Medicare claims using the Medstat Episode Group grouper from Thomson Medstat.

Groupers can be used to leverage information that can be presented to physicians to explain an overall score. Our selected cardiologist appears to be more resource intensive than his peers in his treatment of hypertension. Certain services led to the difference (Table 10-10). For example, our selected cardiologist has an average of \$359 in E&M resource use for stage 1 hypertension compared with \$206 for all Boston cardiologists, or a clinical resource measurement ratio of 1.74. Similarly, this physician has slightly higher scores for resource use on imaging (1.56) and tests (1.39). These ratios are sensitive to the amount of dollars being compared. Thus, a \$153 difference in E&M resource use (an observed value of \$359 versus an expected value of \$206) can appear smaller than a \$64 difference in “other” resource use (an observed value of \$92 versus an expected value of \$28). Further analysis (not shown) indicates that the difference in E&M payments was due to more visits per hypertension episode. The selected cardiologist has an average of 14 E&M visits per stage 1 hypertension episode compared with 11 for all cardiologists in the Boston MSA. With this information, the cardiologist can see why he scores higher than his peers.

In the long run, it may be more informative for providers if multiple clinical resource measurement scores are created. For example, a physician could receive an overall score based on all his episodes, another score based on his market basket of frequently furnished episodes, and further information on each specific episode he treated. Then, a physician could see what was driving the ratios on any given type of episode. For example, a physician might score higher than average on a certain type of episode because he uses more imaging services than his peers.

Far from being overly complex, structured reports such as these could help to create the transparency needed to foster physician acceptance of any physician outlier program. CMS could examine existing report card designs in the private sector to identify the type of report that appeals most to physicians. Engaging physicians in this process will be vital, especially if an outlier policy progresses to interventions that have more direct impact on physician payment.

Advantages

The major advantage of measuring individual physician resource use is that it addresses the flaw in the SGR of treating all physicians equally. An outlier policy promotes individual physician accountability and will enable physicians to more readily see a link between their actions and their payment. Even confidential feedback of the results to physicians may be sufficient to induce some change, particularly if it is provided by a purchaser as large as Medicare. CMS could coordinate the feedback process with specialty societies that could incorporate the results into their practice-based learning activities. Many physicians are highly motivated individuals who have continually strived for high grades and peer approval (Tompkins et al. 1996). If identified as having an unusually resource-intensive style of practice, some physicians may respond by reducing the intensity of their practice.

An added advantage of an outlier policy is that it may change practice patterns across a wide range of physicians, not just outliers. For example, under an outlier policy, low-resource-use physicians could be examined in more detail in an effort to create practice guidelines or best practices for certain diseases or beneficiaries (assuming physicians were also being measured on appropriate quality and outcomes measures to avoid rewarding physicians who stint on care). If more physicians begin to practice conservatively, this may have an even greater impact on overall Medicare spending than just concentrating on high-resource-use physicians. Additionally, physicians who use average levels of resources might have scores ranging from low to high. For example, a physician might have low resource use to treat CAD but high resource use to treat hypertension. With education efforts targeted at that physician to examine why hypertension episodes are high resource use, overall Medicare spending could decline even further, especially if strategies for reducing resource use are provided. Ideally, a system such as this could result in higher quality care for patients at a lower cost to the Medicare program.

Another advantage of an outlier-based physician payment system is that it does not require any large-scale restructuring of the existing physician marketplace. An outlier-based system would make it possible to measure most physicians in the United States who continue to practice in solo or small group practices as well as those in larger multispecialty group practices.

Disadvantages

There are some disadvantages to a physician outlier policy. Implementation of an outlier system based on episode groupers may be difficult if physicians cannot be convinced of the validity of the episode grouping tools. Even if they can be convinced of the validity of the tools, there will likely be a considerable amount of controversy around initial physician scores, as certain physicians realize their practice patterns are not in line with those of their peers. Physicians may also choose to ignore the reports, particularly if they are confidential. The design of an effective reporting and education strategy will be essential to garner physician acceptance.

Additionally, measuring clinical resource use is only one component of overall physician efficiency. Quality of care and outcomes are as important as clinical resources. However, while some of the episode groupers have incorporated quality measurement metrics, these are limited to certain conditions and tend to focus more on process measures than on outcomes. Any outlier-based system would have to be careful not to unfairly penalize physicians who are providing high-quality care. The Commission explored the use of claims-based quality measures in the June 2006 report to the Congress (MedPAC 2006).

We have also documented the current inability of episode groupers to correctly adjust for variations in practice patterns across geographic regions for certain types of episodes, most notably CAD (MedPAC 2006). Because beneficiaries in Miami are so much more likely to have a CAD episode, and resulting per episode CAD costs are so much lower than in other areas, using a national expected value for CAD episodes could unfairly penalize physicians from areas where fewer beneficiaries are diagnosed as having CAD (see text box, p. 164, for a more detailed discussion).

Finally, even in a program as large as Medicare, the use of minimum episode thresholds means that only a subset of physicians in a given region will be measured. While the physicians who are measured will account for a large proportion of beneficiaries and dollars, the fact that small numbers of physicians will not be measured may lead to complaints about fairness.

An outlier policy could also be used in combination with some of the other approaches to physician payment reform as discussed in this report. ■

Per episode versus per capita costs for selected condition

A notable finding in the resource use chapter in MedPAC's June 2006 report to the Congress was that, for certain conditions, average per episode costs were significantly higher in Minneapolis than in Miami. This result was surprising because research has generally shown that Miami is a high-resource-use area and Minneapolis is a low-resource-use area on a per capita basis. It is important to note that this finding was only for certain episodes, most notably coronary artery disease (CAD), and that for many other episodes average costs per episode were higher in Miami than in Minneapolis. However, given the prevalence of CAD in the elderly population and the fact that Medicare spends a large amount of money caring for beneficiaries with this condition, we thought it prudent to examine this finding in more detail. It is also possible that this phenomenon occurs in other areas with other conditions.

Table 10-11 provides a variety of statistics for both the Miami and the Minneapolis metropolitan statistical areas (MSAs) based on our analysis of a 5 percent sample of Medicare claims using the Episode Treatment Group grouper. Costs per episode for CAD in Miami are \$2,691 versus \$3,507 in Minneapolis.⁶ This difference is strongly influenced by differences in the rate of hospitalizations among beneficiaries with CAD. Inpatient hospital dollars account for 65 percent of average episode costs in Minneapolis compared with 49 percent in Miami. Beneficiaries with CAD episodes in Minneapolis are more likely to have a hospitalization than those in Miami (21 percent versus 14 percent) and are also more likely to have more than one hospitalization over the course of their CAD episode (6 percent versus 3 percent) (Table 10-11).

To explore the reasons for our counterintuitive finding, we tried to assess the extent to which beneficiaries with CAD in Miami received fewer services than beneficiaries in Minneapolis (perhaps an indication of lower severity) or the extent to which coding or practice pattern differences might mean that CAD patients in Miami were classified into additional episodes, while they remained in a single CAD episode in Minneapolis. The results are somewhat mixed but paint a clearer picture of patterns of care for CAD patients in each area.

Two findings did not support our first hypothesis, that the difference is due to severity. First, the average number of claims per episode is 20 in both MSAs, although, as outlined previously, the composition of those claims is slightly different, with a higher tendency for inpatient hospitalization in Minneapolis driving the differences in overall costs. Additionally, average CAD episodes are actually longer in Miami (153 days) than in Minneapolis (128 days) (Table 10-11).

However, when we divided CAD episodes in each area into diagnostic CAD episodes and treatment/intervention CAD episodes, we saw a clearer picture of why there were such pronounced differences between the two MSAs in per episode CAD costs. We defined treatment CAD episodes as episodes in which either a major cardiology procedure was

continued next page

Per episode versus per capita costs for selected condition (cont.)

performed or a hospitalization occurred. CAD beneficiaries in Miami were less likely to fall into the treatment category than beneficiaries in Minneapolis (21 percent vs. 29 percent) (Table 10-11). Because treatment episodes include major procedures and/or hospitalizations, they are significantly more expensive than diagnostic CAD episodes.

continued next page

Table 10-11

Resource use for coronary artery disease in Miami and Minneapolis

	Miami	Minneapolis
Resource use	\$2,691	\$3,507
Inpatient	49%	65%
E&M	17	11
Procedures	7	11
Imaging	15	7
Tests	6	4
Other	0	0
PAC	7	2
Hospitalizations per episode		
0	86%	79%
1	11	15
2	2	5
3	1	1
Number of claims per episode	20	20
Average episode length (days)	153	128
Beneficiaries with diagnostic episodes	79%	71%
Beneficiaries with treatment episodes	21	29
Diagnostic costs per episode	\$822	\$448
Treatment costs per episode	\$9,931	\$11,164
Diagnostic claims per episode	14	11
Treatment claims per episode	45	44

Note: E&M (evaluation and management), PAC (post-acute care). Average resource use is measured as the average (standardized) spending. A treatment episode is an episode that featured either a major cardiology procedure or a hospitalization. Diagnostic episodes include all nontreatment episodes. Percentages may not sum to total due to rounding.

Source: MedPAC analysis of 5 percent sample of 2002 Medicare claims using the Episode Treatment Group grouper from Symmetry Health Data Systems.

Per episode versus per capita costs for selected condition (cont.)

Thus, if CAD beneficiaries in Minneapolis are more likely to be hospitalized, average costs across all CAD episodes are likely to be higher in Minneapolis.

Interestingly, however, while CAD beneficiaries in Miami are more likely to be in a lower cost, diagnostic CAD episode, their per episode costs for those episodes are almost twice as high as those in Minneapolis (\$822 vs. \$448) (Table 10-11, p. 165). Higher spending on imaging and evaluation and management care drives most of this difference (data not shown). Similarly, even though the number of claims per episode is the same in each MSA, when CAD episodes are split into diagnostic and treatment groups, differences do emerge. Diagnostic CAD episodes in Miami average 14 claims per episode compared with 11 in Minneapolis, while treatment CAD episodes have similar numbers of claims—45 in Miami versus 44 in Minneapolis.

Our second hypothesis was that, perhaps due to a greater concentration of physicians and specialists in Miami, beneficiaries in Miami were assigned to other heart-related episodes, as opposed to remaining in a single CAD episode in Minneapolis. We examined all other types of episodes for beneficiaries with at least one CAD episode in both MSAs. The Episode Treatment Group (ETG) methodology uses a highly aggregated grouping known as major practice categories, which collapses all ETGs into 1 of 22 categories (e.g., cardiology, urology, or pulmonology). This permits us to see if CAD beneficiaries in Miami have additional cardiology episodes compared with those in Minneapolis.

We found that beneficiaries with a CAD episode in Miami had more cardiology episodes than those in Minneapolis, an average of almost three per beneficiary in Miami compared with about two in Minneapolis.

In addition to having higher rates of cardiology episodes, CAD beneficiaries in Miami also had higher rates of episodes in every other type of major practice category with the exception of preventive care. Overall, CAD beneficiaries in Miami had 15 total episodes of care compared with 10 for beneficiaries in Minneapolis. As a result, when all care for CAD beneficiaries is taken into account, per beneficiary resource use is higher in Miami than in Minneapolis (\$15,921 vs. \$13,299) (data not shown).

These results suggest that regional differences in beneficiaries' propensity to seek care and in the practice and referral patterns of physicians once beneficiaries do seek care can affect any analysis using an episode-based methodology. Further, because CAD patients in Miami see seven physicians across all types of episodes, compared with four physicians in Minneapolis (data not shown), it is also possible that physicians may look efficient from an episode-of-care perspective, while the overall care of the patient is inefficient. This suggests that in certain situations it might be useful to combine per episode analyses of resource use with per capita analyses. ■

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Endnotes

- 1 For this analysis, we included doctors who are nonphysician providers, such as chiropractors and podiatrists.
- 2 We selected only clean episodes and deleted those with unusually high or low values to minimize any potential bias in our results. We tested a variety of approaches for trimming outliers. For this analysis, we deleted the top and bottom percentile of each episode based on total payments—any episode for which total payments were greater than the 99th percentile or less than the 1st percentile. We also deleted any episode with total payments of less than \$30. We chose this method because it removed extremely high and low outliers without reducing sample size excessively. See Chapter 1 of MedPAC’s June 2006 report for a more detailed description of some of the technical issues associated with episode groupers (MedPAC 2006).
- 3 For a more complete description of the methods used to standardize payments, refer to Chapter 1 of the MedPAC June 2006 report (MedPAC 2006).
- 4 We use both types of risk adjusters in our analysis of physician resource use.
- 5 The sickest patients do not always require the most resources. For example, cancer patients may receive aggressive treatment early in the disease progression and less treatment if the cancer is considered untreatable.
- 6 These regional comparisons use the ETG grouper. The regional comparisons in the June 2006 report to the Congress used the MEG grouper (MedPAC 2006). Further, this analysis focuses on a specific ETG group, “Ischemic Heart Disease.” There are other ETG episodes specific to CAD but the ischemic heart disease episode accounts for more than 90 percent of all CAD episodes in the ETG grouper.

C H A P T E R

11

**Cross-cutting issues:
Considerations across any
subnational alternative**

Moving from a single, national SGR to a subnational target system, as defined in our Deficit Reduction Act of 2005 (DRA) mandate—geographic, type of service, group practice, hospital medical staff, and outliers—raises a number of issues. Some issues are unique to each alternative; others are cross-cutting and must be considered before choosing and implementing any of the alternatives. This chapter discusses the following cross-cutting issues:

- targets
- tradeoffs
- attribution
- unintended consequences
- secretarial authority

Choosing targets and how to apply them

Under the current SGR system, CMS follows the statutory formula to update physician payment rates by comparing actual cumulative spending with a specified cumulative spending target. The SGR target allows real spending per beneficiary—that is, spending per beneficiary adjusted for the estimated underlying cost of providing physician services—to grow at the same rate as the growth in the national economy (as measured by change in gross domestic product (GDP)) on a per capita basis. The goal is to keep spending within a defined budget.

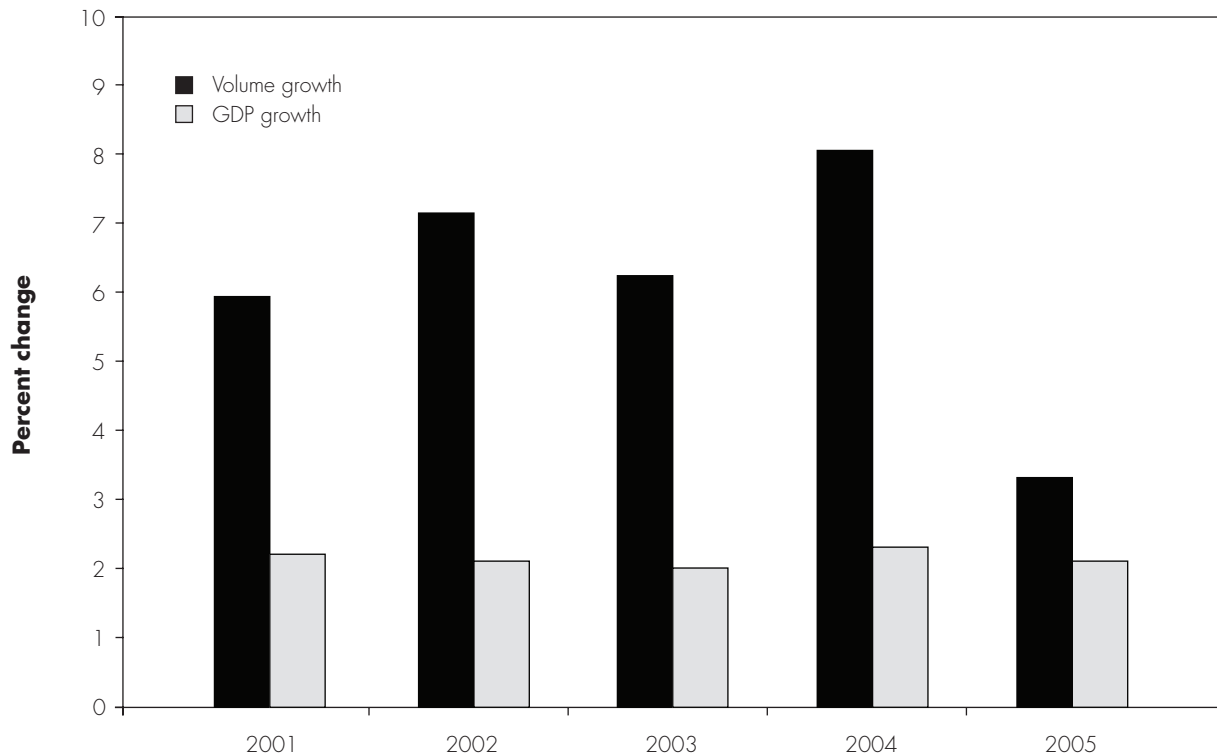
Critics contend that it is unreasonable to tie growth in physician expenditure to growth in GDP (AAMC 2007). They argue that Medicare spending on physician services should be allowed to grow faster than the national economy.

Possible target allowances fall into two groups: objective, defined standards, such as GDP, and historical spending trends, as was used under the previous target system, the volume performance standard (VPS). Using an objective standard can make it easier to project annual growth in spending and, depending on how conservatively the standard is set, may help to constrain growth in spending (Figure 11-1, p. 172). However, it limits growth in physician spending to a number that may have little to do with health care. To make a target allowance more responsive to health care cost trends, it could be based on a health-care-related benchmark, such as the payments made to efficient Medicare Advantage plans or spending in efficient geographic regions. In contrast, using historical trends in Medicare spending on physician services could make physician fee updates closer to recent patterns of volume growth but would allow greater potential growth in spending over time. That is, higher rates of volume growth in the present lead to higher targets in the future.

Once policymakers select a target allowance—objective or historical trend—the next question is: Should the target be cumulative? Combining a cumulative target with limits on annual changes in fees, as the SGR does, tends to exacerbate fee cuts if spending exceeds the target. When this happens, the system must reduce future updates both to slow the next year's growth in spending

Figure 11-1

SGR-related volume growth is higher and fluctuates more than growth in the GDP



Note: SGR (sustainable growth rate), GDP (gross domestic product). GDP is measured as the 10-year moving average real per capita GDP.

Source: Office of the Actuary 2006 and Kuhn 2006.

and to recoup previous excess spending. These features of the SGR, combined with several years of excess spending (resulting from volume growth and congressionally mandated fee updates), have led the system to call for several years of fee cuts (see Chapter 1).

A cumulative target is a predictable budgeting tool and, when used in conjunction with update limits, it recoups excess spending over multiple years. The SGR's limits to fee updates are +3 and -7 percentage points around the Medicare Economic Index (MEI). Spreading recoupment over multiple years can lessen fee cuts in a single year. For example, the SGR would have called for a 23 percent fee cut for 2007 if there were no limits on the update. Because of the limits, the SGR called for an update of -5 percent (7 percentage points less than the 2 percent MEI).¹ Physicians did not experience a cut in the 2007 conversion factor, however, because the Congress provided a 5 percent bonus to offset the scheduled 5 percent SGR cut in the Tax Relief and Health Care Act of 2006.

A noncumulative target system, like the VPS, which was in place before the SGR, would compare spending in a single year with that year's target and recoup any excess spending in

an upcoming year's update. If a noncumulative target system also limited fee updates (like the SGR), then excess spending that could not be recouped in a single year would have to be forgiven. This type of system, depending on design, could result in more favorable updates at the cost of greater program spending over time.

Measuring performance against the target

The current SGR system is designed to constrain growth in total Medicare spending for physician services. A subnational system could measure and respond to the different rates of growth in each of the subnational units—for example, geographic areas or types of service. Alternatively, it could address the different volume levels in each subnational unit or a combination of the two (discussed in Chapter 6). A target system could also address a hybrid of volume levels and growth rate—contribution to growth—which is equal to a subnational unit's amount of per capita growth divided by the national total amount of per capita growth. Conceptually, the target would penalize areas with higher levels of service use even if their growth rates were the same as areas with lower levels of service use.

To explore the various effects of designing a target system to address volume levels, growth rate, or contribution to growth, we analyzed claims for physician services for 2001, 2002, and 2003. We ranked the 34 CMS prescription drug plan regions by volume levels, growth rate, and contribution to growth in each of the three years. We then compared those ranks to see how strongly one correlated with another. We found the following:

- High-volume-level areas strongly tended to remain high; low-volume-level areas strongly tended to remain low. This means that areas ranked by volume level in 2001 tended to remain in a similar volume-level rank in 2003 (Table 11-1, p. 174).
- Volume-level ranks in 2003 had little correlation with areas' rankings by volume growth from 2001 to 2003. In other words, volume-growth ranks did not determine volume-level ranks. (This might not remain true over a longer period.)
- Areas' contribution-to-volume-growth ranks were strongly correlated with their volume-growth ranks and with their volume-level ranks in 2003. Therefore, contribution to growth accounts for both volume level and volume growth.

What services to include in the target

Some criticize the SGR system because it applies only to physicians (AAMC 2007, Armstrong 2005). These critics contend that the SGR fails to recognize that physician services may increase as they substitute for other services, especially inpatient and outpatient care. One way to address this concern is to extend an SGR-like target system and payment updates to all Medicare services. Questions about a global Medicare target system are:

- Should a global target system apply to all Medicare services or only those that use administrative prices?

Table 11-1

Correlation of PDP regions' volume levels, growth rates, and contribution to growth for per capita spending on physician and Part A and Part B services

PDP region characteristic	Comparison characteristic	Spearman correlation coefficient	
		Physician services	Part A and B services
2001 volume level	2003 volume level	0.98	0.97
2003 volume level	2001–2003 growth rate	0.15	0.10
Contribution to growth	2003 volume level	0.60	0.56
Contribution to growth	2001–2003 growth rate	0.85	0.85

Note: PDP (prescription drug plan). Spearman correlation coefficients measure how the ranks of items in two different lists compare (e.g., in lists of geographic areas sorted in rank order from highest to lowest spending in two different years). A perfect correlation of 1.00 means that the items are at exactly the same rank in both lists. A coefficient of 0 means that there is no relationship between the rank of items on the two lists. Contribution to growth is an area's per capita growth divided by national per capita growth.

Source: MedPAC analysis of 5 percent sample of 2001–2003 Medicare claims.

- How would a global target system fit in with the rest of Medicare's payment systems, including their updates?
- Would a target system that includes more services result in different updates for physicians than a system that measures only physician services?

This section focuses on the final question. We explore how geographic areas compare in terms of volume levels, growth, and contribution to growth under a physician-only target system versus a global target system. To do so, we extended the levels, growth, and contribution-to-growth analysis described in the previous section to claims for Part A and Part B services. Again, we ranked areas by volume levels, growth rate, and contribution to growth in each of the three years and compared ranks. We found the results for Part A and Part B services very similar to those for physician-only services (Table 11-1). Areas had a very strong tendency to remain at a similar volume-level rank in 2001 and 2003, areas' volume-level and volume-growth ranks were nearly unrelated, and areas' contribution-to-growth ranks accounted for both volume level and volume growth, with greater weight given to volume growth.

Tradeoffs

A subnational target system will have to balance tradeoffs among administrative feasibility, volatility, and accountability. Generally, alternative systems that emphasize administrative feasibility do so at the cost of increased volatility and decreased physician accountability, and vice versa.

Administrative feasibility

Replacing the SGR with a subnational target system would require CMS to collect, estimate, and project data similar to those used for the SGR for each of the subnational units. CMS would need to change its data systems.

Data

The SGR system requires CMS to collect, estimate, and project data each year. CMS must share estimates of the target and next year's update with MedPAC and the public in the spring. The agency publishes the final target and update in the fall. To calculate the target, CMS actuaries must collect and analyze data on change in input costs, the number of fee-for-service (FFS) beneficiaries, GDP, and spending due to changes in laws and regulations. To estimate actual spending, the actuaries must rely on claims that are only partially complete. This means that, under the SGR system, data can lag the update by some years. In a subnational target system, many data items might have to be divided up at (or collected at) the subnational unit. For example, if a geographic target system were used, CMS would have to estimate the number of FFS Medicare beneficiaries for each area. These sorts of analyses would make the actuaries' work more complex and potentially make the performance of targets out of date. A system that paid physicians differentially based on volume would need data as timely as possible. Otherwise, the system could risk rewarding or penalizing physicians for practice patterns that had changed since they were measured.

In addition, a subnational target system could require either the collection of additional data or new data analysis. Physicians might have to submit additional information or CMS might need to find new data sources. For example, an alternative that set a different target for all physicians who were part of a large multispecialty group practice (that met additional requirements) would require CMS to determine which physicians worked in groups that met these criteria. Data elements on the current claims forms and other sources would at least partially support this determination, but CMS would rely more heavily on these data to be accurate and consistent.

Other implementation challenges include communicating with physicians and contractors

Replacing the SGR with a subnational target system would require CMS to conduct a potentially extensive overhaul to data, payment algorithms, and other systems. CMS would need to communicate these changes to carriers and fiscal intermediaries to ensure their implementation. A new, more complex target system would also require substantial efforts to educate physicians and beneficiaries to prepare them for the change. Since a target system in theory is designed to influence physician behavior, it would be essential to the success of any alternative system for CMS to communicate the goals of the system and make it as transparent as possible. A target system that lacked physicians' buy-in would have little hope of altering their behavior. Furthermore, a subnational target system could require new procedures for appeals—for example, for physicians who are classified as outliers. A subnational target system would be complex to administer.

Given the complexity of the transition efforts for implementing these types of changes, the Congress may wish to consider making a special appropriation to CMS. For example, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 granted \$1.5 billion to fund the transition efforts needed to implement that law (\$1 billion was funded to the Department of Health and Human Services and \$500 million went to the Social Security Administration).² Major changes to the SGR system could strain CMS's existing resources, and the Congress should consider additional financial support.

Data for small areas and groups are volatile

Data collection, estimation, and projection issues can make updates fluctuate from a predictable trend. In 2002, the SGR system resulted in a negative fee update, largely because CMS corrected prior estimation errors and incorporated updated GDP data. A subnational target system also would have these problems. For example, depending on the size of the geographic area (or other subnational unit), data can fluctuate because of small numbers. For example, in smaller counties, one or two beneficiaries receiving extremely expensive health care can cause the entire county's average spending to spike in one year. More widespread health events, such as a flu outbreak or natural disaster (such as Hurricane Katrina), can affect even larger geographic areas, such as metropolitan statistical areas.³ In addition, to calculate a target in a geographic target system, CMS would need to estimate the number of Medicare FFS beneficiaries in each geographic area. If Medicare Advantage plans entered or left markets or changed their benefit packages, then areas' proportions of beneficiaries in FFS and managed care could shift significantly. This would cause actual spending to differ from the target (because of faulty targets rather than increased volume), affecting updates and calling for revised targets in the next year.

Large units dilute the incentives of the system for individual physicians

A key shortcoming of the SGR system is that it provides no incentive for individual physicians to limit the volume of services they provide; when it cuts physician fees, it can even provide a perverse incentive for physicians to increase volume to maintain their level of total Medicare income. Ideally, a subnational target system would incorporate subnational units that were either small enough or organized enough for physicians within those units to know their peers and be able to encourage them to practice efficiently. For example, the multispecialty group practice alternative has the advantage that it relies on existing physician organizations, which can influence their members' behavior, to control volume (see Chapter 8).

Attributing performance to physicians

Most of the subnational target system alternatives would require CMS to establish rules for attributing beneficiaries and spending to physicians. For alternatives that create subsets of physicians—geographic areas, multispecialty group practice, hospital medical staff, and

Table 11-2**Attribution rules and challenges for alternative target systems**

Target system	Attribution rule	Challenge to attribution
Geographic areas	Beneficiary assigned to area of residence.	<ul style="list-style-type: none"> • Border crossing.
Multispecialty group practice	Beneficiary assigned to group based on physician(s) seen.	<ul style="list-style-type: none"> • Beneficiaries can see multiple physicians. • UPIN problems.
Hospital medical staff	Medical staff assigned to hospital. Nonhospital physicians assigned to hospital based on beneficiaries.	<ul style="list-style-type: none"> • Physician can be attributed to the empirical hospital medical staff without inpatient services or actively referring to the hospital.
Outliers	Multiple attribution rules are possible, all involve tradeoffs. For example, attribute episode to a single physician providing greatest amount of evaluation and management services.	<ul style="list-style-type: none"> • Physicians who are held accountable may not have ordered all services. • Physicians not designated as responsible for an episode do not get feedback.
Note: UPIN (Unique Physician Identification Number).		

outliers—the system would need to compare the spending in each pool with a national target or with every other pool (Table 11-2). Attributing beneficiaries to physicians in a multispecialty group practice, hospital medical staff, or outliers system would require identifying a main source of care for each beneficiary. Attributing beneficiaries to physicians in a geographic system would require linking a beneficiary to physicians in one geographic area. Attribution would not be necessary for the type-of-service alternative, because the different payments would attach to the services. For the other alternative target systems, CMS would have to attribute spending to these pools of physicians—in other words, define the spending for which each pool is responsible.

The simplest option is to hold physicians responsible only for the services for which they bill. However, this fails to capture much of the volume physicians generate. For example, a primary care physician can refer a beneficiary to a radiologist for expensive imaging services. Attribution is complex for other services because beneficiaries see multiple physicians and referral patterns can differ.

One option, which we used for our analysis with episode groupers to assess physician resource use, holds a single physician responsible for all of a beneficiary's episode of care, regardless of whether other physicians also provided services (see Chapter 10). We found that using single attribution and a 35 percent threshold of all evaluation and management visits, we could attribute 88 percent of our selected episodes to a single physician (MedPAC 2006). A key limitation of this or most other attribution rules is that there will always be physicians who are not considered the main provider and therefore are not held responsible for any episodes. We used this attribution rule for illustrative purposes only; multiple attribution and rules that hold combinations of

physicians and hospitals accountable might also be appropriate for other conditions or for the other alternatives—geographic areas, multispecialty group practice, and hospital medical staff.

A significant obstacle to any attribution rule in a geographic target system (and to varying degrees in other alternative target systems) is border crossing, which is discussed in Chapter 6.

The discussion of attribution raises the companion issue of risk adjustment. Once a circle is drawn around a pool of physicians and their attributed beneficiaries, those physicians can argue that their higher spending is justified because their beneficiaries are sicker. Risk adjustment can address this concern. But, while risk adjustment has improved greatly, it cannot account for all variation in spending because not all health care use is predictable. CMS's risk adjustment model for Medicare Advantage plans, the hierarchical condition category, is based on beneficiaries' diagnoses in the previous year, so it has a bias toward higher risk scores for beneficiaries who have more visits and receive more services. This is because there is a greater opportunity and likelihood that multiple diagnoses will be reported for such beneficiaries. While some of these beneficiaries received more services because they were genuinely sicker, others may have received more services than they needed because physicians had higher-resource-use practice patterns. Alternatively, the beneficiaries may have received no more services, but their care may have been coded more aggressively. The reverse can also occur: Sicker-than-average beneficiaries whose physicians coded their services more conservatively would have unduly low risk scores.

Unintended consequences

Replacing the SGR system with a subnational target system could have multiple unintended consequences. For example, a type-of-service target system that reduced payments for one set of services could provide an inappropriate incentive for physicians to substitute other, higher priced services.

If a subnational target system were to use additional or higher payments to reward more efficient physicians, then policymakers should consider adjusting beneficiary copayments (unless the payments were made separately). Otherwise, Medicare's statutorily defined beneficiary cost-sharing requirement—generally 20 percent coinsurance for physician services—would penalize beneficiaries for seeing more efficient physicians. It may be desirable to offer even lower copayments or other incentives to encourage beneficiaries to choose more efficient physicians.

Strategic behavior on the part of physicians is another possible unintended consequence of this approach when physicians are under financial pressure. In response to reductions in payment, they could seek revenue elsewhere, through investment in specialty hospitals or ambulatory surgical centers or through self-referral and other activities, which increase overall Medicare spending. In addition, this alternative could encourage patient selection if physicians respond by turning away complicated cases.

Deciding how much discretion the Secretary has in determining the update

The DRA mandate specifically requires that the Commission's SGR report "identify the appropriate level of discretion for the Secretary of Health and Human Services to change payment rates under the Medicare physician fee schedule or otherwise take steps that affect physician behavior."

Secretary's authority under volume performance standard

The Omnibus Budget Reconciliation Act of 1989, which established the VPS, required that the Secretary of Health and Human Services recommend to the Congress each year whether the VPS-determined physician update should be modified. In other words, the Secretary could recommend a different physician update. (She never exercised this authority.) The Secretary was to confer with physician organizations and consider:

- inflation,
- changes in the number and age of Medicare beneficiaries,
- changes in technology,
- evidence of inappropriate utilization of services,
- evidence of lack of access to necessary physicians' services, and
- other factors as the Secretary considered appropriate.

Potential for Secretary's authority under a physician payment target system

Secretarial discretion was not included under the SGR system. A subnational target system could include some form of secretarial authority. Similar to the VPS, the Secretary could suggest to the Congress a target or update different than the one automatically calculated by the system, after considering a list of criteria and consulting with physician and beneficiary groups as well as the Commission (Table 11-3, p. 180). The criteria could be similar to those used under the VPS but could include others, such as changes in the health status of beneficiaries. Alternatively, the Secretary could set a different target or update without congressional action. The Secretary does this for long-term care hospitals, for example. To support a nonformulaic update, CMS would have to perform a detailed and complex analysis, which would be subject to tremendous political pressure. Under any scenario, the Secretary could provide an annual letter to the Congress, similar to the letter that he must provide to the Commission, with greater detail on spending growth by the target system's subnational units.

Secretarial discretion may apply best to the type-of-service volume analysis described in the pricing section in Chapter 3. In this idea, high growth in volume may signal that Medicare's

Table 11-3**Options for secretarial authority under a physician payment target system****Option**

Strong Secretary	<ol style="list-style-type: none"> 1. Secretary required to set an update. 2. This update becomes law (unless the Congress overrides it).
Strong law	<ol style="list-style-type: none"> 1. Formula in law determines update. 2. Secretary can recommend a different update. 3. No change to formula update unless the Congress acts.
Mixed	<ol style="list-style-type: none"> 1. Formula in law determines update. 2. Secretary granted authority to override formula update.

payments for some services are too high relative to the cost of furnishing them. Over time, physicians may realize productivity gains and be able to provide services using less time and effort. If that were the case, we would expect to find that physicians increase volume without working longer hours. If CMS were charged with conducting this type of volume analysis, the Secretary could be given the authority (or could be required) to report the results and recommend payment updates or other changes, either to the Congress or to the Relative Value Scale Update Committee. The Secretary's recommendations could be suggestions to these bodies or automatically go into effect if no action is taken to override them. ■

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Endnotes

- 1 The remaining excess spending will carry over and be recouped in future years, absent congressional or administrative intervention.
- 2 The president could shift funds between the two agencies.
- 3 Other subnational target system alternatives, such as extended hospital medical staffs, would also be affected. As described in Chapter 9, some of these groups might include only five physicians—a number too small for its own target.

C H A P T E R

12

Two alternative paths

The Commission has discussed in depth the problems with the SGR system (Chapter 2). In addition, we have discussed the advantages and disadvantages of the alternative approaches included in the congressional mandate (Chapters 6 to 10) and ideas for modifying the current national target (Chapter 4). We have also discussed policies that would improve the value received for the nation's investment in Medicare (Chapter 3). Some of these policies pertain to physicians; others have a broader scope.

The fundamental question is how to improve the value of Medicare and control the program's expenditures. We discuss a number of options for doing so in Chapter 3. The immediate problem, however, is whether to retain an expenditure target for physicians. The Commission suggests that the Congress pursue one of two paths. Path 1 would repeal the SGR and, instead of replacing it with an expenditure target, the Congress would accelerate development and adoption of the approaches in Chapter 3 to improve incentives for physicians and other providers to furnish care of lower cost and higher quality. Path 2, described in some depth in this chapter, includes a new system of expenditure targets.

The paths have two things in common. First, the Congress should increase substantially its investment in CMS, thus expanding the agency's capacity to develop and implement new payment systems as well as to refine existing payment systems. Second, with or without an expenditure target, the payment approaches discussed in Chapter 3 should be pursued; they will help increase efficiency, improve quality, and ensure payment equity. As discussed later, applying an aggregate expenditure target to different regions of the country may improve equity across regions, help slow the growth in expenditures, and prompt discussion of actions needed to improve the system for health care delivery. But an aggregate target alone is inadequate to resolve the most pressing challenge Medicare faces: to identify and reward excellent performance—or to penalize poor performance—at a level of detail and specificity that prompts individual providers to improve. Although Commissioners may disagree about which path is best, we are united on one point: An expenditure target is a useful reform tool only if coupled with new payment systems that create better incentives.

With incentives in place, an expenditure target takes on a new dimension. Ideal competitive markets—especially global markets—face relentless pressure for continual improvement. Health care markets, by contrast, often lack competitive pressure; if present, it frequently results in duplication and inefficiency. With little pressure to constrain them, costs increase; profits then fall and those who pay for health care—both public and private payers—may grant higher payment rates to ease the pressure on health care providers. For Medicare, an expenditure target may mimic the pressure for improvement that ideally exists in competitive markets and may create the stimulus to adopt the changes in policy and delivery systems that are needed to improve the system.

CMS has made some progress in developing new payment systems as well as refining existing ones—for example, launching promising pilots and demonstrations such as the pay-for-performance demonstrations, the Medicare Health Support pilot, and the group-practice demonstration. CMS has also taken initial steps to improve payment accuracy and equity for physicians, hospitals, and post-acute providers. But partly because CMS has not received

adequate resources and in some cases the legislative authority it needs, progress has been too slow. Given the pressing financial and quality problems facing Medicare, not to mention the rest of the U.S. health care system, the rate of improvement must accelerate dramatically. The cost of not investing more in improvement will be measured not just in misspent dollars but also in unnecessary death, disability, pain, and suffering.

The Commission did not vote on whether to recommend path 1, which would eliminate any form of expenditure target, or path 2, which would retain a target in a much different form. Some Commissioners are inclined to favor path 1, while others lean toward path 2. The issues are complex, with numerous information requirements and almost unknowable implementation effects, and the risk of failure and unintended consequences is high—especially if CMS does not have the necessary resources. In addition, whether policymakers can accommodate the redistribution of spending that would occur under path 2 remains unclear. Experience with the existing SGR should serve as a warning that well-intentioned policies can cause as many problems as they solve.

Path 2, when fully implemented, would differ from the current SGR in four important ways:

- The expenditure target would apply to all of Medicare and would be used to adjust payment rates for all providers.
- The target, and any resulting payment adjustments, would be applied on a geographic basis.
- Providers would receive information on their practice patterns compared with those of their peers.
- Providers would have an array of options for sharing in gains resulting from their improved efficiency. If they choose not to do so, however, updates under the expenditure target and possibly other initiatives to reward performance would govern their payment.

National expenditure targets, even if applied separately to service categories, do not create proper incentives for physicians and other providers. By design, national expenditure targets operate at a level far removed from day-to-day clinical practice. Such targets have little consequence, for example, for an individual physician deciding whether to order an expensive imaging procedure. Physicians stand to gain more from ordering images, whether or not they own the imaging equipment, than from not ordering them. A physician's gain may be clinical (increased likelihood of an accurate diagnosis), legal (insulation against a potential malpractice claim), financial (perhaps a fee for doing or interpreting the image), or all three. Under an expenditure target, the penalty to the physician ordering the added test (even one of marginal value) is very small: The risk that the expenditure target will be exceeded increases minutely from any individual decision, but, even if the target is exceeded, all physicians—those who demonstrate restraint and those who do not—will feel the consequences equally.

The absence of a direct connection between the expenditure target and clinical practice means that policy does not dictate clinical practice. However, the same disconnect means that a national target is a weak tool for rewarding good performance or for punishing poor performance. Worse

yet, the restraint imposed on fees may encourage providers to increase volume and intensity in order to maintain their income or margins.

Even if national expenditure targets fail to establish appropriate incentives for physicians, they could help control spending if they alter behavior. Few would argue that the current SGR has succeeded in slowing the increase in volume, but some proponents contend that it has helped hold down the increase in physician fees, and thus total physician expenditures, by making it more difficult for policymakers to increase provider fees. Following budget rules, any change in law will increase Medicare and the government's spending relative to the level of spending currently projected. Expenditure targets can also alter the behavior of others, including CMS and the physician community, if they motivate changes in policy that reorient payment systems toward improving the value of Medicare.

Slowing the increase in Medicare outlays is becoming urgent. Not only does the rising cost of Medicare threaten the federal budget, the program's design, shared by much of employer-sponsored health coverage, is a source of concern. Fee-for-service payment dominates that design. It reinforces a general style of medical practice beyond the financial means of an increasing number of Americans. We fear that fee-for-service, left unchanged from its current design, not only may devour funds needed for other worthwhile government programs but also may contribute to more Americans joining the ranks of the uninsured.

If the Congress believes that expenditure targets are critical for restraining expenditures, it should expand the targets to encompass all providers, not just physicians. If the goal is to achieve a given dollar amount of expenditures, achieving that goal is easier if the pool of spending considered encompasses all Medicare spending. By contrast, if the Congress tries to reach the same goal by considering only physician services, cuts must be deeper, which may increase the likelihood of undesirable side effects—for example, young physicians forsaking primary care in favor of more lucrative specialties. Moreover, as recent experience with the current SGR shows, the Congress may be more likely to override deep cuts. Of course, if the expanded expenditure targets are exceeded, they would result in payment reductions for all providers, not just physicians, which would lead to the difficulty encountered under the physician-only SGR.

The Congress should also consider applying expenditure targets on a geographic basis. Medicare spending per beneficiary varies widely across the country. In Minneapolis, for example, spending per beneficiary in 2003 was \$1,630 compared with \$3,636 in Miami.¹ Moreover, quality does not seem to increase with higher expenditures; by some measures, quality may actually decline as spending goes up (Fisher and Gottlieb 2006). If an expenditure target reflects the limits of what society can afford, the greatest pressure should be applied to those areas of the country where per beneficiary costs are highest and the contribution to growth in expenditure is greatest. Medicare will be on a more sustainable path when providers in high-cost areas avidly pursue and implement “best practices” learned from colleagues in lower cost areas—or from research on evidence-based medicine.

Geographically adjusted targets, even if applied at the level of metropolitan statistical areas (MSAs), are still too distant from individual providers to create appropriate incentives for

efficiency, but they may encourage some change and would certainly be more equitable than national targets. Creating proper incentives for improved performance—for physicians and other providers—will require much more targeted incentives. Rewards and penalties must be based on the performance of provider groupings that are small enough for the providers to be able to work together to improve. Among the alternatives that the Congress asked the Commission to assess, systems based on accountable care organizations (ACOs)—such as integrated delivery systems, multispecialty physician groups, and collaborations of hospitals and physicians—and outliers (by which we mean analyzing physicians’ practice patterns) may have the greatest potential to alter physician behavior.

Perhaps a better approach, one that respects the diversity of the nation and its health care system, involves setting targets for geographic units and then permitting the fullest possible array of alternative—and voluntary—organizational approaches within that geographic framework. In some geographic areas, ACOs may take the lead in organizing the effort to lower costs and improve quality. In other areas, integrated delivery systems, multispecialty physician groups, or independent practice associations may predominate. In some cases, state or local governments, medical societies, or others may play a role. Whatever the approach, small physician practices—perhaps as small as one physician—should have ample opportunity to be assessed and rewarded. For example, they should be assessed relative to their peers on measures of efficiency and quality, with their payments adjusted correspondingly.

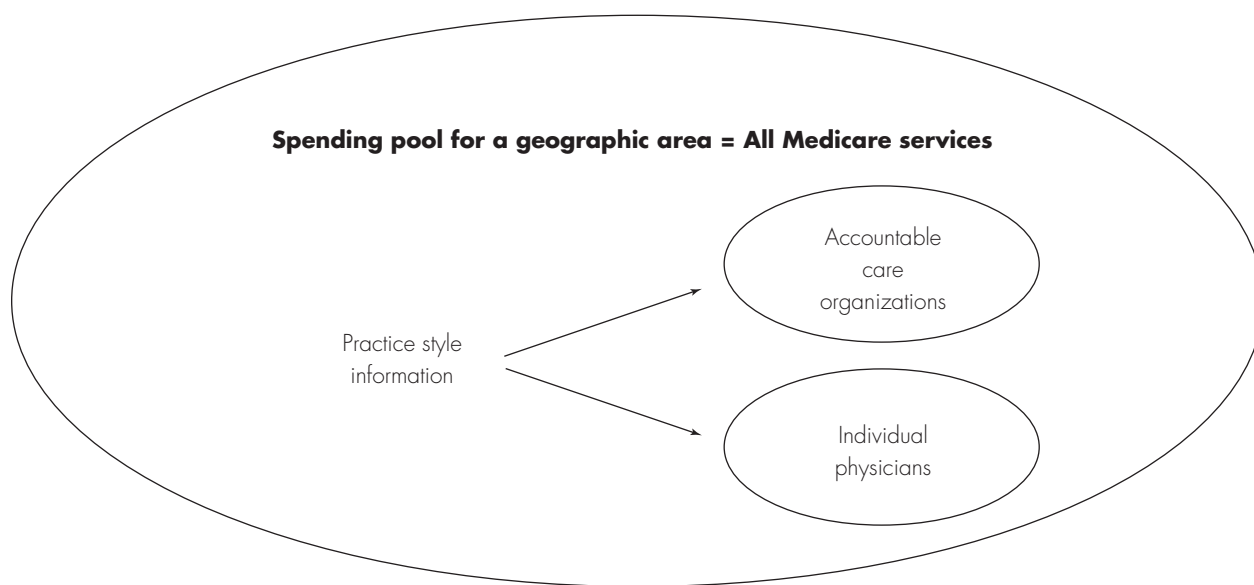
If the Congress chooses an approach that includes expenditure targets, we recommend attempting to identify physicians whose practice patterns differ markedly from their peers’ patterns in the same specialty and area. This is consistent with a MedPAC recommendation that CMS use Medicare claims data to measure physicians’ resource use and provide confidential reports to physicians on how their practice patterns compare with those of their peers (MedPAC 2005). Episode groupers are one tool for measuring resource use; coupled with per capita measures of use, they could become the tool that defines payment adjustments for physicians who remain committed to solo or small practice outside the confines of larger organizations.

Moving down path 2, toward a geographically based system encompassing all of Medicare, is a major undertaking. It would require a large investment of political capital, as well as time, money, patience, and determination. Path 2’s goals are more ambitious than those of the current SGR or the alternative target systems that the Congress asked us to evaluate. The obvious question, then, is why do some Commissioners think it is worthwhile to incur those costs? They believe system reform is urgent because of rising costs coupled with mediocre quality and access, as well as declining insurance coverage outside of Medicare. The failure of the current SGR may have created a rare political opportunity: The budget “hole” created by the SGR may compel the Congress and physicians to consider measures they might deem unacceptable under other circumstances. By this reasoning, now is a time to think big, not small.

With path 1 addressed in detail in Chapter 3, the remainder of this chapter focuses on path 2. The complexity of path 2 dictates a phased strategy. The following discussion focuses on the possible phases the implementation of this strategy could take and briefly describes some of the decisions the Congress and the Secretary would need to make.

Figure 12-1

Path 2: Conceptual scheme when fully phased in (phase IV)



Note: Phase IV is the full implementation of path 2.

Phased approach to replacing the SGR

If the Congress chooses to replace the SGR with a policy that keeps some type of volume target in order to improve provider accountability, it could consider an approach that includes multiple parts (Figure 12-1). Accountability might improve because payments would be differentiated geographically, physicians would receive feedback on their resource use, and ACOs would participate in a shared savings program. Each geographic area would have a volume target, and payment updates for the area would depend on whether the area meets its target. Within each area, measurement of resource use would show how physicians compare with their peers and would reveal outliers. The comparisons could show the resource use of individual physicians or physicians as members of ACOs, which could be composed of groups of physicians and even other providers such as hospitals. ACOs would have to meet eligibility criteria but would then be able to share savings with the Medicare program if they furnish care more efficiently than the trend in their area. That is, under the expenditure target policy, the same payment adjustments would apply to providers in ACOs and to other providers in their geographic area, but ACO physicians would have the opportunity to share savings.

This volume target system would fulfill three goals simultaneously. First, it would address geographic disparities in spending and the volume of services. Second, by departing from the existing national SGR and allowing providers to organize into ACOs, it would improve accountability. Third, providers would receive information they could act on to change their practice style.

In designing this volume target system, the Commission wants to articulate a number of policy goals. It has not fully considered how to operationalize each of these ideas, but they embody core principles that we describe in more detail in Chapter 3.

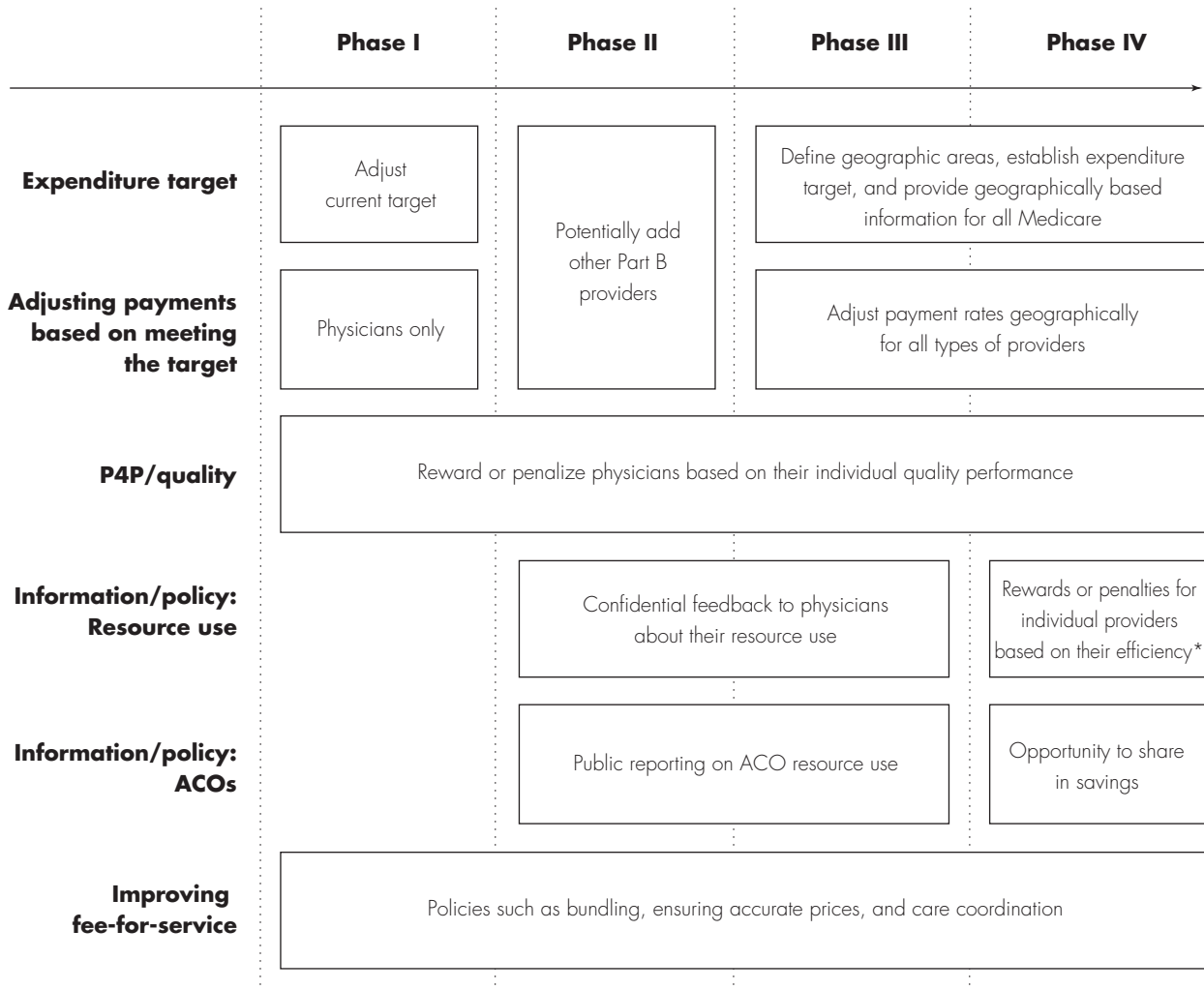
- ***Encompass all of fee-for-service Medicare.*** All providers—physicians, hospitals, and others—should work together to improve quality and efficiency, especially with a focus on beneficiaries with high-cost diseases.
- ***Apply the most pressure where service use is highest and less pressure elsewhere.*** The work of John Wennberg, Elliott Fisher, and others suggests that access and quality are no better in high-use areas than in other areas (Fisher and Gottlieb 2006). Indeed, technical quality may be worse in high-use areas. In addition, physicians in those areas report worse communication among themselves, greater difficulty ensuring continuity of care, and greater difficulty providing high-quality care.
- ***Provide opportunities to share savings.*** If they perform well, physicians and other providers should have opportunities to participate in a shared savings program.
- ***Maintain budget control.*** Improving value in Medicare will take time and the results are uncertain. In the meantime, it is important to focus attention on the long-term sustainability of the program and foster debate among policymakers about national priorities.
- ***Reward efficient care in all forms of organization.*** Physician practices of all sizes—not just large ones—should have incentives to operate efficiently. While large groups may have the infrastructure, small groups may be the innovators. This principle accommodates both.
- ***Provide feedback with the best tools available and in collaboration with private payers.*** Feedback to physicians on their resource use will improve as experience is gained with analytic tools such as episode groupers. For instance, use of these tools will show minimum sample sizes necessary for reliable estimates of resource use. Medicare and private payers should also collaborate so that physicians receive a consistent message about their resource use.

Adhering to all these principles would be complex, with some elements of the policy working in concert. In addition, CMS would have to develop the necessary infrastructure with some sequencing of steps necessary (Figure 12-2). Next, we describe a phased approach and possible timeline, and we discuss decisions that the Congress and the Secretary would need to make.

The Commission sees the phases in this approach as steps toward greater value in Medicare: linking payment to quality, measuring resource use and providing feedback, and encouraging

Figure 12-2

Timeline for path 2



Note: P4P (pay for performance), ACO (accountable care organization).
 * Providers receive rewards or penalties if they are not part of ACOs.

organized systems of care. Toward that goal, a parallel set of activities would occur concurrently with the phases. Those activities would be part of a broad-based reform of payment policy that includes bundling payments, ensuring the accuracy of Medicare prices, and improving coordination of care (see Chapter 3). Together, these reforms would be part of a strategy to improve efficiency across multiple sectors—not just physician services but also hospitals and post-acute care. Having a volume target system in place may create a sense of pressure to spur the action necessary for these changes to occur.

The challenge for CMS cannot be overstated. Previous reforms have had large impacts on resources.

- CMS estimated that implementation of the Balanced Budget Act of 1997 cost \$77 million (in 2001 dollars).
- The Deficit Reduction Act of 2005 cost \$60 million for a relatively small set of policy changes compared with the volume target system discussed here.
- The Congress made available \$1.5 billion to CMS and the Social Security Administration to implement the drug benefit in the Medicare Prescription Drug, Improvement, and Modernization Act of 2003.

For a volume target system, the agency would need new resources (identified in a way similar to those furnished with the new drug benefit), clear legislative authority, and administrative flexibility.

In considering a new policy, the Congress faces difficult choices. The SGR is calling for a series of annual updates of –5 percent well into the next decade (Boards of Trustees 2006, CBO 2007). The Medicare trustees have characterized such a series of updates as unrealistically low. The Congress could act to prevent these updates, but baseline spending projections make legislative alternatives very expensive. For instance, the Congressional Budget Office estimates that replacing the SGR with updates based on the Medicare Economic Index would cost more than \$200 billion over 10 years (CBO 2006). Even modifying the current formula would carry a large price. To address these costs, one option is a tax, either a general tax or one for this special purpose. Another option is to broaden the base of an expenditure target and include more providers than just physicians. The following is a phased approach to implementing the latter option, recognizing that under budget rules eliminating or moderating current policy is expensive but would provide budget restraint.

Phase I

Some steps in the phased approach could begin right away while CMS starts work on the infrastructure for more substantive changes in policy. Concurrent with the phases, a wide range of other activities should proceed, such as payment bundling and ensuring pricing accuracy (see Chapter 3).

In phase I, the Congress could adjust the current system's spending target to reduce the likelihood of multiple years of negative fee updates in the future. While Commissioners do not agree on this, the Congress could decide to eliminate, or moderate, the cumulative aspect of spending targets; implement an additional allowance corridor around targets; or increase the target (e.g., add a percentage point to the current volume allowance of real gross domestic product per capita). Chapter 4 discusses specifics of these adjustments to the current SGR.

In this initial phase, it is feasible for Medicare to offer budget-neutral bonuses to physicians who meet quality standards. In 2005, the Commission recommended that the Congress establish a quality incentive payment policy for physicians in Medicare based on an evaluation of the quality measures available at that time (MedPAC 2005). Since then, CMS has launched the Physician Voluntary Reporting Program, and, in the Tax Relief and Health Care Act of 2006, the Congress enacted bonus incentive payments for physicians and other eligible practitioners who submit data on quality measures.

While phase I could include bonuses for physicians with high performance on quality, the Commission recognizes that significant work remains to be done. The Commission has recommended a focus on the functionality of information technology while quality standards are developed for physician specialties. For instance, in previous work, we have stated that pay-for-performance policies should first focus on measuring quality-enhancing functions and outcomes associated with information technology use, such as the ability of a physician office to track whether its patients receive appropriate follow-up visits.

Phase II

In phase II, Medicare could potentially apply an expenditure target to Part B providers, such as hospital outpatient departments and ambulatory surgical centers, in addition to physicians.

Phase II could also include providing information to providers and the public with a goal of improving the value of Medicare spending. Doing so includes differentiating among geographic areas and among individual providers to reveal disparities in spending and how they contribute differentially to expenditure growth.

To differentiate among geographic areas, we first need to define areas. While there are a number of ways to do so, one option is to use MSAs and the rural areas in each state outside of MSAs, for a total of 372 areas. If some areas are judged to be too small because of year-to-year volatility in spending, we can define larger geographic areas such as states or the 34 geographic regions defined for Medicare Part D. Chapter 6 further discusses the issue of defining geographic areas.

In phase II, CMS could begin measuring resource use for all physicians and providing feedback so physicians can see measures of their performance relative to that of their peers. Peers in this case could be physicians practicing in the same geographic area and within the same specialty. As discussed in Chapter 10, one way to analyze practice patterns is to use analyses of claims that have been grouped into episodes of care. As the Commission has recommended, the feedback to physicians could initially be confidential and informational (MedPAC 2005). Over time, as experience is gained and methods are improved, a range of policy responses could be considered, including public reporting, payment differentials in the form of payment updates or withholds, or exclusion of physicians from the program.

Further differentiation could occur by physicians and possibly other types of providers organizing themselves into ACOs. Chapter 8 and Chapter 9 discuss how this might occur. Briefly, CMS

could report on hospital medical staffs or medical groups using patterns of referrals and other information in claims. Reporting could spur development of ACOs, for which CMS would need to establish eligibility criteria. The eligibility criteria could address topics such as use of evidence-based medicine, information technology, care coordination, and responsible compensation. In addition, the ACOs would have to be large enough to produce stable measures for these criteria over time. These ACOs could then participate in a shared savings program (in phase IV).

Phase III

Phase III could expand the policy of adjusting payment rates—adjusting rates if spending differs from a target—geographically and to include all providers, not just physicians. Appropriate use of resources is a goal for all of Medicare. This goal is particularly important in the care of beneficiaries with high-cost illnesses that often require a hospital stay. Expanding the policy to include all providers should give them an incentive to collaborate and make care more efficient. In addition, it may be more equitable to hold all providers accountable for volume growth given Medicare’s problem with long-term sustainability.

In applying an expenditure target geographically, it could remain a target for growth in spending, similar to the current national target. Alternatively, the policy could account for differences in the level of spending (per beneficiary) among geographic areas. Yet another option is to establish a target based on each area’s contribution to growth (i.e., taking into account both the starting level of spending and the growth rate). As discussed in Chapter 11, this option has the advantage of accounting for both growth in spending and the level of spending.

Phase IV

ACOs could begin to receive shared savings in phase IV. Those savings could allow them to earn back losses under the volume target system in high-volume areas and to receive bonuses in low-volume areas. Shared savings could also foster organized systems of care especially in areas that exceed their spending targets and experience negative payment adjustments.

The intent of the shared savings program would be to reward efficient care in all forms of organization. The ACOs could include group practices (see Chapter 8) and hospital medical staffs (see Chapter 9).

Other opportunities for performance rewards and penalties would be available to smaller groups of physicians—and even single physicians—as pay for performance could incorporate measures of resource use with quality in order to reward efficiency.

In participating in the shared savings program, some ACOs would evolve out of the public reporting in phase II and could be viewed as early adopters of the program. Other ACOs

might start to participate later as they become ready to meet the eligibility criteria. Receipt of shared savings by some ACOs at the beginning of phase IV should not preclude others from participating later as they develop the capabilities necessary.

As to the design of the shared savings program, the physician group practice demonstration now under way may be a model. Features of the demonstration include voluntary participation by groups of physicians and comparison of their performance with that of their community. However, some of these features may need to change, such as the threshold group practices must achieve before they receive shared savings.

Discussion

This phased approach has multiple parts, so it shares advantages and disadvantages with individual alternatives to the SGR, such as the geographic and outlier alternatives. Overall, though, the advantage of this approach is that it could allow pursuit of multiple goals simultaneously. It would improve accountability by departing from the existing national target, it would address geographic differences in the volume of services, and it would give providers information they could act on to change their practice style.

Disadvantages of this approach include, first, resistance to what could be a large redistribution of payments. Second, it is complex and would impose an administrative burden on CMS. Third, with spending pools that are smaller than the nation as a whole, there would be concerns about attribution of care and volatility. In particular, this could be a problem for ACOs, which would function within geographic areas.

This approach could also have unintended consequences. For instance, Medicare Advantage (MA) plans could gain an advantage over Medicare fee-for-service. For beneficiaries living in a given county, those plans are paid according to a benchmark that initially was based in part on Medicare fee-for-service spending in that county. What if payments in Medicare fee-for-service fall with implementation of the phased approach? If that occurs, payments in Medicare fee-for-service will fall relative to private plans because MA rates cannot go down under current law and may go up over time. To achieve the neutrality between MA and fee-for-service that the Commission recommends, CMS will need legislative authority to adjust benchmarks for the MA plans under the phased approach. ■

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Endnotes

- 1 The spending estimates for Minneapolis and Miami are not risk adjusted. In addition, the estimate for Minneapolis is not the same as the estimate for that city that appears in Chapter 8. The estimates here are for a 5 percent sample of beneficiaries, whereas the estimates in Chapter 8 are for a 100 percent sample, with unattributed beneficiaries excluded from the denominator (as explained in that chapter).

A P P E N D I X

A

Mandate for report

Mandate for report

Deficit Reduction Act of 2005, Section 5104

(c) MEDPAC REPORT.—

(1) **IN GENERAL.**—By not later than March 1, 2007, the Medicare Payment Advisory Commission shall submit a report to Congress on mechanisms that could be used to replace the sustainable growth rate system under section 1848(f) of the Social Security Act (42 U.S.C. 1395w–4(f)).

(2) **REQUIREMENTS.**—The report required under paragraph (1) shall—

- (A) identify and examine alternative methods for assessing volume growth;
- (B) review options to control the volume of physicians' services under the Medicare program while maintaining access to such services by Medicare beneficiaries;
- (C) examine the application of volume controls under the Medicare physician fee schedule under section 1848 of the Social Security Act (42 U.S.C. 1395w–4);
- (D) identify levels of application of volume controls, such as group practice, hospital medical staff, type of service, geographic area, and outliers;
- (E) examine the administrative feasibility of implementing the options reviewed under subparagraph (B), including the availability of data and time lags;
- (F) examine the extent to which the alternative methods identified and examined under subparagraph (A) should be specified in such section 1848; and
- (G) identify the appropriate level of discretion for the Secretary of Health and Human Services to change payment rates under the Medicare physician fee schedule or otherwise take steps that affect physician behavior.

Such report shall include such recommendations on alternative mechanisms to replace the sustainable growth rate system as the Medicare Payment Advisory Commission determines appropriate.

A P P E N D I X

B

The volume performance standard

From 1980 through 1989, annual growth in spending per beneficiary, adjusted for inflation, ranged from 1.3 percent to 15.2 percent, with an average annual growth rate of 8.0 percent. In response to this growth, the Congress established, via the Omnibus Budget Reconciliation Act of 1989, the volume performance standard (VPS), designed to give physicians a collective incentive to control the volume of services they furnished. It linked payment to growth in the number and mix of services provided. Each year, the VPS system set target rates of spending growth, called performance standards, based on four factors: the number of fee-for-service Medicare beneficiaries, inflation in practice cost, historical growth in volume and intensity, and laws and regulations that could affect spending for physician services. Two years later (when data became available), the VPS would compare actual spending growth for that year with the target and would then adjust conversion factors to hold spending growth to the target rates of growth.

From 1992 through 1997—the period when the VPS set the fee updates—annual growth in spending for physician services was far lower than in the preceding decade. The decline largely resulted from slower growth in volume and intensity. We do not know if the VPS caused the slower growth.

Several limitations of the VPS led to problems over time. First, because the system set separate conversion factors for three categories of services, it distorted the relative payment intended to occur under the physician fee schedule. In 1997, for example, the conversion factor for surgical services was \$40.96 compared with \$35.77 for primary care services. Second, methodologic flaws in the formula led to increasingly stringent spending targets because low historical averages were coupled with large legislated deductions. Performance standards were based, in part, on a five-year historical trend in volume and intensity reduced by a congressionally specified number of percentage points. When the first performance standards were set, the historical average was high and only a small deduction of 0.5 percentage point was taken. At the time, volume growth was expected to remain high but small reductions were considered feasible. The small reductions were taken for potential inefficiencies and inappropriate care inherent in the historical trend. Over time, as mentioned, the historical average for volume fell dramatically. This drop led to large increases in the conversion factors in 1994 and 1995 (10 percent and 12 percent, respectively). Simultaneous with the decrease in volume growth, the legislated deduction gradually increased from the initial 0.5 percentage point to 4.0 percentage points. ■

A P P E N D I X

C

**Determining the update to the
physician fee schedule
conversion factor under the SGR**

The update to the physician fee schedule conversion factor is determined under the SGR according to a statutory formula that requires multiplying the Medicare Economic Index (MEI) by an update adjustment factor (UAF). The MEI measures the weighted average price change for various inputs involved with producing physicians' services. The UAF, defined in statute, compares actual and target expenditures and, for a given year, is determined by the following formula:

$$UAF_{\text{year}} = \frac{\text{Target}_{\text{year-1}} - \text{Actual}_{\text{year-1}}}{\text{Actual}_{\text{year-1}}} \times 0.75 + \frac{\text{Target}_{4/96\text{-year-1}} - \text{Actual}_{4/96\text{-year-1}}}{\text{Actual}_{\text{year-1}} \times (1 + \text{SGR}_{\text{year}})} \times 0.33$$

Where:

- $\text{Target}_{\text{year-1}}$ = Estimated allowed expenditures for the previous year
- $\text{Actual}_{\text{year-1}}$ = Estimated actual expenditures for the previous year
- $\text{Target}_{4/96\text{-year-1}}$ = Estimated cumulative allowed expenditures from April 1996 to the previous year
- $\text{Actual}_{4/96\text{-year-1}}$ = Estimated cumulative actual expenditures from April 1996 to the previous year
- SGR_{year} = Estimated sustainable growth rate for the given year

Allowed and actual expenditures, for each year and cumulatively, are shown in Table C-1, p. 210.

CMS estimates that the SGR for 2007 is 1.8 percent (0.018). CMS determined the UAF for 2007 as follows:

$$\begin{aligned} UAF_{2007} &= \frac{\text{Target}_{2006} - \text{Actual}_{2006}}{\text{Actual}_{2006}} \times 0.75 + \frac{\text{Target}_{4/96-2006} - \text{Actual}_{4/96-2006}}{\text{Actual}_{2006} \times (1 + \text{SGR}_{2007})} \times 0.33 \\ &= \frac{81.7 - 94.9}{94.9} \times 0.75 + \frac{693.3 - 735.9}{94.9 \times (1 + 0.018)} \times 0.33 \\ &= -25.0 \text{ percentage points} \end{aligned}$$

Table C-1**Allowed and actual expenditures for physicians' services under the SGR**

Year	Allowed expenditures (in billions)		Actual expenditures (in billions)	
	Yearly	Cumulative	Yearly	Cumulative
1996	\$36.6	\$36.6	\$36.6	\$36.6
1997	50.0	86.6	49.3	85.9
1998	52.1	138.7	49.9	135.8
1999	55.4	194.1	52.6	188.4
2000	59.3	253.4	58.0	246.4
2001	62.0	315.4	66.3	312.7
2002	67.1	382.5	70.9	383.6
2003	72.0	454.5	78.2	461.8
2004	76.7	531.2	87.1	548.9
2005	80.1	611.3	91.1	640.0
2006*	81.7	693.0	94.9	734.9

Note: SGR (sustainable growth rate). Allowed and actual expenditures are as of calendar year end. Pursuant to the Balanced Budget Refinement Act of 1999, the SGRs for 2000 and all subsequent years are estimated and subsequently revised twice, based on later data. Totals do not necessarily equal the sum of rounded components.

*Estimated.

Source: CMS 2006.

Because section 1848(d)(3)(D) of the Social Security Act does not allow the update adjustment factor for a given year to be greater than 3.0 percentage points or less than –7.0 percentage points, the UAF for 2007 is –7.0 percentage points. The UAF is then multiplied by the applicable MEI to determine the update to the conversion factor. For 2007, the SGR calculated an update of –5.0 percent. ■

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