Pathways to Quality Health Care

REWARDING PROVIDER PERFORMANCE

Aligning Incentives in Medicare

Committee on Redesigning Health Insurance Performance Measures,
Payment, and Performance Improvement Programs

Board on Health Care Services

INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES

THE NATIONAL ACADEMIES PRESS
Washington, D.C.
www.nap.edu

2

The Promise of Pay for Performance

CHAPTER SUMMARY

This chapter reviews the current health care payment systems; the strengths, weaknesses, and potential adverse consequences of pay for performance; early experiences with the approach; and the ways in which pay for performance can be used as a pathway to reform. Multiple and complex challenges confront any such effort, and monitoring and evaluation will be essential so stakeholders can learn from experience, identify unanticipated consequences, and implement midcourse adjustments as necessary.

Current payment systems are not well aligned with efforts to achieve the six quality aims set forth in the Quality Chasm *report (IOM, 2001). These systems place little emphasis on achieving high clinical quality, do not reflect the value of services, frequently act to drive up costs, and do not encourage patient-centered care or the efficient use of resources. While this report does not attempt to address all shortcomings of the current systems, the committee's analysis should be viewed within the broader framework of the need for fundamental reform of the health care payment structure.*

The initiatives proposed in this report would modify current health care payment systems by using financial incentives to promote higher levels of quality across diverse health care settings. These initiatives are predicated on the assumption that the health care Americans receive could and should be of considerably greater value—better-quality care obtained at a sustainable and socially acceptable cost (see Chapter 1). Based on a review of the available evidence, the committee concluded that modest changes alone in the current systems—systems in which provider reimbursement is based largely on the quantity of health care services rendered—are unlikely to promote significant progress toward the goals of improved quality and reduced growth in costs. Rather, a profound and fundamental alignment of

incentives (financial, informational, and reputational) with desired outcomes is required to stimulate the needed transformational change in the current health care payment systems.

CURRENT PAYMENT SYSTEMS

At present, the care for 88 percent of Medicare beneficiaries, or approximately 35 million individuals, is paid for under fee-for-service systems. The remaining 12 percent of beneficiaries are enrolled in the Medicare Advantage program, under which private plans are paid monthly, risk-adjusted capitated amounts in return for providing Medicare's benefits to those who choose to enroll in Medicare Advantage (Kaiser Family Foundation, 2005). Medicare's fee-for-service payment rates and fees are set administratively by the Centers for Medicare and Medicaid Services (CMS) at levels intended to cover the cost of the resources typically required to provide a particular service. The service may be defined narrowly, such as a chest x-ray, or broadly to encompass a bundle of services, such as all the inpatient hospital care associated with a stay of any duration for a heart bypass operation.

Medicare's rates and fees do not vary with the quality of the service provided. Furthermore, the fee-for-service payment structure generally does not provide reimbursement for health services that are recognized as important contributors to quality, such as comprehensive case management, care coordination, health counseling, and many preventive services that may reduce the need for hospitalization or more expensive future medical procedures. In addition, because of the way payment rates for different services are set relative to one another, new, complex, high-tech interventions tend to be better compensated than procedures involving less intensive service use, less or older technology, and more time with patients (which may be important to quality care) (Ginsburg and Grossman, 2005). Additionally, payment rates and fees do not vary according to the need for a particular service. For example, one study that examined clinical decision making under different payment systems found that expenditures for discretionary services were lower under capitated than under traditional fee-for-service arrangements (Shen et al., 2004). Providers are paid more for doing more and are not penalized when the provided services are of little or no value or, worse yet, negatively affect health outcomes. In some cases, the incentives embodied in fee-for-service payments may encourage the delivery of unnecessary or even harmful services that can raise fundamental concerns about cost and safety (Robinson, 2001).

Since fee-for-service payments offer little direct incentive to improve quality or avoid low-value services, they fall short of fostering goals in the

three critical domains identified in Chapter 1: clinical quality, patient-centeredness, and efficiency. Although fee for service is responsive to patient demand for services in the sense that the health care system is responsive to the sickest patients who require more complex and higher levels of care, this type of payment structure offers no incentives to providers or patients to improve overall health status through preventive services or lower-cost interventions that can ultimately reduce the demand for more complex clinical services. The systems pay for treating illness and injury, not for keeping people well.

Since Medicare's inception, policy makers have been concerned about the rapid growth of health care expenditures. The program's payment systems have been modified in response to these concerns, but these changes have not been sufficient. More recently, concern has also focused on the quality of care, and some steps to improve quality have been taken. CMS is currently conducting demonstrations to test payment systems designed to reward higher-quality care, but these initiatives have not yet been implemented on a wide scale. A brief review of Medicare payment policies follows.

Original Medicare Retrospective Payment Systems

Initially, Medicare payment policies followed the prevailing private-sector practice of the early 1960s, which was to reimburse providers for the lesser of either their usual and customary charges or their actual costs for each service delivered. The reimbursement system was retrospective because payments could not be calculated until after the service had been provided; the physician or hospital would not learn the exact payment amount until after the end of the year, when customary charges and actual costs could be audited and payment rates calculated. This payment system provided no real restraint on expenditures. The more providers spent on a service or increased charges, the more Medicare would ultimately pay. To limit growth in expenditures, Medicare began to define more narrowly which costs were acceptable and which were not, as well as to set limits on allowable increases, thereby making the payment system increasingly complex.

Prospective Payment Systems

In an attempt to gain better control over burgeoning expenditures, policy makers began in the 1980s to shift Medicare from retrospective to prospective payment systems. Prospective payment was first introduced in inpatient acute care hospitals in 1983. Since then, CMS has instituted prospective payment for other provider settings, including skilled nursing facilities in 1998, home health agencies in 2000, and

outpatient acute care hospitals in 2000 (SUNY, 2001; CMS, 2006c). Physicians are reimbursed according to the Medicare Physician Fee Schedule. The new systems set payments for various services (or bundles of services) in advance of their delivery. Thus, providers know how much they will be paid before they treat their patients and can better plan their care and resource use.

Fees and payment rates of Medicare's prospective payment systems are set administratively to cover CMS's estimate of the average cost of providing a service, plus a small margin. In some instances, the payment does not cover the provider's costs; in other cases, the payment is more than sufficient. In some situations in which costs far exceed payments, Medicare provides additional "outlier payments" that cover a portion of the excess costs. Under most of Medicare's prospective payment systems, payments are adjusted for geographic differences in labor and other costs. In general, prospective payment encourages providers to keep the costs of services below the payment amount and creates incentives to treat those with the least severe and complex conditions in any particular diagnosis, service, or risk category.

As noted above, the unit for which payments are made may be a bundle that encompasses all of the inputs necessary to provide a stay in an institution or perform a procedure, or it may be a discrete, narrowly defined item, test, or service. Under most of the payment systems, unless Congress intervenes, rates are automatically adjusted upward each year based on indexes of anticipated price increases. A major exception is the Medicare Physician Fee Schedule update, which is governed by the sustainable growth rate (SGR). This formula limits the growth in per beneficiary Medicare Physician Fee Schedule expenditures to the growth in per capita gross domestic product. Because the volume and average intensity of services paid for under the Medicare Physician Fee Schedule have been growing very rapidly, application of the SGR formula has resulted in negative updates for physicians in recent years. With the exception of 2002, Congress has acted to avert these reductions (U.S. GAO, 2005). CMS projects that the SGR will impose annual negative updates of more than 4 percent each year during 2007–2011, which may affect physicians' willingness to consider performance-related payment changes and incentives (MedPAC, 2006).

Appendix A presents more detailed descriptions of payment systems and their incentives for in- and outpatient hospital care, skilled nursing facilities, home health care, outpatient dialysis services, physicians, and Medicare Advantage plans. The discussion there is intended to give a broad overview of payment methodologies, not a detailed picture of all the complexities of each method, to provide a context for the consideration of payment incentives. Table 2-1 presents an overall picture of spending in the Medicare program by provider setting.

TABLE 2-1 Medicare Program Spending by Provider Setting, 2003

Setting	Hospital Insurance (billions of dollars)	Supplementary Medical Insurance (billions of dollars)	Total (billions of dollars)	Percent of Total
Hospital	109.4	17.9	127.3	45
Physicians	N/A	48.3	48.3	17
Managed care	19.5	17.2	36.8	13
Skilled nursing facility	14.3	N/A	14.3	5
Home health	2.6	7.1	9.7	3
Other	6.3	33.3	39.6	14

NOTE: N/A = not applicable.
SOURCE: Based on data from MedPAC (MedPAC, 2005).

PAY FOR PERFORMANCE AS A PATHWAY TO REFORM

Pay for performance has emerged as a promising strategy to address the inadequacies of the current payment system outlined above, and has attracted considerable attention in the private marketplace. Additionally, CMS has begun to invest resources in pay for performance as a reform strategy (CMS, 2006a). These pay-for-performance initiatives must be implemented successfully, both to achieve their particular goals—improved quality of care and cost containment—and to prompt the fundamental changes needed in the health care system overall.

In other sectors of the American economy, a reform of this magnitude would be based not only on sound theory, but also on pertinent practical experience. While the database on which to base the design and evaluation of pay-for-performance programs is growing steadily, it remains incomplete and without substantial validation. Despite this lack of a definitive evidence base, both private- and public-sector decision makers would like to move forward aggressively with pay-for-performance programs. However, experience with other health care initiatives suggests that the rapid implementation of new payment strategies based on theory and preliminary results does not always achieve the desired goals. In fact, it can prove to be counterproductive, exacerbating current problems and creating new ones.

The Theory Behind Pay for Performance

In essence, pay for performance represents an attempt to align incentives in the payment system so that rewards are given to providers who foster the six quality aims set forth in the *Quality Chasm* report (IOM,

2001) (see Chapter 1) and improve health outcomes while using resources parsimoniously. At the most basic level, improving care requires changes in the behavior of providers. Paying providers for improving performance or achieving superior levels of performance should motivate them to focus on doing so in measured areas. Pay for performance also has the potential to achieve change by influencing the environment in which providers practice. For instance, performance-based payment could make it attractive for both providers and provider organizations to invest in improved systems for tracking and enhancing the quality of care, making them better able to manage the health of the populations they serve. Ideally, pay for performance would encourage certain changes in structural and organizational practices, such as a new emphasis on comprehensive and coordinated care and collaboration across individual settings of care, and stimulate consumers to pay attention to quality practices.

Effects of Medicare Payment Systems on Provider Behavior

Evidence that providers have responded to changes in Medicare payment policies in the past suggests that health care providers will likely change their behavior in response to Medicare payment incentives to improve quality. The implementation of various Medicare prospective payment systems has been associated with significant changes in provider behavior. All of these behavior changes cannot be attributed conclusively to the new payment systems because those systems did not emerge in isolation, and because research on their effects often examined varying aspects of change, used different data, and focused on different types of providers. Nonetheless, the literature attests to dramatic shifts in the way health care is delivered since the new systems were instituted. For example:

- In the 1980s, hospital discharges and average lengths of stay were slowly decreasing among those under age 65, while both rates were increasing for the Medicare population. This trend reversed in the Medicare population after a prospective payment system was implemented in acute care hospitals in 1983. Also, utilization rates dropped dramatically in 1984 and 1985, while those rates among the rest of the population continued to decrease at a more gradual pace, although utilization increased somewhat for both populations later in the 1980s (Hodgkin and McGuire, 1994).
- Controlled studies of the responses of hospitals to Medicare payment changes showed that their behavior was related directly to Medicare's portion of their volume. Thus hospitals that were more dependent on Medicare patients were likely to show a larger change in the observed behavior relative to hospitals with a smaller proportion of Medicare patients (Hodgkin and McGuire, 1994).

The Experience of the United Kingdom

Standing in contrast to the pay-for-performance programs in the U.S. commercial insurance market is the recent General Practitioner (GP) contract with Britain's National Health Service (NHS) (Roland, 2004; Smith and York, 2004). The arrangement instituted under this contract awards a substantial portion of compensation according to performance on 146 quality indicators. The program targets physician practices, which generally have fewer than five physicians, rather than individual physicians, and pays according to overall performance using a balanced scorecard (i.e., points are awarded for each of the 146 indicators, and the total score is then used as the basis for payment). In addition to performance bonuses, practices are provided with subsidies for infrastructure improvements, as well as additional staffing. The plan is to put approximately 18 percent of GP income at risk, to be distributed subsequently on the basis of performance measures. Financial penalties for persistent low performance are also planned for future years.

Of note are several important differences between the NHS and Medicare that relate to the ease of implementation and effectiveness of a pay-for-performance program. Every NHS patient must register with an individual practitioner who assumes responsibility for that patient's care. Additionally, the United Kingdom is in the process of instituting a uniform national computerized information system that will include capabilities to automate reporting on the specific measures employed. Most physicians in the United States contract with multiple private and public payers, and many plans with pay-for-performance programs do not account for a large portion of a physician's income. Moreover, the majority of physician award programs in the United States do not put more than 5 percent of compensation at risk (Rosenthal et al., 2004).

Previous programs in the United Kingdom showed positive responses to financial incentives (Smith and York, 2004). A "fundholding experiment" from 1991 to 1998 that gave practitioners fixed budgets for providing secondary care and pharmaceuticals to their patients ultimately resulted in fewer inpatient procedures and reduced patient waiting times. A program in East Kent from 1998 to 2000 defined disease management targets that practitioners had to meet or repay funds. Both of these programs required new money initially; however, the first created incentives for efficiency savings, while the second relied on a reverse withhold to encourage quality improvement.

Common Themes Among Pay-for-Performance Programs

The majority of incentive arrangements target a mix of population-based measures of clinical quality and patient experience measures (Rosenthal

et al., 2004). According to a recent survey, payers are also increasingly providing direct incentives for the adoption of information technology and for performance on cost-efficiency metrics (AIS, 2004).

In almost all cases, pay-for-performance sponsors reward all physicians whose performance exceeds an absolute threshold (e.g., at least 80 percent of patients with coronary artery disease undergo appropriate cholesterol screening) or all physicians above a given percentile rank based on the level of performance. Thus, quality improvement is not explicitly required for the receipt of a bonus, and the incentives to improve vary with baseline performance. With an absolute performance threshold, physicians whose baseline performance is high need only maintain the status quo to receive payment. For physicians with the lowest performance, the award may not be sufficient to balance the cost of making the required dramatic improvement.

Most of the early pay-for-performance programs for physicians targeted primary care domains (although payments were often to multispecialty groups). More recently, payers also appear to be measuring and rewarding the quality of care delivered by specialists. According to a private survey, more than two-thirds of current pay-for-performance programs now cover specialists, including cardiologists, obstetrician/gynecologists, orthopedists, gastroenterologists, otolaryngologists, and general surgeons (AIS, 2004).

Pay for Performance in Medicare

While measurement systems have provided an impetus for continuing improvement in the quality of care in the Medicare program, overall change has been slow. To date, CMS has invested heavily in the collection and reporting of data on the quality of care of health plans, hospitals, and other institutional providers. While information-based approaches continue to evolve, reliance on benchmarking, subtle pressure from purchasers, and the market impact of individual patient choice are unlikely to eliminate the gap between optimal, evidence-based medicine and actual practice. However, these efforts do lay the groundwork for an effective pay-for-performance program by generating critical baseline information and the infrastructure that will serve as the base for the reward system.

A broad policy rationale for a Medicare pay-for-performance program is the opportunity to improve not only the overall quality of care for Medicare enrollees, but also the care provided to other populations. Many quality improvement investments involve fixed costs, such as those for information technology or training, whose benefits will accrue to all patients. In addition, the added market power of Medicare will magnify the importance of the existing pay-for-performance programs of health plans and may have further positive spillover effects if other payers follow the lead of CMS in payment reform, as was the case with prospective payment systems.

The objectives of pay for performance are to:

- Encourage the most rapid feasible performance improvement by all providers.
- Support innovation and constructive change throughout the health care system to achieve clinical quality improvements, patient-centered care, and efficient use of health resources.
- Promote better outcomes of care, especially through coordination of care across provider settings and time, especially in the treatment of chronic disease.

Pay for performance is not simply a mechanism to reward those who perform well; rather, its purpose is to encourage redesign and transformation of the health care system to ensure high-quality care for all. In such a system, all participants—providers, purchasers, and beneficiaries—can potentially benefit.

As pay-for-performance programs go forward, it will be crucial to develop a strong learning system within the Medicare enterprise to ensure successful implementation and ongoing improvement (see Chapter 6). The evidence base to support pay for performance is still emerging (see below) and implementation efforts should encompass extensive testing and evaluation to assess the effects of the new system. While pay for performance appears to induce change in some health care environments, it cannot by itself create either the high-performing health care system or the payment reform envisioned in the previous reports of the Institute of Medicine's (IOM's) *Pathways to Quality Health Care* series. Ideally, the contributions of payment reform should be compared with the outcomes that could be produced by other mechanisms, such as continuing medical education, accreditation, and consumer activation, which may also be linked to financial incentives. Such an assessment was beyond the scope of this study. Other nonfinancial mechanisms, such as public reporting, benefit redesign, and professional and public education, are also critical components of a far-reaching quality improvement strategy. All of these efforts should be aligned with pay-for-performance programs in order to ensure a common goal and synergistic effects.

Rewarding Beneficiaries

In designing a pay-for-performance program for Medicare, financial rewards could be directed at providers, beneficiaries, or both. For example, mechanisms could be devised to allow those consumers who improved their lifestyles (to promote better health outcomes) to share with providers in the savings that resulted from the prevention of consequent

data are suspect, and suitable natural experiments are lacking. The negative studies in the health care literature used small rewards and incentives based on performance relative to peers, so physicians had no way to know what performance levels would ensure a bonus. Overall, past studies have yielded no clear guidance on the appropriate magnitude of performance-based compensation.

MONITORING FOR UNINTENDED CONSEQUENCES

As noted above, more than 100 pay-for-performance programs have been implemented in the health care sector (Med-Vantage Inc., 2006). These initiatives constitute a rich source of experience regarding the impact of this innovation in health care financing, experience that can help answer questions about what works that are asked by all stakeholders. Concrete data with which to assess the benefits and identify the unintended adverse consequences of the approach are increasingly becoming available; quantification of the impact of pay-for-performance programs is possible, however, only if they are evaluated thoughtfully and systematically. Such evaluation requires careful planning.

Evidence for unintended or unexpected consequences of pay for performance outside of the health care arena, such as gaming in return-to-work and school programs, is relatively well established (Burgess and Ratto, 2003; Courty and Marschke, 2004). In health care, if providers are paid based on performance according to outcome criteria, they may attempt to select healthier patients to maximize net revenues. Other possible negative effects of targeted incentives, such as reductions in various dimensions of quality of care in areas not targeted for financial rewards (which may be a particular concern in primary care because of the broad scope of practice), have not been evaluated empirically. While providers for the most part have the best interests of their patients in mind, such unintended adverse consequences may be a real concern. Table 2-3 is a nonexhaustive listing of some of these potential unintended adverse consequences, each of which is reviewed below. Further experience may identify additional concerns.

Decreased Access

Improved quality of care overall is a highly desirable goal, but it should not be achieved at the expense of decreased access to care. Access to necessary services forms the foundation for high-quality care. A meaningful decrease in access to care resulting from the implementation of a pay-for-performance program constitutes an unacceptable outcome.

In their efforts to reach performance thresholds that will result in augmented payment, providers may exclude patients from their practices who

TABLE 2-3 Potential Unintended Adverse Consequences of Pay for Performance

Decreased Access	Increased Disparities	Marginalized Comprehensive Integrated Care	Impeded Knowledge Transfer and Innovation	Demoralized Workforce	Forestalled Reform Efforts	Shifted Costs
Denial of high-risk or noncompliant patients	Creation of incentives for skimming	Promotion of management to the measure or condition	Decreased sharing of best practices and misadventures	Withdrawal of providers from Medicare	Ignorance of other possible reform efforts	Shift of costs to the private sector
Creation of unmet demand for "successful" providers	Disadvantage to undercapitalized practices	Diversion of resources from nonmeasured areas of care	Slowed uptake of nonmeasured practices	Stalled progress in quality agenda	Stalled progress in quality agenda	Shift of costs to consumers

are known to be at high risk for adverse clinical outcomes. As the evidence base continues to grow, providers will be better able to identify prospectively those patients likely to respond poorly to their care. Process-based performance measures may exert a similar adverse selection pressure. Noncompliant patients constitute a particularly frustrating group of patients to manage, putting health care providers at risk for poor performance based on measures of both process and outcome. If providers react by avoiding these patients to keep their performance scores high, the result could be restricted access to care and worsened health. This is the case especially for the old or chronically ill; initially at higher risk, their health status is more likely to deteriorate and at a faster rate if their access to care is limited. Therefore, researchers must make the investigation of risk adjustment for performance measures a high priority. For example, pay-for-performance programs might be structured to give greater rewards to providers who treat high-risk patients (see Chapter 4). If pay for performance is to realize its full potential for change, it will be necessary to engage providers in the care of these challenging patients.

The public reporting of provider performance may also contribute to decreased access. As emphasized throughout this report, public reporting is a cardinal feature of health care reform as it enhances transparency. It can be a powerful motivator to guide change in provider behavior and provide consumers with key data on which to base good decisions (Shaller et al., 2003). Both of these effects are thought to result in higher-quality health care, which in turn represents better value (Marshall et al., 2000; Mason and Street, 2006). At the same time, however, there is concern that the public reporting of provider performance could have unintended adverse consequences. Health care consumers, both individual patients and payers for health care services, would likely seek out the high-quality providers. Providers shown to perform at lower levels might opt to reduce their Medicare caseloads in favor of participants in private plans. As a result, some consumers could be denied access to the care they desire.

Increased Disparities

Previous IOM reports have highlighted disparities in quality of care that occur along many specific dimensions, including geographic region; provider type; and patient age, sex, and ethnicity (IOM, 2002, 2005). Disparate care is, by definition, low-quality care, and pay for performance could exacerbate such disparities. Populations most affected by disparities in health care are cared for disproportionately by undercapitalized providers who are likely to lack the resources necessary to invest in the infrastructure (such as health information technology) needed to facilitate participation in pay for performance. Nevertheless, the health care services they offer

constitute a critical safety net. The same market forces that will operate to improve or eliminate the cohort of providers who perform poorly may leave populations subject to disparities in care with fewer provider options than they had before. Pay-for-performance programs must therefore be carefully designed to identify relationships that exist between populations subject to disparate care and poorly performing providers. Objective assessment will help limit cultural bias in performance measurement.

Marginalized Comprehensive Integrated Care

The application of performance measures in the evaluation of health care for a particular condition (e.g., diabetes mellitus) or preventive service (e.g., breast cancer screening) poses the risk of decreasing performance and thereby compromising the quality of care being provided in areas that are not the focus of pay for performance. Pay for performance could encourage this tendency to manage to the measures, focusing efforts excessively on those measures that yield the greatest financial return. At the same time, however, this could be beneficial by focusing efforts on areas with the greatest need for improvement, such as the treatment of chronic diseases.

Additionally, measures may conflict with one another, ultimately causing harm to patients. This concern reinforces the need, articulated in the *Performance Measurement* report (IOM, 2006b), to develop a comprehensive set of performance measures as rapidly as possible. The present report articulates the need for measures that reward three key domains of care: clinical quality, patient-centeredness, and efficiency. As noted earlier, a single-minded focus on clinical quality can lead to increased health care costs through overuse of services. A similar narrow focus on efficiency could compromise clinical quality and raise at least the appearance of a fundamental conflict of interest. And performance measures that place undue emphasis on clinical quality or efficiency are unlikely to be patient-centered.

A comprehensive portfolio of performance measures must reflect consensus around the vision of a reformed and integrated health care system designed to achieve the goals articulated in the *Quality Chasm* report (IOM, 2001). For example, prompt, understandable, and empathetic communication to the patient of the results of a magnetic resonance scan is as important as the technical quality and value of the imaging study itself; ideally, financial incentives should be restructured, based on valid and robust measures of performance, to encourage both.

Impeded Knowledge Transfer and Innovation

In the health care sector, best practices are adopted at a surprisingly and disconcertingly slow rate (Lomas et al., 1993; Bates et al., 2003). While

health care presents a unique set of challenges for practice improvement, innovations that are evidence based and have been demonstrated to improve the quality of care can take in excess of 17 years to become common practice (Balas and Boren, 2000). Delay in the development or implementation of best practices has substantial human and financial costs. Open dissemination of experience is necessary to harness the capacity of the health care industry to improve. Pay-for-performance programs could unintentionally subordinate collaboration to competition. Providers following a more economically directed model of care might hesitate to share successful practice improvement strategies with their competitors, fearing that doing so would put at risk not only the financial incentives offered through pay for performance, but also the competitive advantage that these successful innovations would offer in negotiating with patients and insurers.

It is difficult to know how best to prevent this from occurring. Clearly the business case for cooperation must be made as solidly and quickly as possible so that providers will be motivated to share both successful strategies and barriers to implementation they may identify. Government is limited in its ability to bring about this type of interchange. Entities such as Medicare's Quality Improvement Organizations might provide a forum for exchange of such information, fostering the creation of a culture of quality improvement (IOM, 2006a).

A separate compelling concern is that pay for performance could inadvertently stifle long-term innovation by shifting the focus of quality improvement exclusively to the achievement of short-term goals. While it is important to reward interventions that result in short-term improvements, it is essential as well not to suppress the experimentation and innovation that can lead to new procedures, applications, and approaches that can generate long-term continuous improvement in quality. Successful pay-for-performance programs must not foster the development of a new status quo that is better, but incomplete.

Demoralized Workforce

Pay for performance must be structured to promote higher-quality care and cost control, but not at the expense of driving providers from the health care arena. Provider acceptance will be a large point of contention in any pay-for-performance initiative. If payment under such a program is perceived by providers as unfair, they may become increasingly demoralized. Additionally, if the burden on providers of participating in a Medicare pay-for-performance program is too overwhelming (relative to the potential rewards), providers may withdraw from participation in Medicare, causing serious access issues in some geographic regions in addition to those discussed above. For example, fewer physicians are choosing primary care as

program of this scale must be an evolving learning system that can adapt to knowledge gained and monitor for unintended negative consequences. The following chapters describe how pay for performance in Medicare could be designed. Chapter 3 addresses funding alternatives, Chapter 4 issues surrounding the distribution of those funds, and Chapter 5 specific details of program implementation.

REFERENCES

AIS. 2004. *Case Studies in Health Plan Pay-for-Performance Program.* Washington, DC: Atlantic Information Services, Inc.

Balas EA, Boren SA. 2000. Managing clinical knowledge for health care improvement. *Yearbook of Medical Informatics 2000: Patient-Centered Systems.* Stuttgart: Schattauer Verlagsgesellschaft. Pp. 65–70.

Bates DW, Kuperman GJ, Wang S, Gandhi T, Kittler A, Volk L, Spurr C, Khorasani R, Tanasijevic M, Middleton B. 2003. Ten commandments for effective clinical decision support: Making the practice of evidence-based medicine a reality. *Journal of Medical Informatics Association* 10(6):523–530.

Beaulieu ND, Horrigan DR. 2005. Putting smart money to work for quality improvement. 40(5 I):1318–1334.

Bodenheimer T. 1999. Disease management—Promises and pitfalls. *New England Journal of Medicine* 340(15):1202–1205.

Bodenheimer T, Fernandez A. 2005. High and rising health care costs. Part 4: Can costs be controlled while preserving quality? *Annals of Internal Medicine* 143(1):26–31.

Bradley EH, Herrin J, Elbel B, McNamara RL, Magid DJ, Nallamothu BK, Wang Y, Normand S-LT, Spertus JA, Krumholz HZ. 2006. Hospital quality for acute myocardial infarction: Correlation among process measures and relationship with short-term mortality. *Journal of the American Medical Association* 296(1):72–78.

Burgess S, Ratto M. 2003. The role of incentives in the public sector: Issues and evidence. *Oxford Review of Economic Policy* 19(2):285–300.

CMS (Centers for Medicare and Medicaid Services). 2006a. *National Health Expenditures by Type of Service and Source of Funds.* [Online]. Available: http://www.cms.hhs.gov/NationalHealthExpendData/02_NationalHealthAccountsHistorical.asp#TopofPage [accessed April, 18, 2006].

CMS. 2006b. *Rewarding Superior Quality Care: The Premier Hospital Quality Incentive Demonstration.* [Online]. Available: http://www.cms.hhs.gov/HospitalQualityInits/downloads/HospitalPremierFS200602.pdf [accessed June 9, 2006].

CMS. 2006c. *Prospective Payment Systems—General Information.* [Online]. Available: http://www.cms.hhs.gov/ProspMedicareFeeSvcPmtGen/ [accessed May 31, 2006].

Cohen JW, Spector WD. 1996. The effect of Medicaid reimbursement on quality of care in nursing homes. *Journal of Health Economics* 15(1):23–48.

Courty P, Marschke G. 2004. An empirical investigation of gaming responses to explicit performance incentives. *Journal of Labor Economics* 22(1):23–56.

Dudley R, Frolich A, Robinowitz DL, Talavera JA, Broadhead P, Luft HS. 2004. *Strategies to Support Quality-Based Purchasing: A Review of the Evidence.* Rockville, MD: Agency for Healthcare Research and Quality.

Fairbrother G, Hanson KL, Friedman S, Butts GC. 1999. The impact of physician bonuses, enhanced fees, and feedback on childhood immunization coverage rates. *American Journal of Public Health* 89(2):171–175.

Gabel J, Levitt L, Holve E, Pickreigh J, Whitmore H, Dhont K, Hawkins S, Rowland D. 2002. Job-based health benefits in 2002: Some important trends. *Health Affairs* 21(5): 143–151.

Ginsburg PB, Grossman JM. 2005. When the price isn't right: How inadvertent payment incentives drive medical care. *Health Affairs* w5.376.

Grumbach K, Selby JV, Damberg C, Bindman AB, Quesenberry C Jr., Truman A, Uratsu C. 1999. Resolving the gatekeeper conundrum: What patients value in primary care and referrals to specialists. *Journal of the American Medical Association* 282(3):261–266.

Hill Physicians. 2005. *Hill Physicians Medical Group: 2005 Annual Report*. [Online]. Available: http://www.hillphysicians.com/HPMG_AR2005.pdf [accessed August 3, 2006].

Hodgkin D, McGuire TG. 1994. Payment levels and hospital response to prospective payment. *Journal of Health Economics* 13(1):1–29.

IHA (Integrated Healthcare Association). 2006a. *IHA News Release*. [Online]. Available: http://www.iha.org/020606.htm [accessed August 3, 2006].

IHA. 2006b. *IHA P4P Measurement Set*. [Online]. Available: http://www.iha.org/p4pyr4/fmy4.pdf [accessed August 3, 2006].

IHI (Institute for Healthcare Improvement). 2006. *Getting Started Kit: Prevent Adverse Drug Events (Medication Reconciliation)*. [Online]. Available: http://www.ihi.org/NR/rdonlyres/47D5AE1C-0B29-4A59-8D58-BABF8F4E829F/0/ADEHowtoGuideFINAL5_25.pdf [accessed June 8, 2006].

IOM (Institute of Medicine). 2001. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: National Academy Press.

IOM 2002. *Insuring Health—Care Without Coverage: Too Little, Too Late*. Committee on the Consequences of Uninsurance, eds. Washington, DC: The National Academies Press.

IOM. 2003. *Quality Through Collaboration: The Future of Rural Health*. Washington, DC: The National Academies Press.

IOM 2006a. *Medicare's Quality Improvement Organization Program: Maximizing Potential*. Washington, DC: The National Academies Press.

IOM. 2006b. *Performance Measurement: Accelerating Improvement*. Washington, DC: The National Academies Press.

Jha AK, Epstein AM. 2006. The predictive accuracy of the New York state coronary artery bypass surgery report-card system. *Health Affairs* 25(3):844–855.

Kaiser Family Foundation. 2005. *Medicare Advantage Fact Sheet*. Washington, DC: Henry J. Kaiser Family Foundation.

Kautter J, Pope GC, Trisolini M, Bapat B, Olmsted E, and Klosterman M. 2004. *Physician Group Practice Demonstration Bonus Methodology Specifications*. Unpublished.

Landro L. 2004, September 17. Booster shot: To get doctors to do better, health plans try cash bonuses. *The Wall Street Journal*.

Lavy V. 2002. Evaluating the effect of teachers' group performance incentives on pupil achievement. *Journal of Political Economy* 110(6):1286–1317.

Lee JS, Tollen L. 2002. How low can you go? The impact of reduced benefits and increased cost sharing. *Health Affairs* w290–241.

Lee JS, Berenson RA, Mayes R, Gauthier AK. 2003. Medicare payment policy: Does cost shifting matter? *Health Affairs* w3, 480–488.

Lomas J, Sisk JE, Stocking B. 1993. From evidence to practice in the United States, the United Kingdom, and Canada. *The Milbank Quarterly* 71(3):405–410.

Manno MS, Hayes DD. 2006. Best-practice interventions: How medication reconciliation saves lives. *Nursing* 36(3):63–64.

Marshall MN, Shekelle PG, Leatherman S, Brook RH. 2000. The release of performance data: What do we expect to gain? A review of the evidence. *Journal of the American Medical Association* 283(14):1866–1874.

Mason A, Street A. 2006. Publishing outcome data: Is it an effective approach? *Journal of Evaluation in Clinical Practice* 12(1):37–48.

Med-Vantage Inc. 2006. *Pay for Performance*. [Online]. Available: http://medvantageinc.com/Content/solutions.p4p.php4 [accessed June 9, 2006].

MedPAC (Medicare Payment Advisory Commission). 2005. *MedPAC Data Runs*. Washington, DC: MedPAC.

MedPAC. 2006. *Report to the Congress: Medicare Payment Policy*. Washington, DC: MedPAC.

Mishra CS, McConaughy DL, Gobeli DH. 2000. Effectiveness of CEO pay-for-performance. *Review of Financial Economics* 9(1):1–13.

Moore G, Showstack JA. 2003. Primary care medicine in crisis: Toward reconstruction and renewal. *Annals of Internal Medicine* 138(3):244–247.

Murphy K. 1999. *Executive Compensation. Handbook of Labor Economics*. New York: Elsevier Science Pub. Co.

PBGH (Pacific Business Group on Health). 2005. *Aligning Physician Incentives: Lessons and Perspectives from California*. [Online]. Available: http://www.pbgh.org/programs/documents/PhysIncentivesReport_09-01-05final.pdf [accessed August 2, 2006].

Petersen LA, Woodard LD, Urech T, Daw C, Sookanan S. 2006. Does pay-for-performance improve the quality of health care? *Annals of Internal Medicine* 145(4):265–272.

Premier Inc. 2006. *HQI Demonstration*. [Online]. Available: http://www.premierinc.com/all/quality/hqi/ [accessed June 9, 2006].

Remus D. December 2005. *Pay for Performance—CMS/Premier Hospital Quality Incentive Demonstration Project (Year 1 Results)*. [Online]. Available: http://www.premierinc.com/all/quality/hqi/results/year-1-results-participant-calll.pdf [accessed June 9, 2006].

Rich MW, Beckham V, Wittenberg C, Leven CL, Freedland KE, Carney RM. 1995. A multidisciplinary intervention to prevent the readmission of elderly patients with congestive heart failure. *New England Journal of Medicine* 333(18):1190–1195.

Robinson JC. 2001. Theory and practice in the design of physician payment incentives. *The Milbank Quarterly* 79(2):149–177.

Roland M. 2004. Linking physicians' pay to the quality of care: A major experiment in the United Kingdom. *New England Journal of Medicine* 351(14):1448–1454.

Rosenthal MB, Frank RG. 2006. What is the empirical basis for paying for quality in health care? *Medical Care Research and Review* 63(2):135–157.

Rosenthal MB, Fernandopulle R, Song HR, Landon B. 2004. Paying for quality: Providers' incentives for quality improvement. *Health Affairs* 23(2):127–141.

Rosenthal M, Hsuan C, Milstein A. 2005a. A report card on the freshman class of consumer-directed health plans. *Health Affairs* 24(6):1592–1600.

Rosenthal MB, Frank RG, Li Z, Epstein AM. 2005b. Early experience with pay-for-performance: From concept to practice. *Journal of the American Medical Association* 294(14):1788–1793.

Shaller D, Sofaer S, Findlay SD, Hibbard JH, Delbanco S. 2003. Perspective: Consumers and quality-driven health care: A call to action. *Health Affairs* 22(2):95–101.

Shen J, Andersen R, Brook R, Kominski G, Albert PS, Wenger N. 2004. The effects of payment method on clinical decision-making: Physician responses to clinical scenarios. *Medical Care* 42(3):297–302.

Smith PC, York N. 2004. Quality incentives: The case of U.K. general practitioners—An ambitious U.K. quality improvement initiative offers the potential for enormous gains in the quality of primary health care. *Health Affairs* 23(3):112–118.

Sox HC. 2003. The future of primary care. *Annals of Internal Medicine* 138(3):230–232.

SUNY. May 2001. *Fact Sheet: Medicare Basics*. [Online]. Available: http://www.canton.edu/can/can_start.taf?page=ota_medicare_facts [accessed May 31, 2006].

U.S. GAO (United States Government Accountability Office). 2005. *Medicare Physician Payments: Considerations for Reforming the Sustainable Growth Rate System*. Washington, DC: U.S. Government Printing Office.

White C. 2003. Rehabilitation therapy in skilled nursing facilities: Effects of Medicare's new prospective payment system. *Health Affairs* 22(3):214–223.
Zwanziger J, Melnick GA, Bamezai A. 2000. Can cost shifting continue in a price competitive environment? *Health Economics* 9(3):211–225.

STEPS INVOLVED IN IMPLEMENTING PAY FOR PERFORMANCE AND THEIR TIMING

Because a pay-for-perormance program depends on many inputs and the creation of new capabilities, the time needed to implement such a system is an issue that requires careful consideration. Before performance-based rewards can be offered, measures must be developed and tested (as discussed in Chapter 4 and the Institute of Medicine [IOM] report *Performance Measurement: Accelerating Improvement* [IOM, 2006]). Next, data reflecting these measures must be collected and audited, and then distributed to providers for review and feedback. The performance data must then be publicly reported before the final step of paying providers for their performance can be implemented.

Data Collection and Auditing and Provider Feedback

Following the development and testing of performance measures (which as noted was discussed in detail in the *Performance Measurement* report), the next step toward pay for performance is data collection. Data reflecting how well each provider performs on a given metric can generally be gathered from administrative claims, surveys, or medical chart review (in order of the lowest to highest time and cost burden imposed on providers). As discussed in Chapter 4, trade-offs must be made because data relating to the most useful measures are often the most difficult to collect. After being collected, the data need to be audited by an independent body to ensure their validity before they are used to determine relative performance and payment. Data collection and audit may take 6 months even under an aggressive timetable. Once the data have been audited, the results should be shared with providers, each of whom should have the opportunity to provide feedback. Even on a tight timeline, feedback may initially take up to another 6 months to complete. On a less aggressive timetable, these essential steps could initially take up to 2 years. After the first cycle of reporting had been completed, however, the time required for feedback could be reduced to less than 1 month (see Figure 5-1). The entire timeline should be condensed wherever feasible without imposing an undue burden on providers; differences in ability by various provider types should be recognized.

Public Reporting

The committee strongly endorses transparency and accountability in health care to better inform all stakeholders, especially patients, about the performance of the care delivery system. To this end, the committee believes that information reflecting how well health care providers perform on spe-

of electronic data collection and reporting systems to strengthen the use of consistent performance measures.

STATISTICAL ISSUES

The validity and acceptability of a system for rewarding performance depends on the quality of the data used to construct the performance measures. To ensure high-quality data, statistical reliability and validity are essential. Implementation of pay for performance also depends on the comparability of data. Appropriate adjustments must be made to the raw data to correct for clear biases and confounding elements that may be beyond the control of the provider. It is important to recognize the major role of beneficiary behavior in overall health care outcomes. These behaviors must be adjusted for and taken into account when the care delivered is being attributed to the performance of individual physicians, especially with respect to outcomes.

Deriving an accurate representation of a provider's performance necessitates meeting minimum requirements for sample size. Sample size refers to the number of cases being used to calculate a measure. If there are not enough cases, poor or excellent outcomes may reflect sample variability rather than true performance. This issue is particularly important with respect to physicians. As noted earlier, many general practitioners may not see 25 patients—viewed as a minimum threshold for performance measures—afflicted with the same condition.

For some measures, the data may be skewed by characteristics of the patient or the environment. For example, a provider's performance measures may look mediocre not because his skills or processes are poor, but because the cases treated are more complex than average or his patients have many comorbidities. Risk adjustment is an attempt to correct for such confounding conditions. Similar adjustments may be necessary for social, cultural, and economic differences in providers' patients. For example, some providers may serve disproportionate numbers of nonadherent patients, patients who are economically disadvantaged and lack supplemental insurance, or those who are unable to communicate effectively with the provider. A pay-for-performance program should not penalize providers who serve such beneficiaries or create incentives to avoid them, recognizing that programs to promote better behavior should be rewarded. Such unintended adverse consequences should be compensated for and should not be neglected. These statistical issues are inherent in performance measurement, but can be adjusted for to better characterize the care that is delivered. However, much research must be completed before an optimal system is available. Methods of better accounting for sample-size problems and car-

rying out risk adjustment must be formulated to ensure the integrity of a pay-for-performance program.

SUMMARY

Implementation of a pay-for-performance program is complicated. Providers are at different levels of readiness to participate in such a program because of variations in the availability of performance measures and supporting infrastructure. Public reporting is a necessary step in rewarding performance. To help ease the burden of data collection, CMS should pay providers for reporting. It is expected that eventually, all Medicare providers will be rewarded based on their performance. Adequate financial incentives and assistance should be provided to achieve this goal. While information technologies can be useful in accelerating implementation, they are not necessary for success. A pay-for-performance program should be a learning system and should therefore undergo regular comprehensive evaluation. The next chapter addresses monitoring, evaluation, and the research agenda that must be carried out to better understand the effects of pay for performance and optimal future directions.

REFERENCES

ACP (American College of Physicians). 2006. *The Advanced Medical Home: A Patient-Centered, Physician-Guided Model of Health Care*. Philadelphia, PA: ACP.

Anderson GF, Hussey PS, Frogner BK, Waters HR. 2005. Health spending in the United States and the rest of the industrialized world. *Health Affairs* 24(4):903–914.

ANSI (American National Standards Institute). 2006. *Healthcare Information Technology Standards Panel*. [Online]. Available: http://www.hisp.org [accessed May 30, 2006].

Baker G, Carter B. 2005. *Provider Pay-for-Performance Incentive Programs: 2004 National Study Results*. San Francisco, CA: Med-Vantage, Inc.

Berwick D. 2002. A user's manual for the IOM's "Quality Chasm" report. *Health Affairs* 21(3):80–90.

Bodenheimer T. 2005. The political divide in health care: A liberal perspective. *Health Affairs* 24(6):1426–1435.

Bodenheimer T, May JH, Berenson RA, Coughlan J. 2005. *Can Money Buy Quality? Physician Response to Pay for Performance*. Washington, DC: Center for Studying Health System Change.

Broder D. 2006, August 6. Administration aims to set health-care standards. *Washington Post*.

Chaudhry B, Wang J, Wu S, Maglione M, Mojica W, Roth E, Morton SC, Shekelle PG. 2006. Systematic review: Impact of health information technology on quality, efficiency, and costs of medical care. *Annals of Internal Medicine* 144(10):742–752.

CMS (Centers for Medicare and Medicaid Services). 2006. *Hospital Compare*. [Online]. Available: http://www.hospitalcompare.hhs.gov [accessed May 15, 2006].

Cogan JF, Hubbard RG, Kessler DP. 2005. Making markets work: Five steps to a better health care system. *Health Affairs* 24(6):1447–1457.