

Pay for Performance in Health Care: Methods and Approaches

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Introduction to Pay for Performance

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In just the past decade, pay for performance (P4P) programs have become widespread in health care despite a lack of rigorous evidence to support their effectiveness and a lack of consensus about how to design and implement these programs. A positive feature of this movement is that new types of health care payment systems have been developed and tested. Because of its focus on rewarding quality of care performance, P4P has also provided added momentum for improving quality in health care. The Affordable Care Act, passed in 2010, features a range of P4P initiatives and pilot programs under the closely related rubric of value-based purchasing.

The enthusiasm for P4P in health policy circles, however, echoes earlier enthusiasm for national health insurance (in the 1960s and 1970s) and for capitation and managed care (in the 1990s). Both of these policy initiatives failed to live up to their early promise. National health insurance was only partially implemented through Medicare; capitation and managed care were implemented broadly but soon scaled back. Whether P4P will prove to have more staying power than those movements is not yet clear. The more rigorous evaluations to date have shown P4P programs to have limited impact (Christianson et al., 2008). The variety of P4P programs and the organizational and health policy contexts in which they have been implemented (McDonald et al., 2009) make summary judgment difficult.

The term *pay for performance* is used in a number of different ways by different writers and practitioners. A good general definition is that P4P is an approach used to provide incentives to physicians and health care provider organizations to achieve improved performance by increasing quality of care or reducing costs. In this sense, P4P differs from the predominant fee-for-service (FFS) payment system that provides incentives for producing defined health care services (e.g., ambulatory care visits, hospital admissions). A common criticism of FFS, which P4P is intended to address, is that FFS rewards providers for producing higher volumes of health care services without direct assessment of the effect on quality of care or overall costs of the health

care system. By providing direct financial incentives tied to quality of care performance measures and cost of care performance measures, P4P should provide countervailing incentives that directly promote improved quality and reduced costs.

This chapter includes five sections that provide context and background on P4P. The first section reviews the historical factors that led to the current policy interest in P4P. The second describes the different types of P4P programs currently active, including private sector, public sector, and international examples. The third section discusses the roles that physicians can take in the implementation of P4P. The fourth section compares P4P with public reporting of quality measures, another increasingly popular policy option for promoting quality improvement. The fifth section summarizes the challenges and promise of P4P.

Why Pay for Performance?

Health policy has traditionally focused on the usually competing goals of increasing access, containing costs, and improving quality. P4P has become prominent primarily as a means to improve quality of care, and sometimes for improving efficiency or reducing costs as well. At the same time, P4P has its roots in health sector policies and problems that developed from earlier efforts to expand access and contain costs. For most of the past 50 years, US federal and state health policy initiatives have focused primarily on increasing access and containing costs. This section reviews several key points in the history of health policy that provide context for P4P and clarify why interest in the P4P concept has increased so much in recent years.

Historical Policy Focus on Access and Cost

The passage of Medicare and Medicaid legislation in 1965 was a landmark accomplishment that increased access to health care for millions of elderly, low-income, and other Americans who did not have health insurance through employer-based or commercial plans. In 1973, Congress extended Medicare eligibility to people with disabilities and those with end-stage renal disease. At the time, those initiatives were expected to lead to universal access through national health insurance. Several national health insurance proposals were introduced in Congress in the 1970s, but none were ultimately passed into law (Starr, 1982).

The 1970s was also a period of new awareness of health care cost escalation and concerns for its containment. One result of expanding access to third-party insurance coverage was increased costs, especially in the contexts of primarily FFS reimbursement for physicians, cost-based reimbursement for hospitals, and rapid innovation in health care technology. As a result, federal health policy began to turn from emphasizing access to a new focus on cost containment. New initiatives in the 1980s included the development of Medicare's prospective payment system for hospitals using diagnosis-related groups (DRGs) and development of the resource-based relative value scale for physician fees (Altman & Wallack, 1996). In the 1990s, initiatives included expansion of capitated reimbursement options and enrollment for Medicare and Medicaid insurance plans (Hurley & Somers, 2001; Zarabozo & LeMasurier, 2001).

In the 1980s and 1990s, private health insurance plans also faced cost-containment concerns from employers, who demanded reductions in high rates of health care cost inflation. In the context of increasing international competition, such inflation often adversely affected their business prospects. In response, private plans turned increasingly to capitated reimbursement and followed Medicare's lead by implementing prospective payment systems for hospitals and fee schedules for physicians. Many employers liked capitation because it sets a fixed annual limit on per capita health care costs, unlike FFS, which allows open-ended per capita costs.

Capitation also has two theoretical advantages for quality improvement. First, it allows health care providers and clinicians to be more flexible in tailoring treatment to individual patients' needs, without being restricted by a fee structure that may limit the types of interventions that are reimbursed. Second, capitation provides more incentives for preventive care than FFS does because insurance plans can benefit financially if patients have fewer future illnesses. When enrolled patients have fewer illnesses, health plans pay less to health care providers for medical treatments and thus incur lower costs in the context of fixed annual revenue per person.

These incentives can include both primary and secondary prevention. Primary prevention involves reducing risk factors, such as cholesterol levels, before physicians diagnose disease. Secondary prevention involves early detection or diagnosis of disease so that physicians can apply early interventions, which usually cost less. Some large health plans, such as Kaiser Permanente, that had long periods of continuity with enrollees took advantage

of these incentives to improve both primary and secondary prevention for enrollees for selected higher cost chronic diseases, such as kidney failure (Tompkins et al., 1999). However, the quality improvement incentives of capitation often were limited in practice because enrollees in most health insurance plans switched plans too frequently for any one plan to reap the cost savings rewards from more effective preventive care (fewer future illnesses) or early intervention (fewer complications).

Capitation also has two key weaknesses, however, and these eventually led to a public backlash and forced insurance plans to cut back on capitated reimbursement. First, capitation gives providers and health plans incentives to profit by selecting healthier patients (with lower costs) rather than by improving the quality of care. Second, capitation gives providers and payers incentives to increase profits by undertreating patients once health plans receive the up-front capitated revenues. Although some capitated health plans avoided these temptations and used incentives to improve care in creative ways, enough insurance plans focused on patient selection or undertreatment for short-term profits to erode public confidence in capitation by the end of the 1990s, and capitation's promise as an alternative to FFS faded. This led to a search for new policy initiatives that could provide alternatives to FFS, which contributed to the recent surge of interest in P4P.

Quality and Value Rise to the Forefront

Up until the 1990s, the task of ensuring health care quality was left largely to the medical profession and hospital accreditation organizations. Government agencies and private health insurance companies shied away from intruding on what they viewed as the professional domain of physicians. Medical associations successfully established and defended that professional autonomy throughout most of the twentieth century, enabling physicians to earn high salaries and enjoy high status in US society (Starr, 1982). As recently as the mid-1990s, Congress almost withdrew funding for the US Agency for Health Care Policy and Research (AHCPR; now the Agency for Healthcare Research and Quality, AHRQ) because of lobbying by orthopedic surgeons. The surgeons were upset by AHCPR publication of clinical guidelines that cast doubt on the value of some orthopedic surgical procedures for low back pain.

Nonetheless, starting in the 1990s, several developments led to increasing policy concerns about quality of care. A health policy movement aimed at value-based purchasing introduced quality of care into health care payment

proposals in the 1990s. In this context, “value” is usually defined as *focusing on both quality and cost at the same time in purchasing and delivering health care* (Thomas & Caldis, 2007). The goal is to organize health care purchasing efforts and incentives to achieve either higher quality care for the same cost, or the same quality care for lower cost, or possibly even higher quality care for lower cost. As with P4P, value-based purchasing contrasts with the prevailing FFS reimbursement system, where the incentives encourage higher utilization of health care services, which does not necessarily raise quality and often raises costs. Value-based purchasing did not catch on in the 1990s because concerns about quality of care were not as strong at the time (Meyer et al., 1997). However, in the following decade quality became a much larger focus in health policy initiatives as several notable studies highlighted inconsistencies in the quality of care.

Recent studies have found large and unexplained variations in rates of health care utilization and clinical outcomes across geographic areas, questioning the traditional reliance on the medical profession to ensure the uniform delivery of high-quality care (Davis & Guterman, 2007; Wennberg et al., 2002). Since 1999, several landmark publications, most notably from the Institute of Medicine (IOM) and RAND, have highlighted widespread problems with patient safety and quality of care (IOM Board on Health Care Services, 2000; 2001; McGlynn et al., 2003). These studies have helped to galvanize federal and state governments, private employers, and private health insurance plans to focus their policy, regulatory, and management interventions more directly on measuring and improving the quality of care.

Policy makers’ frustration with the lack of success of cost-containment initiatives has also led to a renewed focus on value in health care in recent years. If high costs are inevitable in the high-technology environment of US health care, then the quality-of-care benefits should also be high. However, several studies of variations in health care spending from high-cost to low-cost regions did not find any evidence that patients in high-cost regions received a higher quality of care (Davis & Guterman, 2007; Fisher et al., 2003a, 2003b).

Comparisons with health care systems in other countries have also highlighted the poor value Americans receive for the high cost of US health care. The United States spends far more than any other high-income country on health care, both as a percentage of gross domestic product and on a per capita basis. At the same time, available measures of health care outcomes such as infant mortality, child mortality, maternal mortality, and life expectancy

in the United States are poor compared with those of other industrialized countries (IOM Board on Health Care Services, 2007). Moreover, most other industrialized countries have national health insurance covering all or most of their citizens, which may explain some of the differences in outcomes. Many countries that spend much less on health care perform much better than the United States on these outcome measures. Even some developing countries, such as China and Costa Rica, spend far less on health care per capita and have outcomes similar to those in the United States.

Promise of Pay for Performance

The increased interest in P4P programs is based on the belief that the health care payment system can be designed to offer incentives to improve the quality of care provided in multiple settings, including physicians' offices, hospitals, and other types of provider organizations. This is intended to ensure that patients and payers receive good value for high levels of spending on health care. Moreover, many economists have supported the idea of linking payment and quality, based on their traditional focus on using pricing signals to produce internally motivated changes in supplier (physician or health care provider organization) behavior rather than relying on more cumbersome regulatory mechanisms that try to impose external rules, reporting requirements, and other structures that suppliers often evade.

Traditional FFS reimbursement in health care has been useful in improving access to care, but it lacks incentives for improving quality. In a sense, FFS reimbursement was originally viewed as paying for quality, because it enabled formerly uninsured people to have much better access to licensed doctors and hospitals, who were assumed to provide high-quality care because of formal medical training, professional ethics, and accreditation status.

P4P is intended to bring incentives for improving quality of care directly into the payment system. By paying for specified standards of quality care, P4P may help equalize quality across different regions of the country and among different providers in the same region. P4P can also include explicit incentives for other goals, such as reducing costs or improving coordination of care among providers.

Up until the 1990s, quality assurance in health care focused mainly on inputs or structural factors, such as physicians being licensed after receiving degrees from accredited medical schools, and hospitals receiving accreditation based on evaluations of staffing, facilities, equipment, administrative

procedures, and related measures. In contrast, most P4P programs include a focus on process factors that assess quality of care through the ways in which doctors and hospitals provide medical care to patients. Process measures of quality scrutinize the tests and procedures administered to patients with particular diseases, as well as pharmaceuticals and other interventions used in treatment, explicitly to check for errors or missed tests or treatments—for example, whether people with diabetes have at least annual tests to check on their disease, and whether people with heart disease are avoiding high blood pressure levels.

P4P enables quality assurance and quality improvement programs to move beyond information sharing and managerial sanctions to disbursing payments based on process measures of quality of care. As recently as the 1980s, such second-guessing of medical treatment was largely unknown. P4P programs sometimes include structural measures of quality for performance assessment, but process measures have been the main focus. P4P programs focus mainly on providing financial incentives, but linking them to nonfinancial, systems interventions for improving processes of care is another approach that could be tried in the future—for example, linking P4P process of care incentives to point-of-care decision support and collaborative care models (Bufalino et al., 2006).

P4P programs could also include a broader focus on health care outcomes as the basis of payment for quality. Outcomes include reducing morbidity and mortality and improving quality of life and patient satisfaction. P4P programs are beginning to include some types of outcome measures of performance (e.g., with patient satisfaction surveys), although they are using them much less frequently than process measures of care. Process measures are usually easier than outcomes to measure and are considered to be more closely related to clinician or provider organization performance (given that other factors besides medical care can affect patient outcomes). However, exploring ways to expand the use of outcome measures is one potential area for future development of P4P programs. The Centers for Medicare & Medicaid Services (CMS), on its Hospital Compare Web site, has made initial efforts for measurement and public reporting of outcomes measures for hospitals, which could lay the groundwork for including more outcomes measures in hospital P4P programs.

Varieties of Pay for Performance

P4P can mean a number of different things in both concept and practice. The field is still young and evolving, with new programs being designed and tested every year. Because of the pace of innovation, the terminology for describing P4P programs is not yet standardized. The primary variation in defining pay for performance is in the definition of *performance*, which varies by the aspects of care or results being rewarded. The main definitions of P4P include the following:

- **Pay for quality.** These programs can assess quality in several ways, using structure, process, outcome, or coordination of care measures. Such programs may also use composite measures to quantitatively combine multiple quality indicators into a single metric.
- **Pay for reporting.** Often termed P4R, pay for reporting focuses on provider reporting of quality-related data. These programs usually intend to develop into pay for quality once providers become more comfortable with the validity and reliability of the quality measures and data collection procedures.
- **Pay for efficiency.** Paying for efficiency generally means rewarding cost reduction or cost containment. Cost measures may include annual expenditures for patients with chronic diseases or episode-based spending measures for patients with acute illnesses. Alternately, efficiency-based programs may use health care utilization measures that focus on the number of physician visits or hospital days per patient per year. Some payers have also developed composite measures or indexes of efficiency to profile and compare provider performance.
- **Pay for value.** This approach combines quality and cost measures. For example, a pay for value program may reward providers for improving quality while keeping cost constant or reducing cost while maintaining or improving quality. Payers may give providers simultaneous incentives for increasing quality and containing costs and then allow the providers to sort out the best approaches for responding to both incentives. The Affordable Care Act health reform legislation took this approach with hospital P4P in its Hospital Value-Based Purchasing Program (HVBPP), in which cost savings are guaranteed through across-the-board reductions in hospital reimbursement; hospitals are then able to earn back a portion of the lost reimbursement through performance on quality measures. As a result, both cost and quality factors are included in the HVBPP.

The Leapfrog Group and Med-Vantage, Inc., have conducted nationwide surveys of P4P programs in recent years to provide a more comprehensive picture of the range and scope of the programs in operation or being developed across the country. The Leapfrog Group is a coalition of employers working to improve health care quality and affordability; Med-Vantage is a company that conducts surveys and provides services related to health care quality and cost performance analysis. Their surveys on P4P included programs sponsored by payers and health plans serving enrollees covered by private health insurance, Medicare, and Medicaid. They identified 148 organizations that were P4P program sponsors in 2006; 62 percent of these were commercial payers, 21 percent were government sponsors, 10 percent were coalitions or employers, and 7 percent were still in the process of development (Baker & Delbanco, 2007; Med-Vantage, 2006–2007). Moreover, the 148 program sponsors sometimes provided multiple programs; as a result, the survey found a total of 258 P4P programs, with 130 targeted at primary care physicians, 72 for specialist physicians, and 56 for hospitals or other health care facilities. In addition, these surveys have tracked growth in the number of P4P programs, from 52 in the 2003 survey to 120 in 2004, 220 in 2005, and 258 in 2006.

Table 1-1 includes 15 examples of P4P programs: 4 from the private sector, 10 from the public sector, and 1 international program from the United Kingdom. Table 1-1 illustrates the broad range of P4P program designs that payers use. The table compares programs across four design factors: (1) types of providers targeted, (2) performance measures used, (3) types of performance targets, and (4) the size of the financial incentives. This table provides descriptions of the P4P programs discussed in the following chapters, and thus provides reference summaries of them.

The providers targeted in the P4P programs in Table 1-1 include individual physicians, physician groups, disease management organizations, and hospitals. P4P can include other types of health care providers, but these types are the ones most widely involved to date.

The performance measures included in the programs in Table 1-1 focus mainly on clinical process measures of quality, but some also include other measures. Several programs include structural measures of information technology (IT) investment, use of electronic medical records, and organization of care. Outcome measures are included in some programs through patient satisfaction indicators. Cost or resource utilization measures are sometimes included through assessment of drug utilization, annual cost per patient or per beneficiary, or cost per patient per month.

Performance targets in Table 1-1 focus mainly on preset thresholds but also include examples of improvement-over-time targets and rankings of providers against one another. A number of variations are also found (e.g., using tiered thresholds to provide increasing rewards for increasing levels of performance).

The size of P4P incentives has typically been modest in US programs; those included in Table 1-1 reflect this pattern. P4P incentives in the United

Table 1-1: Comparison of Selected Pay for Performance Programs

Pay for Performance Program	Providers Targeted	Performance Measures
1. Private Sector		
Integrated Healthcare Association ^a	<ul style="list-style-type: none"> Physician organizations in California serving enrollees of 7 large health plans 	<ul style="list-style-type: none"> Clinical quality Patient satisfaction Information technology investment Measures and weighting vary by year and by health plan
Bridges to Excellence ^b	<ul style="list-style-type: none"> Physicians and physician organizations in Albany, Boston, Cincinnati, and Louisville 	<ul style="list-style-type: none"> Diabetes care measures Heart/stroke care Physician office care—implementing information management systems
Hawaii Medical Service Association (Blue Cross Blue Shield of Hawaii) ^c	<ul style="list-style-type: none"> Physicians treating preferred provider organization plan enrollees in Hawaii 	<ul style="list-style-type: none"> Clinical performance Patient satisfaction Use of electronic records Medical and drug utilization
Blue Cross Blue Shield of Michigan Rewarding Results ^d	<ul style="list-style-type: none"> Hospitals in Michigan 	<ul style="list-style-type: none"> Joint Commission on the Accreditation of Healthcare Organizations measures Medication safety measures Community health Efficient utilization
2. Public Sector		
Medicare Physician Group Practice Demonstration ^e	<ul style="list-style-type: none"> Large multispecialty physician groups—10 groups each with at least 200 physicians, located in 10 different states 	<ul style="list-style-type: none"> Annual cost per beneficiary 32 ambulatory care quality measures for diabetes, heart failure, coronary artery disease, hypertension, and preventive care
Medicare Health Support Pilot Program ^f	<ul style="list-style-type: none"> Private disease management companies 	<ul style="list-style-type: none"> Cost per beneficiary per month, includes beneficiaries with diabetes or heart failure

States generally range up to only about 5–10 percent of baseline provider reimbursement. The UK program is notable because it includes much larger incentives relative to baseline reimbursement, with a goal of increasing family practitioners' income by 25 percent.

Performance Targets	Size of Financial Incentives
<ul style="list-style-type: none"> • Thresholds (1 health plan) • Relative rankings (6 health plans), physician groups in most plans in the 50th to 100th percentile paid on a sliding scale • Public reporting of performance included as a nonfinancial incentive 	<ul style="list-style-type: none"> • About 1.5% of physician group compensation (2004 average) Goal of increasing to 10% of compensation
<ul style="list-style-type: none"> • Per member per year (PMPY) bonus for meeting requirements for certification in physician recognition programs in each measure category 	<ul style="list-style-type: none"> • \$80–\$100 PMPY for diabetes patients • \$50 average PMPY for meeting physician office criteria
<ul style="list-style-type: none"> • Rankings of physicians relative to scores of other practitioners 	<ul style="list-style-type: none"> • Ranged from 1% to 7.5% of physicians' base professional fees in 2003 • Average total payment of \$4,785 per physician in 2003
<ul style="list-style-type: none"> • Thresholds 	<ul style="list-style-type: none"> • Up to 4% increase in diagnosis-related group (DRG) payments per admission
<ul style="list-style-type: none"> • Percentage reduction in cost more than 2% greater than comparison group • Quality targets with both fixed thresholds and improvement over time 	<ul style="list-style-type: none"> • Up to 5% of combined Part A and Part B expenditures for assigned beneficiaries, depending on both cost and quality performance
<ul style="list-style-type: none"> • Threshold of 5% cost savings, compared to a randomized control group 	<ul style="list-style-type: none"> • Up-front management fees paid to each company, but none achieved the 5% savings required to retain at least some fee revenue

(continued)

Table 1-1: Comparison of Selected Pay for Performance Programs (continued)

Pay for Performance Program	Providers Targeted	Performance Measures
Premier Hospital Quality Incentive Demonstration ^g	<ul style="list-style-type: none"> Hospitals—250 throughout the United States 	<ul style="list-style-type: none"> 35 inpatient process quality measures for heart failure, acute myocardial infarction, pneumonia, coronary artery bypass graft, surgery, and hip and knee replacement; one outcome measure for mortality Composite quality measure scores calculated to determine incentives for each condition
Care Management for High-Cost Beneficiaries Demonstration ^h	<ul style="list-style-type: none"> Care management organizations—6 total, in different regions of the country 	<ul style="list-style-type: none"> Cost per beneficiary, including beneficiaries with one or more chronic diseases and high costs or high-risk status
Medicare Participating Heart Bypass Center Demonstration ⁱ	<ul style="list-style-type: none"> Seven hospitals with affiliated physician groups Sites selected for demonstrated quality of care, high volumes of the selected surgical procedure, and willingness to offer CMS a discount on the average combined FFS payments to hospitals and physicians for the selected procedures 	<ul style="list-style-type: none"> CMS paid single negotiated global rate for all Parts A and B inpatient hospital and physician care associated with heart bypass surgery (DRGs 106 and 107)
Medicare Acute Care Episode (ACE) Demonstration ^j	<ul style="list-style-type: none"> Five hospitals with affiliated physician groups Sites selected for demonstrated quality of care, high volumes of the selected surgical procedure, and willingness to offer CMS a discount on the average combined FFS payments to hospitals and physicians for the selected procedures 	<ul style="list-style-type: none"> CMS paid single negotiated global rate for both Part A and Part B services for selected cardiac and orthopedic surgical services and procedures
Medicare Physician-Hospital Collaboration Demonstration ^k (Another very similar demonstration is the Medicare Hospital Gainsharing Demonstration)	<ul style="list-style-type: none"> Integrated Care Consortium Focus on gainsharing between hospitals and physicians based on Medicare reimbursement for episodes of care, including both acute and long-term care 	<ul style="list-style-type: none"> Hospitals make payments to physicians based on achieved net savings over episodes of care, where payments are based on improvements in quality or efficiency resulting in savings

Performance Targets	Size of Financial Incentives
<ul style="list-style-type: none"> • Competition against other hospitals in each module; top decile received 2% bonus payment for each clinical condition module, second decile gets 1% bonus • Penalties of 2% and 1% for bottom deciles in third year 	<ul style="list-style-type: none"> • Average bonus was \$71,960 per year; range of \$914 to \$847,227
<ul style="list-style-type: none"> • Cost savings per beneficiary for Medicare 	<ul style="list-style-type: none"> • Up-front monthly fees paid to each care management organization; demonstrated Medicare savings required to retain the management fee revenue
<ul style="list-style-type: none"> • Cost savings below the negotiated global payment rate • Hospitals also compete to be admitted to the program to gain marketing benefits from recognition as a Medicare Participating Heart Bypass Center 	<ul style="list-style-type: none"> • Hospitals shared global payments with surgeons and cardiologists based on cost savings • Participating hospitals allowed to market a demonstration imprimatur as a "Medicare Participating Heart Bypass Center"
<ul style="list-style-type: none"> • Cost savings below the negotiated global payment rate • Hospitals also compete to be admitted to the program to gain marketing benefits from recognition as a Value-Based Care Center 	<ul style="list-style-type: none"> • Hospitals shared global payments with surgeons and physicians • Participating hospitals allowed to market a demonstration imprimatur as a "Value-Based Care Center"
<ul style="list-style-type: none"> • Focus on net savings, with quality performance targets required for physicians to be eligible for incentive payments 	<ul style="list-style-type: none"> • Physician payments limited to 25 percent of Medicare payments made to physicians for similar cases

(continued)

Table 1-1: Comparison of Selected Pay for Performance Programs (continued)

Pay for Performance Program	Providers Targeted	Performance Measures
CMS Cancer Prevention and Treatment Demonstration for Ethnic and Racial Minorities ^l	<ul style="list-style-type: none"> Six cancer centers 	<ul style="list-style-type: none"> Implementation of patient navigator programs to reduce disparities in cancer care for racial and ethnic minorities
Medicare Coordinated Care Demonstration ^m	<ul style="list-style-type: none"> Disease management organizations, including 5 commercial disease management firms, 3 academic medical centers, 3 community hospitals, 1 integrated delivery system, 1 long-term care facility, and 1 retirement community 	<ul style="list-style-type: none"> Cost per beneficiary per month, including beneficiaries with diabetes, heart failure, coronary artery disease, chronic obstructive pulmonary disease, and other chronic conditions Quality measures included for evaluation, but were not used to determine incentive payments
Local Initiative Rewarding Results Demonstration ⁿ	<ul style="list-style-type: none"> Physicians and physician groups serving Medicaid-focused health plans in California 	<ul style="list-style-type: none"> Well-child, well-adolescent, and Health Plan Employer Data and Information Set quality measures

3. Other Countries

British National Health Service ^o	<ul style="list-style-type: none"> Family practitioners (primary care physicians) throughout the United Kingdom 	<ul style="list-style-type: none"> 146 indicators, including clinical quality measures for 10 chronic diseases, organization of care, and patient experience
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CMS = Centers for Medicare & Medicaid Services; DRG = diagnosis-related group; FFS = fee-for-service; PMPY = per member per year.

a Folsom et al., 2008; IOM Board on Health Care Services, 2007; Lempert & Yanagihara, 2006; Young et al., 2007.

b Bridges to Excellence, 2008; Folsom et al., 2008; IOM Board on Health Care Services, 2007; Young et al., 2007.

c Gilmore et al., 2007; IOM Board on Health Care Services, 2007.

d Folsom et al., 2008; Young et al., 2007.

e Kautter et al., 2007; Trisolini et al., 2008.

f Cromwell et al., 2008.

g CMS, 2009b; Davidson et al., 2007; Glickman et al., 2007; Grossbart, 2006; Lindenauer et al., 2007.

h CMS, 2005, 2009a.

i CMS, 1998a; 1998b.

j CMS, 2009b.

k CMS, 2007.

l CMS, 2008.

m Peikes et al., 2009.

n Felt-Lisk et al., 2007; Folsom et al., 2008; Young et al., 2007.

o Campbell et al., 2007; Doran et al., 2006; Epstein, 2006, 2007.

Performance Targets	Size of Financial Incentives
<ul style="list-style-type: none"> Enrollment of patients in the program for care navigator services 	<ul style="list-style-type: none"> Variable by site, includes start-up payments of \$50,000 per site, payments for surveys administered per patient, and capitation payments to sites depending on the cost of patient navigator services
<ul style="list-style-type: none"> Programs at financial risk if savings on Medicare outlays on intervention beneficiaries were less per month than the monthly management fee paid to the programs by CMS 	<ul style="list-style-type: none"> Up-front management fees ranging from \$80 to \$444 per beneficiary paid to each program, but none achieved cost savings for Medicare net of the management fees
<ul style="list-style-type: none"> Varied by plan, with focus on thresholds for performance-based risk pools, capitation increases, and bonus payments 	<ul style="list-style-type: none"> Varied by plan (e.g., bonus payments ranged from \$50 possible per child to \$200 per child)
<ul style="list-style-type: none"> Sliding scale of thresholds with points awarded for achieving several different tiers for each measure, up to a maximum of 1,050 points overall per practice 	<ul style="list-style-type: none"> Goal of increasing family practitioners' income by 25% Payments were \$133 per point (\$139,650 maximum per year) in 2004–2005 and \$218 per point (\$228,900 maximum) in 2005–2006 and beyond

Private Sector Pay for Performance Programs

The private sector programs in Table 1-1 have several noteworthy features. The Integrated Healthcare Association (IHA) program includes multiple types of quality measures, including structure (IT investment), process (clinical quality), and outcome (patient satisfaction) measures. IHA is the largest P4P program in the United States, covering 8 million health plan members (Folsom et al., 2008; IOM Board on Health Care Services, 2007; Lempert & Yanagihara, 2006; Young et al., 2007). IHA also emphasizes public reporting of performance results through a commitment to transparency for its P4P program, which is not the case for most other P4P programs.

A coalition of large employers developed the Bridges to Excellence program. It focuses on recognizing physicians for achieving high-quality care (Bridges to Excellence, 2008; Folsom et al., 2008; IOM Board on Health Care Services, 2007; Young et al., 2007). Bridges to Excellence implemented four original regional programs (Albany, Boston, Cincinnati, and Louisville) and later expanded to include additional regions and clinical conditions.

The Hawaii Medical Service Association is a local health insurance organization affiliated with Blue Cross Blue Shield. The Hawaii Medical Service Association started its P4P program in 1999, making it one of the longest running programs in the US (Gilmore et al., 2007; IOM Board on Health Care Services, 2007). It provides some of the largest incentive payments in the United States, up to 7.5 percent of baseline provider reimbursement.

The Blue Cross Blue Shield of Michigan program is an example of private-sector P4P that focuses on hospitals (Folsom et al., 2008; Young et al., 2007). It includes patient safety performance measures that other P4P programs have not widely applied.

Public Sector Pay for Performance Programs

Medicare is the largest public-sector sponsor of P4P programs to date, as reflected in the examples provided in Table 1-1; it sponsors most of these programs. A more detailed description of many of these Medicare P4P pilot programs can be found in Chapter 9. The role Medicare plays in sponsoring and championing P4P programs will only grow in coming years as a result of the Affordable Care Act health care reform legislation Congress passed in March 2010. That legislation mandates several new or expanded Medicare P4P programs and also provides funding for new pilot programs that will be largely Medicare-focused as well. Because Medicare is the largest payer for health care in the United States, many commentators have called for it to lead the

way in designing and implementing P4P programs, with the goal of providing precedents for private-sector payers, as it did in the 1980s, when Medicare led development of prospective payment for hospitals, and the private sector soon followed suit.

The Medicare Physician Group Practice Demonstration includes both cost and quality performance measures; it expects participating groups to respond to both incentives at the same time (Kautter et al., 2007; Trisolini et al., 2008). In order to provide incentives to providers at varying initial levels of measured quality performance, the demonstration includes both threshold and improvement-over-time targets for quality measures.

The Medicare Health Support Pilot Program targets private disease management companies (Cromwell et al., 2008). It focuses on P4P incentives for cost containment, but also includes quality-of-care measures to enable a more global evaluation of performance. This program includes a randomized evaluation design; this rigorous approach has not been widely used to study the impacts of P4P.

The Premier Hospital Quality Incentive Demonstration is a public sector example of hospital P4P (CMS, 2010; Davidson et al., 2007; Glickman et al., 2007; Grossbart, 2006; Lindenauer et al., 2007). CMS awarded more than \$24 million to participating hospitals in the first 3 years of this demonstration. It also includes payment penalties on lower performing hospitals starting in the third year of the demonstration; this disincentive complements the bonus payments made to higher performing hospitals. This approach differs from that of most P4P programs, which reward positive performance but do not impose penalties for poor performance.

The Care Management for High-Cost Beneficiaries Demonstration is an FFS demonstration that focuses on providing incentives for cost containment (CMS, 2005, 2009a). The participating beneficiaries have one or more chronic diseases and either high-cost or high-risk status. Care management organizations that participate in the demonstration receive up-front fees as incentives but must demonstrate Medicare savings to retain the fee revenue.

The Medicare Participating Heart Bypass Center Demonstration ran from 1991 to 1996 and thus is an earlier example of P4P than the other programs included in Table 1-1 (CMS, 1998a, 1998b). It was a bundled payment demonstration, in which Medicare paid hospitals and physicians a combined rate for all inpatient Part A and Part B services for coronary bypass surgery DRGs. (Medicare pays reimbursements for hospitals and physicians separately

under traditional FFS.) Bundling reimbursements provided an incentive for hospitals and physicians to work together to reduce overall inpatient costs because, under the demonstration, they could share any savings achieved if their combined costs were lower than the combined payment rate. Quality of care performance was assessed in the application process, and participating hospitals were allowed to market a demonstration imprimatur as a “Medicare Participating Heart Bypass Center.” This approach differs from most P4P programs that measure quality performance after the program begins operations. This approach is termed a Centers of Excellence (CoE) model.

A more recent CoE model P4P program is the Medicare Acute Care Episode Demonstration (CMS, 2009b). This demonstration was implemented in 2009 and includes a bundled payment for both Part A and Part B services provided during an inpatient stay. This demonstration includes a range of both cardiac and orthopedic procedures. As in the Participating Heart Bypass Center Demonstration, quality of care will be assessed in an application process and approved centers will be able to market themselves as “Value-Based Care Centers.”

Gainsharing is the focus of the Medicare Physician-Hospital Collaboration Demonstration (CMS, 2007). It is intended to use incentive payments from hospitals to physicians to align their financial incentives under Medicare reimbursement, where hospitals can benefit financially from lower costs of care in relation to their fixed DRG reimbursement, but physicians have countervailing incentives to increase volumes of care to increase their reimbursement. Under this demonstration, integrated delivery systems that include hospitals can provide incentive payments to physicians for up to 25 percent of the Medicare payments the physicians would receive for similar cases. However, the payments must be linked to net savings that result from improvements in quality and efficiency over episodes of care, and not based on increases in volumes of patients or other factors.

P4P programs have sometimes been criticized for providing incentives that could increase disparities in care, but the CMS Cancer Prevention and Treatment Demonstration for Ethnic and Racial Minorities includes payments for programs specifically intended to reduce disparities (CMS, 2008). This demonstration is based on a structure measure of quality—enrollment of patients in programs that have patient navigators, who are staff who help minorities to gain better access to preventive care and cancer treatment care. Payments are made to the participating programs based on the number of patients enrolled in these programs.

The Medicare Coordinated Care Demonstration included a diverse set of 15 disease management organizations based at academic medical centers, community hospitals, an integrated delivery system, a long-term care facility, a retirement community, and for-profit disease management companies (Peikes et al., 2009). The program paid the disease management organizations' monthly management fees, averaging \$235 per beneficiary, to improve coordination of care for chronic diseases, reduce costs, and maintain or improve quality of care. In addition to other interventions, all of the disease management organizations assigned enrollees to nurse care coordinators. However, an evaluation study found that none of the programs produced statistically significant cost savings relative to a control group.

The Local Initiative Rewarding Results Demonstration focuses on providers that treat Medicaid enrollees (Felt-Lisk et al., 2007; Folsom et al., 2008; Young et al., 2007). Unlike the other P4P programs profiled in Table 1-1, this program emphasizes health care services for children. To date, most P4P programs have focused on clinicians and provider organizations that treat adults.

Pay for Performance Programs in Other Countries

The United Kingdom, through the British National Health Service, has implemented the largest P4P program (Campbell et al., 2007; Doran et al., 2006; Epstein, 2006, 2007). It is noteworthy for its nationwide scope, very large number of quality measures (146 measures that cover 10 clinical conditions, organization of care, and patient experience), and large financial incentives for providers (which can be 25 percent or more of family practitioners' incomes). By comparison, the P4P programs implemented in the United States to date are much less ambitious.

P4P programs with published documentation have yet to develop in additional countries. It will be interesting to see in coming years if other countries follow the examples of the United States and United Kingdom by developing P4P programs, and what types of program designs they may pursue.

The Role of Providers in Pay for Performance Implementation

The potential conflict between the financial incentives included in P4P programs and physicians' interest in maintaining their professional autonomy has raised concerns that physicians should be involved from the outset in designing and implementing P4P programs. Although both public-sector and private-sector P4P initiatives have stressed the importance of this approach,

the best way to organize physicians' participation in P4P programs may vary widely across different regions, communities, and provider organizations.

Payers may supply providers with periodic feedback through performance reports that anticipate future P4P performance assessments and bonus payment calculations. The frequency of reporting and the amount of detail in these reports can be organized at many levels, however, and it is still unclear what is the best approach. Lag time between clinical activity and receipt of feedback reports is a common concern in that the lag may lessen the value of reports to providers. Some providers have emphasized the need for real-time information from electronic medical records or other on-site information systems, to provide prompts to physicians during patient visits to alert them about tests or preventive treatments that a patient may need and that will affect their quality performance scores.

The Question of Public Reporting

Public reporting of quality measure results for health care providers is another quality improvement strategy that has gained popularity among policy makers in recent years. For example, Medicare recently began reporting a series of quality measures for individual hospitals on its Hospital Compare tool within its public Web site, www.medicare.gov. The goal is to provide the public with better information on how hospital quality of care can be measured objectively, and to enable consumers to compare the quality performance of individual hospitals. P4P and public reporting of quality performance are not necessarily linked, but some payers, notably the Integrated Healthcare Association in California, have developed both in tandem. The IHA views public reporting as important for promoting transparency in the quality performance results used to determine the financial incentives paid to health care provider organizations under P4P programs (Lempert & Yanagihara, 2006). Congress also linked P4P and public reporting in the Hospital Value-Based Purchasing Program included in the Affordable Care Act health reform legislation.

However, other payers often choose to keep P4P performance data confidential to enhance physician cooperation and buy-in to P4P programs. Physicians may view P4P quality measures as limited to a subset of overall clinical performance issues (some of which may be hard to measure quantitatively) and vulnerable to overemphasis if payers make results public.

Public reporting also requires that results be presented in formats that consumers who lack clinical or statistical expertise can easily understand.

If sophisticated statistical analysis is part of the P4P methodology, then consumers may be misled about the significance of results.

In addition, some P4P methodologies may not lend themselves to public reporting. For example, rankings of providers and payment of P4P incentives for the top one or two deciles can mask absolute levels of high-quality performance for the third or fourth deciles. As a result, provider rankings based on quality measures may sometimes indicate only very small differences in actual quality measure performance.

Conclusion

P4P encompasses a broad range of interventions and programs, and we are only beginning to discover its potential. A number of program design options have yet to be explored, and several types of existing programs, particularly pay for efficiency and pay for value, warrant more extensive testing. The Affordable Care Act is expected to facilitate testing of new P4P models in coming years. To date, P4P program results have not lived up to the original expectations, but evaluation studies indicate that impacts are possible and that policy, organizational, and professional culture contexts may be intervening variables that affect the success of P4P programs.

The challenge for the future is to identify ways to design P4P programs that are better aligned with other interventions at the individual physician, practice site, group practice, hospital, delivery system, community, and policy levels. Policy makers need to address numerous practical and policy problems to make P4P more effective—for example, how to avoid or mitigate incentives for physicians to select more affluent patients under P4P, which might increase their measured quality and increase existing disparities in care. A related issue is ensuring that facilities that serve higher numbers of lower-income patients receive sufficient funding so they can compete effectively for P4P incentive payments.

Subsequent chapters of this book explore the range of theoretical, design, implementation, and evaluation issues related to P4P programs, and review how these programs can be improved for greater impact. Existing programs have focused on relatively simple theoretical models that assumed straightforward effects of financial incentives on quality and cost outcomes. In the future, payers and policy makers need to test more sophisticated models and programs that may be termed second-generation P4P, in which P4P is one element of broader health policy and health care delivery interventions.

These ideas are discussed further in Chapter 12, the concluding chapter. Second-generation P4P should reinforce the financial incentives of P4P with other types of quality improvement and efficiency improvement initiatives implemented at multiple levels of the health care system, rather than relying on financial incentives alone.

References

- Altman, S., & Wallack, S. (1996). Health care spending: can the United States control it? In S. Altman & U. Reinhardt (Eds.), *Strategic choices for a changing health care system* (chap. 1). Chicago: Health Administration Press.
- Baker, G., & Delbanco, S. (2007). *Pay for performance: National perspective, 2006 longitudinal survey results with 2007 market update*. Retrieved November 9, 2009, from <http://www.medvantage.com>
- Bridges to Excellence. (2008). *BTE fifth anniversary report—Five years on: Bridges built, bridges to build*. Retrieved January 26, 2011, from <http://www.bridgestoexcellence.org>
- Bufalino, V., Peterson, E., Burke, G., LaBresh, K., Jones, D., Faxon, D., et al. (2006). *Payment for quality: Guiding principles and recommendations*. *Circulation*, *113*, 1151–1154.
- Campbell, S., Reeves, D., Kontopantelis, E., Middleton, E., Sibbald, B., & Roland, M. (2007). Quality of primary care in England with the introduction of pay for performance. *New England Journal of Medicine*, *357*(2), 181–190.
- Centers for Medicare & Medicaid Services. (1998a). *Medicare Participating Heart Bypass Center Demonstration: Summary*. Retrieved June 17, 2009, from http://www.cms.hhs.gov/DemoProjectsEvalRpts/downloads/Medicare_Heart_Bypass_Summary.pdf
- Centers for Medicare & Medicaid Services. (1998b). *Medicare Participating Heart Bypass Center Demonstration: Final report*. Retrieved May 14, 2010, from <http://www.cms.hhs.gov/demoprojectsevalrpts/MD/ItemDetail.asp?ItemID=CMS063472>

- Centers for Medicare & Medicaid Services. (2005, July 1). *Medicare to award contracts for demonstration projects to improve care for beneficiaries with high medical costs*. Press release for award of Care Management for High Cost Beneficiaries Demonstration. Retrieved June 17, 2009, from http://www.cms.hhs.gov/DemoProjectsEvalRpts/downloads/CMHCB_Press_Release.pdf
- Centers for Medicare & Medicaid Services (2007). *Physician-Hospital Collaboration Demonstration solicitation*. Retrieved March 9, 2010, from http://www.cms.hhs.gov/DemoProjectsEvalRpts/downloads/PHCD_646_Solicitation.pdf
- Centers for Medicare & Medicaid Services. (2008). *Cancer Prevention and Treatment Demonstration for Ethnic and Racial Minorities*. Fact sheet. Retrieved November 12, 2009, from http://www.cms.hhs.gov/DemoProjectsEvalRpts/downloads/CPTD_FactSheet.pdf
- Centers for Medicare & Medicaid Services (2009a). *Care Management for High Cost Beneficiaries Demonstration: Summary – February 2009*. Retrieved June 17, 2009, from http://www.cms.hhs.gov/DemoProjectsEvalRpts/downloads/CMHCB_summary.pdf
- Centers for Medicare & Medicaid Services. (2009b). *Acute Care Episode Demonstration*. Retrieved March 9, 2010, from <http://www.cms.hhs.gov/DemoProjectsEvalRpts/downloads/ACEFactSheet.pdf>
- Centers for Medicare & Medicaid Services. (2010). *Premier Hospital Quality Incentive Demonstration: Fact sheet*. Retrieved January 26, 2011, from https://www.cms.gov/HospitalQualityInits/35_HospitalPremier.asp
- Christianson, J. B., Leatherman, S., & Sutherland, K. (2008). Lessons from evaluations of purchaser pay-for-performance programs: A review of the evidence. *Medical Care Research and Review*, 65(6 Suppl), 5S–35S.
- Cromwell, J., McCall, N., & Burton, J. (2008). Evaluation of Medicare Health Support Chronic Disease Pilot Program: 6-month findings. *Health Care Financing Review*, 30 (1), 47–60.
- Davidson, G., Moscovice, I., & Remus, D. (2007). Hospital size, uncertainty, and pay-for-performance. *Health Care Financing Review*, 29(1), 45–57.
- Davis, K., & Guterman, S. (2007). Rewarding excellence and efficiency in Medicare payments. *Milbank Quarterly*, 85(3), 449–468.

- Doran, T., Fullwood, C., Gravelle, H., Reeves, D., Kontopantelis, E., Hiroeh, U., et al. (2006). Pay-for-performance programs in family practices in the United Kingdom. *New England Journal of Medicine*, 355(4), 375–384.
- Epstein, A. M. (2006). Paying for performance in the United States and abroad. *New England Journal of Medicine*, 355(4), 406–408.
- Epstein, A. M. (2007). Pay for performance at the tipping point. *New England Journal of Medicine*, 356(5), 515–517.
- Felt-Lisk, S., Gimm, G., & Peterson, S. (2007). Making pay-for-performance work in Medicaid. *Health Affairs (Millwood)*, 26(4), w516–w527.
- Fisher, E. S., Wennberg, D. E., Stukel, T. A., Gottlieb, D. J., Lucas, F. L., & Pinder, E. L. (2003a). The implications of regional variations in Medicare spending. Part 1: The content, quality, and accessibility of care. *Annals of Internal Medicine*, 138(4), 273–287.
- Fisher, E. S., Wennberg, D. E., Stukel, T. A., Gottlieb, D. J., Lucas, F. L., & Pinder, E. L. (2003b). The implications of regional variations in Medicare spending. Part 2: Health outcomes and satisfaction with care. *Annals of Internal Medicine*, 138(4), 288–298.
- Folsom, A., Demchak, C., & Arnold, S. B. (2008). *Rewarding Results pay-for-performance: Lessons for Medicare*. Washington, DC: AcademyHealth.
- Gilmore, A. S., Zhao, Y., Kang, N., Ryskina, K. L., Legorreta, A. P., Taira, D. A., et al. (2007). Patient outcomes and evidence-based medicine in a preferred provider organization setting: A six-year evaluation of a physician pay-for-performance program. *Health Services Research*, 42(6 Pt 1), 2140–2159; discussion 2294–2323.
- Glickman, S. W., Ou, F. S., DeLong, E. R., Roe, M. T., Lytle, B. L., Mulgund, J., et al. (2007). Pay for performance, quality of care, and outcomes in acute myocardial infarction. *JAMA*, 297(21), 2373–2380.
- Grossbart, S. R. (2006). What's the return? Assessing the effect of “pay-for-performance” initiatives on the quality of care delivery. *Medical Care Research and Review*, 63(1 Suppl), 29S–48S.
- Hurley, R., & Somers, S. (2001). Medicaid managed care. In P. Kongstvedt (Ed.), *The managed health care handbook* (chap. 57). Gaithersburg, MD: Aspen Publishers.

- Institute of Medicine, Board on Health Care Services (2000). *To err is human: Building a safer health system*. Washington, DC: National Academies Press.
- Institute of Medicine, Board on Health Care Services (2001). *Crossing the quality chasm: A new health system for the 21st century*. Washington, DC: National Academies Press.
- Institute of Medicine, Board on Health Care Services (2007). *Rewarding provider performance: Aligning incentives in Medicare*. Washington, DC: National Academies Press.
- Kautter, J., Pope, G. C., Trisolini, M., & Grund, S. (2007). Medicare Physician Group Practice Demonstration design: Quality and efficiency pay-for-performance. *Health Care Financing Review*, 29(1), 15–29.
- Lempert, L., & Yanagihara, D. (Contrib. Eds.). (2006). Advancing quality through collaboration: The California Pay for Performance program. S. McDermott and T. Williams (Eds.). Retrieved May 14, 2010, from http://www.iha.org/pdfs_documents/p4p_california/P4PWhitePaper1_February2009.pdf
- Lindenauer, P. K., Remus, D., Roman, S., Rothberg, M. B., Benjamin, E. M., Ma, A., et al. (2007). Public reporting and pay for performance in hospital quality improvement. *New England Journal of Medicine*, 356(5), 486–496.
- McDonald R., White J., & Marmor, T. (2009). Paying for performance in primary medical care: learning about and from “success” and “failure” in England and California. *Journal of Health Politics, Policy and Law*, 34(5), 747–776.
- McGlynn, E. A., Asch, S. M., Adams, J., Keesey, J., Hicks, J., DeCristofaro, A., et al. (2003). The quality of health care delivered to adults in the United States. *New England Journal of Medicine*, 348(26), 2635–2645.
- Med-Vantage. (2006–2007). *2006 National Pay for Performance Study results with '07 projections*. Retrieved May 14, 2010, from <http://www.medvantage.com/Pdf/National%20List%20of%2020062007P4PProgramswithEnrollment123107.pdf>
- Meyer, J., Rybowski, L., & Eichler, R. (1997). *Theory and reality of value-based purchasing: Lessons from the pioneers*. Available from <http://www.ahrq.gov>

- Peikes, D., Chen, A., Schore, J., & Brown, R. (2009). Effects of care coordination on hospitalization, quality of care, and health care expenditures among Medicare beneficiaries: 15 randomized trials. *JAMA*, *301*(6), 603–618.
- Starr, P. (1982). *The social transformation of American medicine*. New York: Basic Books.
- Thomas, F. G., & Caldis, T. (2007). Emerging issues of pay-for-performance in health care. *Health Care Financing Review*, *29*(1), 1–4.
- Tompkins, C. P., Bhalotra, S., Trisolini, M., Wallack, S. S., Rasgon, S., & Yeoh, H. (1999). Applying disease management strategies to Medicare. *Milbank Quarterly*, *77*(4), i–ii, 461–484.
- Trisolini, M., Aggarwal, J., Leung, M., Pope, G. C., & Kautter, J. (2008). The Medicare Physician Group Practice Demonstration: Lessons learned on improving quality and efficiency in health care. *Commonwealth Fund*, *84*, 1–46.
- Wennberg, J. E., Fisher, E. S., & Skinner, J. S. (2002). Geography and the debate over Medicare reform. *Health Affairs (Millwood)*, Web Exclusives, W96–W114.
- Young, G. J., Burgess, J. F., Jr., & White, B. (2007). Pioneering pay-for-quality: Lessons from the rewarding results demonstrations. *Health Care Financing Review*, *29*(1), 59–70.
- Zarabozo, C., & LeMasurier, J. (2001). Medicare and managed care. In P. Kongstvedt (Ed.), *The managed health care handbook* (chap. 55). Gaithersburg, MD: Aspen Publishers.