

Pay for Performance in Radiology: ACR White Paper

James W. Moser, PhD, Pamela A. Wilcox, RN, MBA, Sandra S. Bjork, RN, JD, Trudie Cushing, MS, RN, RTT, Maurine Dennis, MPH, John E. Greissing, JD, Kathryn Keysor, BS, Judith McKenzie, BSW, MHSA, Jeffrey C. Weinreb, MD

During the next few years, some portion of physician reimbursement will be increasingly based on the quality and efficiency of service, a practice commonly referred to as pay for performance (P4P). Performance benchmarks are the discrete parameters of structure, process, or outcome metrics whose attainment defines good quality care. Private payers are already rewarding primary care physicians for practices that adhere to quality standards, are efficient, involve information technology, and result in high patient satisfaction. The Centers for Medicare and Medicaid Services will have completed the development of performance measures to be used in Medicare payment strategies for all specialties by the end of 2006 and anticipates phasing in the program fully by 2008. This article describes P4P, its importance to the ACR, the organizations involved in developing it, the ACR's activities to date, and the steps the ACR must take to ensure that radiologists are remunerated fairly as physician payment becomes based, in part, on performance.

Key Words: Pay for performance, quality and efficiency metrics and benchmarks, American College of Radiology, white paper

J Am Coll Radiol 2006;3:650-664. Copyright © 2006 American College of Radiology

INTRODUCTION

The pay-for-performance movement has been compared with a tsunami and a freight train that will not be sidetracked or derailed [1].

During the next few years, there will be significant changes to physician reimbursement. Some portion of insurance payments will be based on performance, a practice commonly referred to as pay for performance (P4P). Private payers are already rewarding primary care physicians for practices that adhere to quality standards, are efficient, involve information technology (IT), and result in high patient satisfaction. The Centers for Medicare and Medicaid Services (CMS) will have completed the development of performance measures to be used in Medicare payment strategies for all specialties by the end of 2006 and anticipates phasing in the program fully by 2008.

The standard methodology of quality assessment is the structure-process-outcome model [2]. Structure is those aspects of care that exist independently of the patient and form the infrastructure through which care is delivered.

Process involves actions performed in delivering care to patients and includes such concepts as patient selection, image acquisition, interpretation, and reporting. Outcomes are the events that occur as a result of patient care and can reflect complications, cost, patient and referring physician satisfaction with studies, and patient-centered outcomes that occur from the clinical decision making that results from imaging. Performance measures are the discrete parameters of structure, process, or outcome whose attainment defines good-quality care.

This white paper describes P4P, its importance to the ACR, the organizations involved in developing it, the ACR's activities to date, and the steps the ACR must take to ensure that radiologists are remunerated fairly as physician payment becomes based, in part, on performance. It was prepared by the ACR Work Group on Pay for Performance.

BACKGROUND

Drivers of P4P

Concerns regarding patient safety, medical errors, and the quality of care in the United States have been on the forefront of the health policy agenda since the 1999 release of the Institute of Medicine (IOM) [3] report *To Err Is Human*. Although that report focused on medical errors and patient safety, it energized a broader move-

American College of Radiology, Reston, Va.

Corresponding author and reprints: James W. Moser, PhD, American College of Radiology, 1891 Preston White Drive, Reston, VA 20191; e-mail: jmoser@acr.org.

ment to improve the quality of our nation's health care. The 2001 IOM [4] report *Crossing the Quality Chasm* presented strategies for developing and implementing value-based purchasing. Subsequently, IOM committees recommended the establishment of financial incentives for health care providers to achieve higher levels of quality, otherwise known as P4P.

Pay-for-performance programs are payment arrangements that offer financial incentives in the form of bonuses to physicians who meet specific goals. Such goals include:

- the provision of certain preventive, acute, and chronic care services;
- patient satisfaction;
- the acquisition of IT; and
- cost containment.

Numerous permutations of P4P approaches exist. Individual physician or physician group practice patterns may be measured. Payers include commercial insurers, employers, and government agencies. Performance may be targeted to individual services or bundles of services associated with chronic conditions or case management. Provider participation may or may not be voluntary. Payouts may represent new money or redistributions of existing funds.

Pay for performance is the latest in a series of efforts by payers and health plan sponsors to reduce spending and improve quality and safety. Managed care models of the 1980s and 1990s were partially successful financially but not politically. Many P4P incentive plans are extensions of policies developed or used under managed care.

Several issues driving interest in P4P may be enumerated.

Cost Containment. It is generally conceded that health care spending in the United States is growing too fast and consumes too large a share of the nation's gross domestic product. These trends crowd out other worthy uses of resources and budgets in the short term and are unsustainable in the long term.

Waste Reduction. The wide geographic variation in practice styles is completely explained neither by patient demographics nor by need for services and yields no net improvement in life expectancy or health outcomes in regions with greater capacity or higher intensity of service utilization.

Inefficiency Elimination. Needed care is not delivered at the lowest cost in many instances.

Quality Improvement. Health care payers and plan sponsors are becoming increasingly interested in getting value for their dollars as costs escalate.

Worker Productivity and Responsibility. Employers are interested in improved employee health and in transferring payment burden to their workers, along with disseminating information on provider quality to employees for them to make choices that are more informed.

Consumer Revolution in Health Care. A gap exists between what consumers expect and what providers are able to deliver in the way of ready access to care, good personal service, and high-quality outcomes. Consumers are becoming more actively involved in health care decisions, cost conscious, and interested in getting value for their dollars. Four trends are propelling the movement:

1. a shift in the cost of health care from employers to consumers, coming much faster than was imagined a few years ago and accelerating each year;
2. a demand for more efficiency, cost savings, and convenience in health care, a demand that comes increasingly from patients themselves because they do more of the paying;
3. a desire for more information about health care choices and more tools and services to manage health care; and
4. a desire to live longer, healthier, more active lives, fueled by a greater awareness of the role of prevention and wellness in enabling such a future.

Evidence That P4P Works. Some research suggests that the public disclosure of provider performance information, along with performance incentives, is integral to any initiative to improve the quality of services and can successfully modify providers' behavior. Other research is less sanguine on the feasibility of P4P and its acceptance by physicians [5].

Provider Payments Not Linked to Quality. Current payments are the same regardless of quality or efficiency. This is part of a more general lack of accountability for outcomes on the part of either providers or patients (eg, not complying with doctor recommendations). Pay for performance would go beyond fee for service and establish payments for episodes of illness, ongoing routine care, and chronic care.

Tax System Distortions. The tax deductibility of medical insurance obtained through an employer encourages employee purchases of high-premium, low-deductible coverage and the consequent wasteful overuse of routine office visits and other uninsurable, predictable health care spending.

P4P Models

Financial Models. Health plans have devised various financial models for determining risks and rewards faced by providers under P4P systems [6]. The 2 most com-

mon are the straight bonus system and the at-risk financial model. The straight bonus system rewards physicians who achieve specified performance targets. Although they do not initially place any provider revenue at risk, they may be used to do so in time if payers use them as the basis for incremental increases in reimbursement. Under the at-risk financial model, payers withhold part of the expected reimbursement, which providers can earn by meeting performance targets. Risk-based programs are more attractive to larger physician groups than to sole practitioners, while bonus programs have been directed at all provider types.

Programs and Demonstrations. Public and private insurers are receiving significant pressure from the government and large employers to implement performance incentive programs to increase the quality of patient care and reduce costs. As a result of this pressure, more than 80 P4P programs have been implemented throughout the country.

In its March 2005 report, the Medicare Payment Advisory Commission (MedPAC) suggested that CMS implement physician P4P programs by using claims data to evaluate a “starter set” of indicators focused on measuring the IT infrastructures within physicians’ offices and physicians’ capacity to perform activities to improve patient care in their office practices. The second phase suggested by MedPAC would involve using the data obtained from the claims-based process measures to establish reference groups and benchmarks and to educate physicians about their performance compared with those benchmarks.

As a result of the MedPAC report, CMS implemented the Physician Voluntary Reporting Program in January 2006. This voluntary program involves the reporting of quality data on 16 evidence-based measures that were developed by CMS in cooperation with various physician organizations, including the American Medical Association’s (AMA) Physician Consortium for Performance Improvement [7]. Special G codes were developed by CMS for reporting these quality measures by physicians. Although the 16 measures do not represent all medical specialties, additional measures are under development and will be phased into the program throughout 2006. Radiology is among the medical specialties that is not represented within the 16 measures, but CMS did approach the ACR with proposed measures on the basis of the *ACR Practice Guideline for Communication of Diagnostic Imaging Findings*. After careful consideration by both organizations, the measures were found to be too onerous and were not included in the final group of G codes. Physicians who choose to participate in the voluntary reporting program will receive data from CMS beginning in the summer of 2006 that will outline their

performance compared with that of other participating physicians.

Although the Physician Voluntary Reporting Program is not a true P4P program—there are no reimbursement consequences attached to reporting quality measures—CMS has initiated other programs that may be described as P4P. In October 2003, Medicare implemented the Premier Hospital Quality Incentive Demonstration [8]. This 3-year program, focused on hospitals, sets aside \$8.5 million each year to be paid to the hospitals with the highest performance ratings on evidence-based quality measures for inpatients with heart attacks, heart failure, pneumonia, coronary artery bypass grafts, and hip and knee replacements. Additionally, in the third year of the program, hospitals that do not achieve performance improvements above the demonstration baseline will receive 1% to 2% payment cuts. More than 265 hospitals are participating in this voluntary program.

In April 2005, CMS commenced the Medicare Physician Group Practice Demonstration, a 3-year pilot project involving 10 physician groups that are charged with implementing performance improvement strategies [9]. Groups that adopt these strategies and demonstrate improved performance are eligible for additional performance payments. The demonstration focuses on 32 measures that encompass common chronic illnesses and preventive services (including breast and colorectal cancer screening) and were developed in conjunction with the AMA’s Physician Consortium for Performance Improvement. Because the project must be budget neutral by law, the performance payments will be derived from expected savings as a result of the improvements in care coordination.

Private insurers are implementing P4P programs as a result of increasing pressure by employers to reduce costs and improve quality. One of the largest initiatives is Bridges to Excellence, which began as a result of the IOM’s [4] *Crossing the Quality Chasm*. Bridges to Excellence is a coalition of large employers, physician groups, health plans, and health care services researchers whose intention is to “realign everyone’s incentives around higher quality.” It is the basis for many insurers’ P4P programs, including those of Anthem, Blue Cross Blue Shield of Alabama, Blue Cross Blue Shield of Illinois, Humana, and United Healthcare. Bridges to Excellence has developed 3 programs, including Physician Office Link, Diabetes Care Link, and Cardiac Care Link. The Physician Office Link program offers physician offices incentives of up to \$50 per covered patient annually for the implementation of specific processes to reduce errors and increase quality. The program includes a report card for each physician office that is made available to the public. The Diabetes Care Link and Cardiac Care Link

offer incentives for high performance in the care of diabetes and cardiac disease.

Rewarding Results is an initiative to help purchasers and health plans align incentives for high-quality health care sponsored by the Robert Wood Johnson Foundation and the California Healthcare Foundation. It provides grants, technical assistance, workshops, and how-to publications to help purchasers and health plans. The largest of the grantees is the Integrated Healthcare Association, a nonprofit California health care leadership group composed of health plans, physician groups, hospitals, and health care systems. Insurers will pay a total of \$100 million in incentives to physician groups across the state of California. The incentive payments are based on performance on 6 Health Plan Employer Data and Information Set measures (eg, rates of mammograms and Pap smears), patient satisfaction, and IT investment. This program is unique in that providers participating in more than 1 of the Integrated Healthcare Association's plans receive incentives multiple times for the same measures by different insurers. The Integrated Healthcare Association sees this as a way to reinforce the measures and encourage participation. In early 2003, participating physicians submitted data, and the first bonuses were paid in mid-2004.

As seen in the above examples, public and private health care insurers are implementing P4P programs in response to significant pressure by employers and the federal government to decrease costs and increase quality. The majority of these plans base incentive payments on outcomes measures or specific disease management programs (eg, diabetes, heart disease). Table 1 summarizes the salient features of the relevant P4P programs and demonstrations.

As payers begin to see results from their P4P programs, it is only a matter of time before they turn to other areas of measurements, including imaging services. It is therefore imperative that specialty societies, such as the ACR, work to develop their own performance measures to have a clear voice when this occurs.

Federal Legislative Initiatives to Establish P4P

Inspired by the IOM [4] report *Crossing the Quality Chasm*, the current Bush administration has been encouraging lawmakers to explore methods to implement a P4P paradigm, which would include the development of strong health IT infrastructure within the Medicare program. The IT infrastructure is necessary because the system depends on extensive data collection and the reporting of quality indicators. Centers for Medicare and Medicaid Services administrator Mark McClellan, MD, has fiercely argued for P4P legislation at several congressional hearings examining Medicare reimbursement for physicians.

The Medicare Payment Advisory Commission, the

congressional advisory committee for Medicare, developed specific P4P recommendations for congressional consideration. In its March 2005 report to Congress, *Medicare Payment Policy*, MedPAC [10] proposed that Congress implement a budget-neutral payment policy that would pay between 1% and 2% more to providers who deliver quality care to Medicare beneficiaries. Budget neutrality means that Congress would authorize no new funding for the Medicare program to support the new scheme. Analysts contend that broad P4P requirements for Medicare would likely serve as a catalyst to jumpstart P4P initiatives in the private sector.

Both the Senate and the House of Representatives introduced bills during 2005 to implement P4P systems for Medicare that measure structure, process, outcomes, beneficiary experience, efficiency, equity, utilization, and the IT infrastructure. In the proposed legislation, the secretary of Health and Human Services may weight some of these measures more than others and has the authority to vary measures according to physician specialty, practitioner type, and volume of services. The quality measures must be evidence based, reliable, valid, and feasible to collect and report data. To develop and update these measurement systems, the secretary must consider recommendations from quality measurement organizations, researchers, health care provider organizations, demonstration programs, and reports from MedPAC and the IOM. House and Senate bills call for the secretary to submit an annual report on the agency's use of claims data to measure utilization patterns and efficiency.

Medicare physician reimbursement will continue to be a relevant issue during the second session (2006 to 2007) of the 109th Congress. Because lawmakers failed to implement a P4P model for physicians during the 2005 budget process, P4P will likely again receive substantial consideration. The debates over the method used for annual Medicare payment adjustment and payment for diagnostic medical imaging services will also be important issues moving forward. House Resolution 3617 is the ACR's preferred legislative vehicle to improve Medicare physician reimbursement because it eliminates the current flawed adjustment formula and provides a more efficient P4P paradigm.

Organizations Involved in P4P

In an attempt to respond to the push from payers and the government and to ensure physician input in the process, most of the major medical specialty societies are involved at varying levels in developing performance measures. These measures are funneled through 1 or more major national entities developing and endorsing performance measures, namely,

Table 1. Current pay-for-performance programs and demonstrations

Program Name	Premier Hospital Quality Incentive Demonstration	Physician Voluntary Reporting Program	Bridges to Excellence	IHA Rewarding Results
Lead organization	Centers for Medicare and Medicaid Services (CMS) - Pilot demonstration	CMS	Bridges to Excellence Coalition (National Committee for Quality Assurance, American Diabetes Association, American Heart Association, American Stroke Association)	Integrated Healthcare Association
Participating organizations	Medicare	Medicare	Examples: CareFirst Blue Cross Blue Shield, CIGNA, Humana and United Health Group	Blue Shield of California, WellPoint Health Networks, Inc., Aetna (Calif), CIGNA (Calif), HealthNet (Calif), Western Health Advantage and PacifiCare Health Systems (Calif)
Performance incentive	\$8.5 million to hospitals that show measurable improvements in care during first year of program	None	See below	Insurers will pay a total of more than \$100 million in incentives to physician groups
Program details	<p>Began in October 2003</p> <p>Quality data on 34 measures posted on CMS Web site (http://www.hospitalcompare.hhs.gov)</p>	<p>Began in January 2006</p> <p>Quality data on 36 evidence-based measures created in collaboration with physician organizations and other quality experts voluntarily reported by physicians using CMS-created G codes</p>	<p>Rewards physicians who make information technology investments to improve patient safety and standardize care</p> <p>Three guiding principles:</p> <ol style="list-style-type: none"> 1. Reengineering care processes to reduce mistakes will require investments, for which purchasers should create incentives 2. Significant reductions in defects (misuse, underuse, overuse) will reduce the waste and inefficiencies in the health care system today 	<p>Aims to standardize quality measures across health plans</p> <p>Public reporting of quality measures</p>

Table 1. Current pay-for-performance programs and demonstrations

Program Name	Premier Hospital Quality Incentive Demonstration	Physician Voluntary Reporting Program	Bridges to Excellence	IHA Rewarding Results
	<p>Top 20% of hospitals receive bonuses (2% for top 10%, 1% for second decile) for high performance on evidence-based quality measures for inpatients with heart attacks, heart failure, pneumonia, coronary artery bypass grafts, and hip and knee replacements</p> <p>Individual measures “rolled up” into overall quality score for each clinical condition</p>	<p>Additional measures under development and will be implemented during the year</p> <p>CMS will provide feedback to participating physicians on the level of their performance compared to other participants</p>	<p>3. Increased accountability and quality improvements will be encouraged by the release of comparative provider performance data, delivered to consumers in a compelling way</p> <p>Physician Office Link: office sites qualify for bonuses (up to \$50 per year per covered patient) based on their implementation of specific processes to reduce errors and increase quality; a report card for each office describes its performance and is made available to the public</p> <p>Diabetes Care Link: physicians may achieve 1-year or 3-year recognition for high performance in diabetes care; these physicians may receive up to \$80 for each covered diabetic patient; additionally, a package of products is available to assist patients with their care and achieve better outcomes</p>	<p>Some providers may be rewarded for the same measures multiple times by different insurers</p> <p>50% of incentive payments based on performance on 6 HEDIS measures; 40% based on patient satisfaction measures; 10% based on efforts to invest in information technology</p>

Table 1. Current pay-for-performance programs and demonstrations				
Program Name	Premier Hospital Quality Incentive Demonstration	Physician Voluntary Reporting Program	Bridges to Excellence	IHA Rewarding Results
Participation	In the third year, hospitals that do not achieve performance improvements above the demonstration baseline will receive 1% to 2% payment cuts	Voluntary participation	Cardiac Care Link: physicians may achieve 1-year or 3-year recognition for high performance in cardiac care; these physicians may receive up to \$160 for each covered cardiac patient; additionally, a package of products is available to assist patients with their care and achieve better outcomes	Six clinical measures: rates of mammograms, Pap smears, and childhood immunizations and markers of best care for asthma, diabetes, and coronary artery disease
Results to date (when available)	Voluntary participation: more than 265 hospitals participating	Not available	Diabetes Care Link: \$175 per patient per year cost to employers, \$350 per patient per year savings	
Source(s) of information	Composite quality scores improved in the first year of the program; scores of poorest performing hospital improving the most. http://www.cms.hhs.gov/quality/hospital/ http://www.cms.hhs.gov/media/press/release.asp?Counter=1729	http://www.cms.hhs.gov/media/press/release.asp?Counter=1699	http://www.bridgestoexcellence.org/bte/bte_overview.htm Kuzel and Devers ¹⁷	http://www.aishealth.com/ManagedCare/BluesNews/BLURefineP4PSafety.html Kuzel and Devers ¹⁷

Note: HEDIS = Health Plan Employer Data and Information Set.

- the AMA's Physician Consortium for Performance Improvement,
- the National Quality Forum (NQF) [11], and
- the Ambulatory Care Quality Alliance (AQA) [12].

Table 2 outlines the activities of each.

The medical specialties that have been most active in performance-measure development include the American College of Cardiology, the American Academy of Family Physicians, the American Academy of Pediatrics, the Society of Thoracic Surgeons, and the American Academy of Orthopedic Surgeons. The Hospital Quality Alliance and, more recently, the Cancer Care Alliance are entities with functions similar to those of the AQA. In addition, the surgeons have been working with CMS for some time in the Surgical Quality Care Improvement Project.

The impetus behind the drive by CMS and the Agency for Healthcare Research and Quality to encourage medical specialties to develop performance measures is the National Technology Transfer and Advancement Act of 1995. This law became effective in March 1996 and directs federal agencies to adopt private sector standards, wherever possible, in lieu of creating proprietary, non-consensus standards. Although traditionally, the functions of the National Institute of Standards and Technology are thought to be more in line with its earlier name, the Bureau of Standards, it is the agency charged with implementing this act throughout the federal, state, and local governments. Because the law encompasses all voluntary standards-setting entities, the NQF and other nongovernmental organizations are being called on to provide these documents to the Agency for Healthcare Research and Quality, CMS, and other agencies [13].

Despite all of this activity, the sense of urgency for measurement development continues to escalate, putting pressure on all the players in health care to initiate the use of measures to reduce costs and improve quality. The most recent IOM [14] report, *Performance Measurement: Accelerating Improvement*, laments the perceived lack of progress and in one of its major recommendations calls for the creation of a government agency, the National Quality Coordination Board, "to designate, or if necessary to develop, standardized performance measures . . . ensure the creation of data collection, aggregation and validation processes . . . and establish public reporting methods responsive to the needs of all stakeholders" among other duties.

Over the years, the ACR has appropriately focused much of its energy and many of its resources on economic issues and government relations for the maximum benefit to the members. Although there has been and continues to be a commitment to quality, aside from accreditation, the interest and resources have not risen to

the same level or been received by members with the same enthusiasm. Until now, economics and governmental issues and quality concerns have proceeded on parallel courses, with a minimum of direct interaction. However, given the current climate in both the public and private sectors regarding the escalating medical costs and the fast track that CMS has laid out, it seems that the 3 areas of concern are about to converge in the next 18 months in what can only be described as a "perfect storm." To avoid being inundated, the ACR will need to enlist member enthusiasm and commit staff resources in the same manner that it has for economics and government relations.

To some extent, the analogy between the *Andrea Gail* of *The Perfect Storm* and the ACR is a fitting one. Both are experienced in their respective fields but are feeling the heat of competition encroaching on their success; both were seemingly unaware of or unwilling to accept the magnitude of the problem; both either did not have the proper resources or did not manage them to the best advantage; and both assumed that they could ride out the storm. It is hoped that the *Andrea Gail* is the only one in this scenario that is lost.

The Political Landscape

As lawmakers continue to push for the implementation of Medicare physician P4P, the ACR must consider the impact of the deal brokered by the leadership of the AMA with Congress during the conference committee discussions on the Deficit Reduction Act of 2005. In an effort to obtain a zero % update for the 2006 Medicare physician fee schedule and to remove the Senate P4P provision from the Deficit Reduction Act conference report, the AMA committed to work with both CMS and Congress to implement P4P within the next 2 years. The agreement with Senate Finance Committee chairman Charles Grassley (R, Iowa), House Ways and Means Committee chairman Bill Thomas (R, Calif), and House Energy and Commerce Health Subcommittee chairman Nathan Deal (R, Ga) was signed on December 16, 2005.

Specifically, the AMA agreed to the following:

1. In 2006, physician groups will work with CMS to reach agreement on a starter set of evidence-based quality measures for a broad group of specialties for review in a consensus-building process.
2. By the end of 2006, physician groups will have developed a total of approximately 140 physician performance measures covering 34 clinical areas.
3. In 2006, physician groups will work with CMS to develop the most accurate and efficient method for physicians to report quality data to CMS.
4. During 2006, physician groups will develop with CMS, the House Committee on Ways and Means,

Table 2. Major organizations and their roles in physician performance measure activities

Organization	Year Organized	Role	Members	Comment
AMA Physician Consortium for Performance Improvement	2000; developed from vestiges of the abandoned AMAP program	Develops evidence-based measures independently and with medical specialty societies	Medical specialty societies, QIOs, state medical associations	Has had direct contract with CMS for measure development; currently in joint contract with NCQA and Mathematica Policy Research to develop measures for CMS where gaps exist across medicine
National Quality Forum	1999; proposed in report of President's Advisory Commission on Consumer Protection and Quality in the Health Care Industry	Reviews and endorses evidence-based measures	Medical specialty societies, purchasers, payers, consumers	Encouraged by CMS and AHRQ through National Technology Transfer Act of 1995; at present, the only vetting body
Ambulatory Care Quality Alliance	2004	Assesses and develops succinct measure sets that are acceptable to payers and purchasers and will be incorporated into contracts; actively expanding to cost and efficiency measures; data registry concerns	Most medical societies, payers, purchasers	Originally begun as vehicle to create a starter set of measures for primary care societies at the urging of AHRQ and CMS; expanded to include specialty societies in fall 2005

Note: CMS, the AHRQ, and other governmental agencies are liaison, nonvoting members of all 3 organizations. AMA = American Medical Association; QIO = quality improvement organization; CMS = Centers for Medicare and Medicaid Services; NCQA = National Committee for Quality Assurance; AHRQ = Agency for Healthcare Research and Quality.

the House Committee on Energy and Commerce, and the Senate Committee on Finance to implement additional reforms to address payment and quality objectives.

5. In 2007, physicians will report voluntarily to CMS on 3 to 5 quality measures per physician. Physicians who report measures should receive additional quality updates to offset administrative costs.
6. By the end of 2007, physician groups will have developed performance measures to cover a majority of Medicare spending for physician services.

Many health care pundits believe that the AMA mishandled this negotiation by giving up too much while gaining too little in return for its commitment. Because Congress and the Bush administration are determined to implement P4P, the AMA could have obtained a commitment from Congress to repeal the onerous sustainable growth rate formula if the AMA had been stronger in negotiations.

Several medical specialty societies expressed frustration that the AMA unfairly bound them to timelines and processes that some specialties may be unable to accomplish. The Alliance of Specialty Medicine, which represents 12 national medical specialty societies, including orthopedic surgeons, emergency physicians, obstetricians and gynecologists, and neurosurgeons, publicly expressed its displeasure in being excluded from this discussion in a January 31, 2006, letter to lawmakers.

The AMA contends that its members agreed to an identical P4P framework in August 2005. The Joint House-Senate Working Agreement, however, has different implementation timelines and fails to provide for elimination of the sustainable growth rate. Despite objections to the AMA's agreement with Congress, the medical societies represented by the Alliance of Specialty Medicine and the other 60 medical specialty groups remain active participants in the AMA's Physician Consortium for Performance Improvement.

In recent months, the Physician Consortium for Performance Improvement worked with CMS to modify the starter set of evidence-based quality measures for the CMS Physician Voluntary Reporting Program from 36 to 16 measures. Trent Haywood, MD, the CMS medical director for quality initiatives, was a keynote speaker at the most recent consortium meeting in Chicago and has worked closely with the AMA on voluntary reporting.

The ACR must redouble its efforts on physician quality reporting initiatives so that the College can take a lead role in the implementation of physician P4P for imaging and radiation oncology as the timetable for the Joint House-Senate Working Agreement with the AMA moves forward. A legislative vehicle to accomplish Congress's goal, however, may not present itself until the 110th Congress.

THE ACR AND P4P

Challenges Facing Radiology

There are many potential challenges for a diagnostic imaging practice stemming from the implementation of a P4P program [15]. Because to date, the focus of performance-measure development has been primarily in disease management, radiology has been an outlier in some respects among the other medical specialties. Radiologists' patients are referred by other providers, and imaging often represents a small though important portion of the episode of care, making it difficult to delineate radiologists' contributions from those of other providers. Outcomes research and data on the efficacy of many diagnostic studies are limited. Very little is known about how existing quality products (such as the ACR's Appropriateness Criteria[®]) contribute to improved patient outcomes [16].

The implementation of P4P programs is complicated for hospital-based radiology. The appropriate source of capital for investment in technology and recipients of bonus payments for the investment are unclear. Smaller freestanding radiology practices might be at a disadvantage because they may not have access to the capital required to invest in IT and equipment modernization.

Radiologists can prove their value to society by conducting outcomes and health services research, investing in IT and quality equipment, communicating in a timely and effective manner with colleagues, promoting the use of the ACR Appropriateness Criteria[®], providing outstanding service to patients, and participating in quality assessment programs.

ACR Involvement with P4P Measurement Organizations

The ACR is currently interacting with most of the organizations listed in Table 2, either as member or as an observer. To this point, the College's effort with these organizations has been a shotgun approach to ensure that the ACR's voice is heard and recognized.

The ACR has participated with the AMA's efforts since the inception of the Practice Parameters Partnership in the early 1990s. Currently, the ACR is participating with the American Academy of Neurology and clinical cochairs and "lead organizations" for a performance measure set for stroke management through the AMA's Physician Consortium for Performance Improvement process for performance-measure development. The College is a participant in all consortium workgroups in which imaging is involved. In addition, there is increasing interest by CMS in working with the College to develop measures for radiology.

The ACR has observed the NQF's activities since its inception in 1999 and has been a member for 4 years.

American College of Radiology members have been named to several steering committees and technical panels, including the Cancer Care Steering Committee, the Panel for Colorectal Cancer, and the Venous Thromboembolism Panel, as well as cochairing the Mammography Centers Quality Project (the final report is currently in press).

The ACR, along with most of the other major specialty societies, has observed the activities of the AQA by attending meetings and participating in conference calls. The driving force behind this group seems to be America's Health Insurance Plans, a national trade association representing nearly 1,300 health insurance companies. Although the AQA's initiatives are moving forward fairly rapidly, the organizational and governing features and the opportunity to participate in them do not seem transparent or well defined at present.

The ACR has participated in the initial conference call for the Cancer Care Alliance but has not been invited to join the alliance, although the American Society for Therapeutic Radiation and Oncology will be participating. It will be important for the ACR to follow the activities of this organization and to determine how the College can best become involved in the interest of its radiation oncology members.

The Sun Valley Group is an assemblage of physicians interested in performance measurement for radiology practices. The first meeting was held in late 2004, followed by a meeting in the summer of 2005 in Sun Valley, Idaho, that resulted in some high-level thinking and planning. Many of those attending had developed or were developing systems for measuring performance in their practices. One of the principal outcomes of the meeting was the agreement that data on performance are lacking in radiology and are essential requirements for going forward with performance measurement. The action item from the meeting was to charge several of the attendees with developing and running a pilot in their practice and reporting the data at the August 2006 meeting. The areas that were planned for the pilot included a safety initiative on correct labeling, a process improvement project on emergency department turnaround times for radiographic examination, the development of intermediate patient outcomes for specific clinical imaging indications, and a project on evidence-based selection of appropriate patients for imaging. In light of the timetable that it is being imposed on all of medicine to develop measures, a report in August will be too late to assist the ACR in its early measure development activities but will be important in guiding future initiatives.

Questions for Consideration by the ACR

Several questions arise with respect to the ACR's involvement with performance-measure development.

What would be the scope of the work for developing performance measures for radiology? What group within ACR should be responsible for the project? What level of resources will be required? How do comparable medical societies manage this project? What should be the role of the ACR in performance-measure development in relation to the radiology subspecialty societies?

What Would Be the Scope of the Work for Developing Performance Measures for Radiology?

The ACR must follow and participate in the activities of the Physician Consortium for Performance Improvement, the NQF, the AQA, and CMS in a consistent and coordinated manner. To do so, the following is needed to manage each of these organizations:

1. a primary representative and a backup or alternate for both physicians and staff members;
2. responsibilities should include
 - being the knowledgeable and vocal representatives for the ACR;
 - attendance at each society's face-to-face meetings, with the summary and distribution of notes for each meeting to be managed by staff representatives; and
 - participation in all conference calls, with the summary and distribution of notes for each call;
 - staff has the additional duties of
 - keeping the member representative(s) informed of
 - (a) meeting and conference call notes,
 - (b) any issues requiring voting with necessary background,
 - (c) deadlines for review of and comment on draft measures and other documents, and
 - (d) meetings that absolutely require their attendance;
3. ensuring that materials for review and comment are distributed to the appropriate committees and commissions;
4. follow-up on review and comment deadlines;
5. the assessment of which technical panels, steering committees, and workgroups need imaging representation and contacting the appropriate sources for nominations; following up with nominees; obtaining necessary requirements for submission in a timely fashion; otherwise be the go-to person for other related requests for nominees; and
6. participation in society committees and workgroups as appropriate to ACR needs.

The meetings or other commitments include several 1-day or 2-day face-to-face meetings per year for each organization, principally in Washington or Chicago; or-

ganizational face-to-face meetings for steering committees and workgroups that develop or review performance measures; conference calls as follow-up for these workgroups; and draft measures, guiding principles, and other documents for review and comment.

In addition, CMS has a list of medical specialties for which it has determined that performance measures are needed. In an update at a recent Physician Consortium for Performance Improvement meeting, the CMS medical director for quality issues indicated that radiology and imaging are number 1 on that list.

What Group Within the ACR Should Be Responsible for the Project? The Commission on Quality and Safety has the charge of managing quality issues related to P4P. These activities can best be directed by the chair of the commission, who will enlist the expertise of the newly formed Metrics Committee.

The Metrics Committee is chaired by Stephen Swensen, MD, and is composed of the members who have an interest in radiology performance measurement or expertise in this area.

Given the economic implications of the performance measurement and P4P, having members who participate on the Metrics Committee as well as on the Commission on Economics would add valuable expertise. There is currently crossover between the 2 groups, and additional interaction is being considered.

The Metrics Committee has held one brainstorming meeting, during which it was determined that major areas of interest for focus are maintenance and compliance with the ACR Appropriateness Criteria[®] and clinical prediction rules, radiation dose measurement and fluoroscopy time, and a new generation of RADPEER[®].

What Level of Resources Will Be Required? The ACR is fortunate to have strong departments in economics and health policy, government relations, and quality and safety, which may help ameliorate the College's late start in the performance-measure development. However, the current management of the College's P4P activities is fragmented despite the best efforts of each group. Therefore, the expertise in these departments should not be viewed as a substitute for a unified effort and appropriate resources to address the performance measurement. Staff members have come together to assess the College's needs in this area and to attempt to determine the most feasible approach to meet those needs. However, it is clear from the meetings and other activities described above that the efforts of the College in this area would benefit from dedicated resources, particularly at least 1 full-time staff member to manage and coordinate all the disparate activities involving both members and staff members.

How Do Comparable Medical Societies Manage This Project? The push for performance measurement from CMS and other payers has resulted in an acceleration of activity in this area by most of the medical specialties societies. There are varied approaches in the ways that the work is being organized. A sampling of these organizations will demonstrate the new dedication and seriousness of purpose that is being devoted to quality and performance measurement.

Two societies, the American Urological Association and the American Gastroenterology Association have combined economics, health policy, and quality and guidelines activities. The American Urological Association has also included government-relations activities and is devoting approximately 15 staff members to these efforts.

The American College of Cardiology, a society comparable with the ACR, has long devoted considerable resources to their clinical guidelines and Guidelines Applied in Practice programs as well as to their more recent appropriateness criteria project. Currently, the American College of Cardiology seems to be in the process of developing a 3-person quality alliances staff workgroup that purportedly will consist of a director, an associate director, and a senior specialist.

What Should Be the Role of the ACR in Performance-Measure Development in Relation to the Radiology Subspecialty Societies? In the past, the ACR has often spoken on behalf of the majority of diagnostic and therapeutic radiology on matters related to economics and government relations. As subspecialty radiology societies have grown in numbers and membership, they have increasingly sought to speak for themselves. A similar situation is arising with performance-measure development. Subspecialty societies, such as the Society of Interventional Radiology and the American Society for Therapeutic Radiology and Oncology, are being approached by or are approaching CMS to determine how and when they will be developing measures. The College should take the lead and speak for all of radiology in developing performance measures. In any case, the ACR should enter into discussion with the radiology subspecialty societies to make sure all efforts are coordinated and consistent. It is important to tap into the expertise of our subspecialty colleagues and their representative societies. The Intersociety Summer Conference may provide the optimal venue for this discussion.

ACR Quality and Safety Initiatives Related to P4P

Metrics Committee. There are some new and many ongoing activities and programs that can provide a foundation and support for the ACR's initiatives in P4P.

The Metrics Committee has the following goals:

- Create a set of radiology performance measures that include structural, process, outcomes, and efficiency measures, understanding that initial efforts will focus on structure and process.
- Objectively measure the quality of radiology practices.
- Create outcome and process metrics that have target benchmarks for performance.
- Identify metrics that illustrate the value added of radiology.
- Identify metrics useful in continuous quality improvement within radiology practices.

Registries. The Metrics Committee will also be responsible for the development of the National Radiology Data Registry (NRDR). As currently conceived, the NRDR would be the overarching registry that would include practice and individual physician demographics, modality specific registries (eg, positron emission tomography and carotid artery stents), and the General Radiology Improvement Database. The General Radiology Improvement Database would be an outcomes registry of generic data elements. Other registries that will be incorporated in NRDR are RADPEER[®], a process that allows peer review to be performed on any prior images during the routine interpretation of current examinations, and the Dose Registry, a system that will allow the uploading of dose data directly from computed tomographic scanners to the ACR. A practice or facility could choose to participate in any or all registries as appropriate for their practice.

ACR Appropriateness Criteria[®]. The ACR Appropriateness Criteria[®] are evidence-based guidelines developed by expert panels in diagnostic imaging, interventional radiology, and radiation oncology and by nonradiology consultants. These guidelines assist referring physicians and other providers in making the most appropriate imaging or treatment decisions and enable providers to enhance the quality of care and contribute to the most efficacious use of radiology.

A new relational database format has been developed. The usability of the ACR Appropriateness Criteria[®] by referring physicians has been enhanced by the relational database that is searchable by examination type and body part and will be compatible with electronic order entry systems. *International Classification of Diseases*, Ninth Revision, and *Current Procedural Terminology*[®] diagnostic and procedure codes and a relative dose index will be added in early 2007. The Appropriateness Criteria[®] were the initial basis for a clinical decision support tool embedded in order-entry systems that have become part of the quality improvement and cost containment scheme of a major Massachusetts health system.

The ACR continues to promote the use of the Appro-

priateness Criteria[®] to payers as a tool to reduce the inappropriate utilization of imaging. Some form of P4P could be used as an incentive for referring providers to use the Appropriateness Criteria[®] when ordering imaging studies.

Practice Guidelines and Technical Standards.

The ACR practice guidelines and technical standards are developed on the basis of current literature, expert consensus, and ACR Council approval. The practice guidelines and technical standards often define an acceptable rather than an optimal examination performance level. As a result of the recommendation of the recent Task Force on ACR Quality Initiatives, consideration is being given to the modification of the practice guidelines and technical standards so that they serve as a guide to best practices that contain thresholds for indications, complications, and success rates for procedures and place more emphasis on patient safety, with information related to radiation exposure and contrast-related issues. Some practice guidelines and technical standards can be appropriately developed into performance measures that could assist members in P4P compliance.

Accreditation Programs. Some payers currently require accreditation as a condition for reimbursement. However, it is clear that we will need to develop more specific performance measures as part of accreditation to meet future P4P mandates. ACR accreditation programs in mammography, computed tomography, magnetic resonance, nuclear medicine, radiation oncology, ultrasound, and positron emission tomography contain numerous standards to ensure quality. These standards could be used to develop such metrics.

In response to P4P and other payer pressures for public reporting, the ACR is developing an institution-based imaging provider report card. This is a collaborative effort between the Commission on Quality and Safety and the Managed Care Committee. How this report card will be used and whether the ACR will collect data or simply provide the report card format to payers for their use have not been determined.

RADPEER[®]. The RADPEER[®] program is a process by which physicians in a group evaluate one another's performance and submit the results to the ACR. RADPEER[®] is based on conducting peer review while conducting routine image interpretation. If there are prior images of the same area of interest when a new study is being interpreted, the report of the previous study is reviewed and its accuracy scored by the reviewer using a standardized 4-point rating scale.

After the submission of practice data to the ACR, the radiology chair or medical director will receive reports detailing the following:

- summary statistics and comparisons for each participating radiologist by modality,
- summary data for the facility by modality,
- data summed across all participating facilities by modality, and
- data for each radiologist indicating the number of RADPEER[®] reviews performed for the designated period.

RADPEER[®] reports also show a facility's performance compared with that of other RADPEER[®] participants. Although this is not intended as a "benchmark," it does show a facility how it scores compare with those of other practices. Although it may be tempting to use such comparisons in a P4P system, the ACR will need to make it clear to any interested payers that RADPEER[®] does not take into account patient variability and risk adjustment. The ACR should recommend to payers that participation in RADPEER[®] demonstrates commitment to quality improvement and should be encouraged through P4P incentives but should not be tied to specific scores or benchmarks. It will be critical to maintain the peer review protection established under Virginia law, and this should be conveyed to any interested payers.

CONCLUSIONS

Although most current P4P programs focus on primary care physicians and hospital care, payer initiatives have thrust P4P into the near future of all specialties. The specialty of radiology inherently presents some challenges in applying P4P outcomes measures because of the distance of imaging from eventual patient outcome and the lack of evidence for radiologic best practices. Referral specialties such as radiology lack obvious measures of performance because they are only one event in the continuum of care, and utilization is controlled by referring physicians. Radiologists rarely receive feedback regarding how imaging affected final patient outcomes.

In this regard, the ACR believes as a matter of principle that P4P measures must be

- developed, maintained, and updated in consultation with appropriate professional organizations and medical specialties;
- risk adjusted;
- phased in over time;
- evidence based when possible;
- uniform across all providers of imaging services;
- uniform across payers;
- minimally burdensome to collect and report;
- transparent to physicians in terms of both the judgment criteria and the data on which reimbursement decisions are made; and

- not overly burdensome to small groups or rural practitioners.

Performance-based measures should apply not only to radiologists but also to all physicians who perform and interpret imaging services, regardless of specialty. The focus should be on structure and process measures initially, until such time as evidence-based outcomes measurements are developed.

The ACR must take a leading role in the design of radiology measures to be used in P4P systems. The ACR's involvement is critical to ensure that the data collection for measures does not place an undue burden on small practices and rural radiologists and that the measures enhance quality in radiology in an equitable manner.

RECOMMENDATIONS

To meet the challenges that the P4P initiative is placing on all of medicine, the ACR must devote the resources necessary to meet the short-term goals for performance measurement development in radiology by the end of 2006. To achieve the intermediate and long-term goals of the ACR's P4P initiative, the College should commit to prospective data collection and documentation by creating databases from the ACR accreditation programs, registries, and other sources to develop evidence for use in creating metrics and establishing benchmarks.

To advance the ACR's P4P activities, the ACR Work Group on Pay for Performance has developed several specific recommendations. The recommendations below have been categorized into short-term, intermediate-term, and long-term activities. Short-term means the time between approval by leadership and September 2006. Intermediate-term refers to the time period between September 2006 and May 2007. Long-term refers to the period from May 2007 to May 2009.

1. The ACR should educate, inform, and energize the membership on the importance and urgency of performance measure development, to include
 - (a) a dedicated P4P section on the ACR's Web site, including a webcast with leadership and others discussing P4P, to keep the membership informed of the College's goals, efforts, and progress (short-term);
 - (b) making P4P a primary focus of an educational campaign by creating a brief presentation for use during fiscal year 2007 chapter visits (short-term);
 - (c) regular P4P articles in the *JACR*, starting with a full or condensed version of this white paper (intermediate-term); and
 - (d) a regular P4P section in the *ACR Bulletin*, including items such as question-and-answer pieces about P4P,

- with quality and safety staff members taking the responsibility for the content (short-term to intermediate-term).
2. The level of ACR member participation must significantly increase in the P4P activities in which the College is currently involved or monitors, including representing the ACR at national meetings, participating in measure development, and working with staff members from other organizations. The major organizations requiring member involvement are the AMA's Physician Consortium for Performance Measurement, the AQA, and the NQF. Staff members must monitor CMS and private payer activity and trends (short-term).
 3. The ACR's performance measurement and P4P activities should be coordinated by the chair of the Commission on Quality and Safety (short-term).
 4. The Imaging Provider Report Card Work Group should be made a subcommittee of the Metrics Committee under the direction of the chair of the Commission on Quality and Safety and should include additional members with economics expertise if needed (short-term).
 5. As soon as possible, 1 or more performance measures should be chosen that can be specified and tested by December 2006. This activity can be facilitated by
 - (a) issuing a call via the ACR's Web site for existing measures and data collection that members may already be using in response to Joint Commission on Accreditation of Healthcare Organizations or other mandates (such existing measures could be used at a national level if already tested) (short-term); and
 - (b) creating, by the end of August 2006, a prioritized list of measures that will be developed by the ACR during fiscal year 2007 (intermediate-term).
 6. The ACR must commit adequate staff resources for the long term. As structure within the ACR is developed and activities ramp up, additional staffing will be needed (long-term).
 7. The ACR should convene a summit, chaired by Harvey Neiman, MD, with all radiology subspecialty societies to discuss P4P activities, roles, and coordination so that radiology speaks with one voice and does not duplicate efforts. The Intersociety Summer Conference may provide the optimal venue for this discussion (short-term).
 8. Resources should be devoted to develop and market the NRDR and other appropriate registries that will produce accurate data for use in creating performance measures and benchmarks (intermediate-term).
 9. Resources should be devoted to interaction with manufacturers and vendors of order-entry systems, radiology information systems, and electronic medical records, as well as information development work at the ACR, to enable the ACR Appropriateness Criteria[®] and RADPEER[®] to be embedded in users' health care information systems. Such an initiative may be facilitated through collaboration with the National Electrical Manufacturers Association (intermediate-term).

REFERENCES

1. Swayne LC. Pay for performance: pay more or pay less? *J Am Coll Radiol* 2005;2:777-81.
2. Donabedian A. Evaluating the quality of medical care. *Milbank Mem Fund Q* 1966;44(suppl):166-206.
3. Institute of Medicine. *To err is human: building a safer health system*. Washington, DC: National Academy Press; 2000.
4. Institute of Medicine. *Crossing the quality chasm: a new health system for the 21st century*. Washington, DC: National Academy Press; 2001.
5. Rosenthal MB, Frank RG, Li Z, Epstein AM. Early experience with pay-for-performance: from concept to practice. *JAMA* 2005;294:1788-93.
6. Thrall JH. The emerging role of pay-for-performance contracting for health care services. *Radiology* 2004;233:637-40.
7. American Medical Association. Taking the lead together. Available at: <http://www.ama-assn.org/ama1/pub/upload/mm/370/takingtheleadtogethe.pdf>. Accessed March 22, 2006.
8. Premier, Inc. Hospital quality incentive demonstration. Available at: <http://www.premierinc.com/all/quality/newsletters/qualityupdate/january2006/jan-2006.htm>. Accessed March 20, 2006.
9. Centers for Medicare and Medicaid Services. Medicare begins performance-based payments for physician groups [Press release]. Baltimore, Md: Centers for Medicare and Medicaid Services; January 2005.
10. Medicare Payment Advisory Commission. Report to the Congress: Medicare payment policy. Washington, DC: Medicare Payment Advisory Commission; 2005.
11. The National Quality Forum. Home page. Available at: <http://www.qualityforum.org/>. Accessed March 13, 2006.
12. Agency for Healthcare Research and Quality. The Ambulatory Care Quality Alliance: improving clinical quality and consumer decisionmaking (background document). Available at: <http://www.ahrq.gov/qual/aqaback.htm>. Accessed March 22, 2006.
13. National Institute of Standards and Technology. About National Technology Transfer and Advancement Act. Available at: <http://ts.nist.gov/ts/htdocs/210/nttaa/about.htm>. Accessed April 20, 2006.
14. Institute of Medicine. *Performance measurement: accelerating improvement*. Washington, DC: National Academy Press; 2005.
15. Seidel RL, Nash DB. Paying for performance in diagnostic imaging: current challenges and future prospects. *J Am Coll Radiol* 2004;1:952-6.
16. Hillman BJ. Who gets paid with "pay-for-performance"? *J Am Coll Radiol* 2004;1:891-2.
17. Kuzel AJ, Devers KJ. Current insurer strategies regarding pay for performance and implications for physicians. *Ramifications* 2005;September/October:18-9.