

Pay for performance for the allergist-immunologist: Potential promise and problems

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Pay for performance is one component of a growing movement in this country to better align incentives so as to increase the quality of medical care and reduce unnecessary costs. The Physician Consortium for Quality Improvement is a national multistakeholder organization that is developing performance measures. Concerns regarding performance measures include technical concerns (eg, validity, risk adjustment, sample size, and accuracy considerations), concerns regarding the cost of implementation, and concerns regarding unintended consequences. Some data support the effectiveness of pay-for-performance programs, but more and better-designed studies are needed to rigorously assess the effectiveness of pay-for-performance programs. The Institute of Medicine 2006 report supports pay for performance “as a stimulus to foster comprehensive and system-wide improvements in the quality of healthcare.” This report also recommends that implementation of pay-for-performance programs should be carefully monitored to be sure that the stated goals are being achieved and that unintended consequences are recognized as early as possible. It is important for the allergist-immunologist to be an active participant in the evolving paradigm of pay for performance, advocating for the best interests of patients and providers alike. (*J Allergy Clin Immunol* 2007;120:769-75.)

Key words: Pay for performance, quality measures, practice management

Pay-for-performance programs are now firmly entrenched in the payment systems of American public and private insurers.¹ The purpose of this article is neither to support nor argue against pay-for-performance programs. Rather, it is to provide information regarding selected aspects of the past, present, and future of pay for

Abbreviations used

HEDIS: Health Employer Data and Information Set
HMO: Health maintenance organization
IHA: Integrated Healthcare Association
IOM: Institute of Medicine
PCHI: Partners Community Health Care, Inc
PCPI: Physician Consortium for Performance Improvement

performance that we hope will help allergists-immunologists optimally participate in the planning and implementation phases of this growing movement.

BACKGROUND OF PAY-FOR-PERFORMANCE DEVELOPMENT IN THE UNITED STATES

The concept of linking performance and payment in health care in the United States dates back to at least 1993 in California,² when PacifiCare, a large health maintenance organization (HMO), began measuring the performance of its affiliated medical groups. It looked at a battery of clinical and patient-reported measures of quality. Initially, the information was reported to its medical groups. Since 1998, the information has been made public to help consumers select high-quality groups. This is not physician-specific reported data.

The real impetus for pay for performance in the United States began with the publication in 2001 by the Institute of Medicine (IOM) of “Crossing the quality chasm: a new health system for the 21st century,”³ which noted the current misalignment of payment and quality, where we are actually paid more for keeping patients sick than for healing. After this publication, the IOM issued a series of publications focusing on improving the quality of care in the United States. The IOM has concluded that “fundamental changes in approaches to health payment are necessary to remove impediments to and create the census for significant quality improvement.”⁴

The IOM encourages the creation of new payment incentives that will “Encourage the most rapid feasible performance improvement by all providers; support innovative and constructive change throughout the healthcare system; and promote better outcomes of care especially through coordinating care across provider settings and

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TABLE I. PCPI asthma measures*

1. Asthma assessment: Percentage of patients who were evaluated during at least 1 office visit during the reporting year for the frequency (numeric) of daytime and nocturnal asthma symptoms
Denominator: All patients 5-40 years of age with a documented diagnosis of asthma and at least 2 face-to-face office visits during the measurement time period
Numerator: Patients who were evaluated during at least 1 office visit during the reporting year for the frequency (numeric) of daytime and nocturnal asthma symptoms
2. Pharmacologic therapy: Percentage of patients with mild, moderate, or severe persistent asthma who were prescribed either the preferred long-term control medication (inhaled corticosteroid) or an acceptable alternative treatment
Denominator: All patients with mild, moderate, or severe persistent asthma 5-40 years of age and with at least 2 face-to-face office visits during the measurement time period
Numerator: Patients who were prescribed either the preferred long-term control medication (inhaled corticosteroid or inhaled corticosteroid with long-acting β -agonist) or an acceptable alternative treatment (leukotriene modifiers, cromolyn sodium, nedocromil sodium, or sustained-release methylxanthines)

*More information is available at <http://www.ama-assn.org/ama/pub/category/16484.html> (last accessed April 3, 2007). These measures have also been endorsed by the National Quality Forum; the Ambulatory Care Quality Alliance; the Centers for Medicare and Medicaid Services; the American Academy of Allergy, Asthma & Immunology; the American College of Allergy, Asthma, and Immunology; and the Joint Council of Allergy, Asthma, and Immunology.

time.”⁴ Pay for performance is one specific strategy to better align payment incentives with quality outcomes.

ORGANIZATIONS INVOLVED IN PERFORMANCE MEASURE DEVELOPMENT AND IMPLEMENTATION

Performance measures are a key aspect of pay-for-performance programs. Two major organizations are involved with the development and implementation of performance measures of relevance to allergist-immunologists: the American Medical Association Physician Consortium for Performance Improvement (PCPI) and the Ambulatory Care Quality Alliance (now known as the AQA).

AMA PCPI

The PCPI is composed of more than 100 national specialty and state medical societies, the American Board of Medical Specialties and its member boards, the Council of Medical Specialty Societies, experts in methodology and data collection, the Agency for Health Care Research and Quality, and the Centers for Medicare and Medicaid Services. The PCPI was convened by the AMA to enhance quality of care and patient safety by taking the lead in the development of evidence-based clinical performance measures. The PCPI has already developed more than 150 clinical performance measures using an evidence-based methodology and is in the process of developing many more.

Both allergy-immunology societies are represented on the PCPI and participated in the development of the 2 asthma performance measures (Table I), which were among the first measures developed by the PCPI. A joint task force for performance and quality measures has now been convened, with representation from the American Academy of Allergy, Asthma & Immunology; the American College of Allergy, Asthma, and Immunology; and the Joint Council of Allergy, Asthma, and Immunology, with subcommittees taking the lead in developing

performance measures for rhinitis and more stringent measures for asthma. As the pay-for-performance programs increase in penetration, the allergy-immunology community will need to develop additional performance measures for aspects of care important to allergy-immunology specialists.

AQA

The Ambulatory Care Quality Alliance, now known as the AQA, was convened in 2004 by the American Academy of Family Physicians, the American College of Physicians, America's Health Insurance Plans, and the Agency for Health Research and Quality to lead an effort to determine how to most effectively and efficiently improve performance measure data implementation, aggregation, and reporting in the ambulatory care setting. Measures developed by the PCPI are vetted through the AQA for their approval. The AQA has developed a set of guiding principles for selecting appropriate measures of physician performance (<http://www.aqaalliance.org/>).

TYPES OF MEASURES

Two main types of measures can be considered for pay for performance: process measures and outcome measures. As the name implies, process measures assess processes of care, such as taking a history or prescribing medications, whereas outcome measures assess clinical results reflecting the actual health of patients. Process measures are the most controllable aspect of quality from the standpoint of providers, but outcome measures have more bottom-line appeal. However, outcomes are influenced by severity of illness and adherence to therapy, as well as random events over which the provider might have little control.⁵ For asthma, outcome measures could include direct outcomes, such as asthma hospitalizations, emergency department visits, symptoms, control, or quality of life, or surrogate outcomes, such as pulmonary function. One recommended approach is to use process measures to assess quality and use outcome measures to

TABLE II. Definition of the current HEDIS asthma measure: appropriate medication use for persons with asthma

Denominator (population assessed during the first year):

1. Age 5-56 years
2. "Persistent asthma" as defined by any of the following during the qualification year:
 - hospitalization with a primary diagnosis of asthma,
 - emergency department visit with a primary diagnosis of asthma,
 - 4 or more asthma medication–dispensing events,
 - 4 or more outpatient visits for asthma and 2 or more asthma medication–dispensing events
3. Patients must also have at least 1 of the above characteristics during the second (measurement) year.

Numerator (patients meeting the standard for "appropriate medication use" during the second or measurement year):

- Patients with at least 1 dispensing of a controller medication, including inhaled corticosteroids, leukotriene modifiers, cromolyn, nedocromil, or theophylline but not long-acting β -agonist monotherapy or prednisone

assess the predictive validity of the process measures,⁵ which is discussed further below.

Two other types of measures are also included in some pay-for-performance programs. Structural measures reward the presence of certain infrastructural elements, such as information technology capabilities. Satisfaction measures assess the patient's satisfaction with various aspects of the care they have received.

There are 3 general sources for obtaining the data for pay-for-performance programs: claims data, chart data, or survey data. Claims data are the easiest and least expensive to obtain and can measure some processes and outcomes reasonably well. Chart abstraction is more expensive but might be the only way to obtain certain clinically relevant information. The use of electronic patient-reporting tools or electronic medical records should make medical record data more accessible and should prove to be more accurate than claims data. For example, it has recently been shown that using coded data from an electronic medical record identified 97% of eligible diabetic patients compared with only 75% identified by claims data and that diabetes quality measures were significantly different in patients identified with the 2 methods.⁶ However, it must be realized that chart data are not objective evidence about what actually happened to the patient and could merely reflect the physician's desire to comply with pay-for-performance measures. Patient surveys are the only way to obtain patient satisfaction information and would be an ideal way to objectively and uniformly obtain certain types of patient-reported outcome measures, such as asthma control or quality of life. However, such surveys could be expensive to administer and entail some burden for the patient.

TECHNICAL CONCERNS REGARDING PAY-FOR-PERFORMANCE MEASURES

There are a number of technical considerations that affect the value and fairness of pay-for-performance measures, including the validity of the measure, adequate risk adjustment, large enough sample sizes, and accuracy of the data collected.

Validity

Validity of a measure means it has been shown to accurately reflect the process or outcome it purports to assess. For a process measure, it must be shown to accurately ascertain whether the process in question has occurred. It would also be ideal if the process measure has been shown to correlate with improved outcomes. For an asthma outcome measure (eg, patient-defined asthma-specific symptoms, control, or quality of life; pulmonary function; or emergency hospital use), it must be shown to accurately reflect those constructs or occurrences.

These principles of measure validity seem self-evident, but the most commonly used asthma measure (Health Employer Data and Information Set [HEDIS] Use of Appropriate Medications for Asthma, Table II) has never had published validity testing. Moreover, studies suggest that the HEDIS denominator does not accurately reflect persistent asthma,⁷⁻⁹ although the recent requirement for requalification in the second year should increase the specificity of the denominator,¹⁰ and that achievement of the HEDIS numerator is not associated with improved outcomes.^{7,11}

Risk adjustment

Risk adjustment in this context refers to accounting statistically for characteristics of the patient other than the health care factor being measured that could influence the results. Risk adjustment is essential for outcome measures, which might be influenced by many demographic, socioeconomic, disease severity, and comorbidity factors. For example, asthma control has been shown to be affected by clinical markers of severity (prior hospitalization and oral steroid use), educational attainment, income, and comorbidities, such as smoking, obesity, and reflux.^{12,13} Without adequate risk adjustment, physicians caring for patients with more severe disease, patients with lower socioeconomic status, or patients with more comorbidities will be unfairly penalized. Even for HEDIS process measures, results have been shown to be significantly related to sociodemographic characteristics of the health plan members, such as age, sex, race/ethnicity, percentage college educated, and percentage receiving poverty assistance.¹⁴

Risk adjustment has also been shown to be necessary for optimally assessing patient satisfaction with asthma care. Huang et al¹⁵ have shown that adjusting for age, sex, drug coverage, asthma severity, and general health status in 2515 patients from 20 physician groups led to a change in absolute ranking in 65% of groups and a change in quintile ranking in 25% of groups.

Sample size

As is true with all clinical observations in populations, an adequate sample size must be ascertained to make reliable inferences. Huang et al¹⁶ also explored sample size considerations in asthma measures applied to the above 20 California physician groups. The authors concluded that a sample size of 126 patients per physician group yielded acceptable reliability (≥ 0.80) for most measures, including process measures (accessibility of asthma care, self-management knowledge, and inhaled steroid use), outcome measures (improved health status and asthma emergency department visits), and satisfaction measures.

Accuracy

Finally, accuracy of the performance measure data collected must be ensured for the results to be meaningful to patients, physicians, or health plans. It is especially important to ensure correct physician attribution (ie, that individual patient results are accurately linked to the physician who has responsibility for those processes or outcomes). This has recently been shown to be a substantial challenge in fee-for-service Medicare because of the dispersion of patient care among multiple physicians.¹⁷ A corollary to this requirement is an appropriate and formalized appeals process for the physician to be able to dispute inaccurate data before they are provided to health plans or the public.

OTHER CONCERNS REGARDING PAY-FOR-PERFORMANCE PROGRAMS

With the emergence of pay-for-performance initiatives in the United States, allergists-immunologists must be concerned with more than just technical concerns when assessing the effect of these programs on health care in general and on their practices in particular.

Increased quality versus reduced cost

Is the goal increased quality or reduced cost? It is important to determine what the goal of each pay-for-performance proposal is before electing to participate. Is it truly measuring quality in one's practice, or is it just a way for the payer of health care to control costs? An example of using a pay-for-performance program to control costs would be the percentage of patients with chronic sinusitis having a computed tomographic scan of the sinuses. The fewer procedures done, the "better" the physician is on this pay-for-performance measure. As one can see, this would reduce the cost to the health plan but might also reduce the quality of treatment for the patient. Therefore the allergist

must look closely at each proposed measure to confirm that it is a quality measure leading to better care of the patient.

Cost of implementation

Another issue of which the allergist-immunologist must be aware is the cost of implementation of pay-for-performance programs in the office. Costs will increase because of collecting, obtaining, and analyzing the data.¹⁸ The easiest way to accomplish such data collection will be the use of reporting tools developed for electronic medical records. With the change in health care toward pay-for-performance programs, there will be a major push for all physicians to purchase electronic medical records. Other costs could be added time and staff needed to collect the data.

Financial rewards

Are the financial rewards adequate? Because of the increased costs for implementation of pay-for-performance initiatives, it will be paramount for allergists-immunologists to determine whether the financial rewards are adequate.¹⁹ One report suggests that 60% of pay-for-performance plans pay less than a 5% bonus,²⁰ which might not be enough to cover costs, influence physician behavior, or both.²¹ For example, in a Massachusetts survey 91% of physician group leaders reported that the ideal percentage of incentive revenue should be 5% or more.²² The British National Health Service system allows general practitioners to receive up to 25% of their income from quality-based incentives.²¹

Unintended consequences

There can be some unintended consequences with pay-for-performance programs, especially if based on outcomes that vary with disease severity and inadequate risk adjustment. Physicians might avoid caring for the most sick and challenging patients because of concerns about how these patients will affect their pay-for-performance score. This is more than just a theoretic concern because it has been documented that physicians and hospitals have attempted to select healthier patients under prospective payment or outcome reporting systems to maximize net revenues or reported performance.²³ Unless the measures are independent of disease severity or adequately risk adjusted, practices with a sicker population might have more difficulty meeting pay-for-performance requirements,²⁴ physicians in communities that deal with high-risk patients might leave those communities,²⁵ and systems that care for disadvantaged patients could see revenues decrease.¹⁹ It is also possible that physicians might emphasize measured aspects of diagnosis and treatment to the detriment of other important aspects of care.⁵ Finally, the emphasis on financial incentives affects physician morale and undermines the core professional value of altruism.¹⁹ For example, in a focus group study of 30 primary care physicians 13 and 26 months after entering a pay-for-performance program, one of the common themes expressed was that the financial incentives insulted their sense of professionalism.²⁶

Pay for performance has the potential to lead to better care for our patients. However, to do so, the concerns discussed above must be addressed in program design. In addition, the implementation must be carefully monitored to broadly evaluate the effect, assess early experience, and be able to take corrective action.¹⁹

TYPES OF PAY-FOR-PERFORMANCE PROGRAMS

There are many types of pay-for-performance programs that have been implemented in the United States, and the number and variety are increasing rapidly. A recent survey of 252 HMOs drawn from 41 metropolitan areas in the United States reported that more than half of the HMOs, representing more than 80% of enrollees, use pay for performance in their provider contracts.²⁰ Evaluation of asthma medication was included in 71% of programs. Most physician group leaders (89%) in a Massachusetts survey²⁵ reported pay-for-performance incentives in at least one commercial health plan contract. Incentives were tied to HEDIS quality measures (89%), use measures (66%), utilization of information technology (52%), and patient satisfaction (37%).

The Integrated Healthcare Association (IHA) pay-for-performance program is one of the largest and most ambitious incentive programs in existence.²⁷ It was created by a coalition of California health plans, physician groups, health care systems, and academic, purchaser, consumer, and pharmaceutical representatives. It includes clinical measures, but these measures are based on administrative data, such as the HEDIS asthma measure. Patients are surveyed for satisfaction measures, such as satisfaction with access to care, satisfaction with physician-patient communication, and overall ratings of care. The IHA program also uses structural measures and rewards physician groups that have qualifying investments in information technology, such as building registries for patients with chronic disease, use of electronic medical records, and implementing reminder systems at the point of care. A central feature of the IHA program is the development of a public scorecard that reports the results. Indeed, public reporting represents a separate (and potentially additive) strategy from direct financial incentives as a motivation to alter provider performance.²⁸

EFFECTIVENESS OF PAY-FOR-PERFORMANCE PROGRAMS

Pay-for-performance programs in industries outside the health care sector have produced mixed results regarding effectiveness.²² Several reports have attempted to evaluate the effectiveness of pay-for-performance programs in improving quality outcomes in health care. Peterson et al²⁹ produced a meta-analysis of 17 studies published between 1980 and 2005 that assessed the effect of explicit financial incentives for improved performance

on measures of health care quality. Seven of 9 studies found partial or positive effects of provider group level incentives on quality of care, and 5 of 6 studies reported partial or positive effects of physician-directed incentives on quality of care. Although these results were considered encouraging, the authors recommended more and better-designed studies to more rigorously assess the effectiveness of pay-for-performance programs. Others have come to this conclusion as well.²⁷

One observational study has been published that specifically assesses the effect of pay-for-performance contracts on asthma care.³⁰ Pay-for-performance incentives (up to 20% withhold) were included in contracts for Partners Community Health Care, Inc (PCHI), in Massachusetts. Results in HEDIS asthma (children) and diabetes (adults) measures were compared in patients of PCHI physicians with those in patients of non-PCHI physicians in the state to assess effectiveness. Although the PCHI results for the HEDIS measure of asthma controller use were greater than the HEDIS 90th percentile and increased to a greater extent in the PCHI patients than in the other Massachusetts patients, the differences were not significant. Interpretation of these results is confounded by the fact that the PCHI pay-for-performance contracts were accompanied by development and implementation of a disease registry database and mail and telephone outreach by nonphysician staff, which might have contributed substantially to improvement in the measures that were tracked.

2006 RECOMMENDATIONS REGARDING PAY-FOR-PERFORMANCE ACTIVITIES FROM THE IOM

In its 2006 publication, "Rewarding provider performance—aligning incentives in medicine,"³⁴ the IOM made a series of recommendations that are likely to have a significant influence on the entire pay-for-performance movement. Although this publication focuses on Medicare patients, approaches to Medicare patients by the federal government generally set the standards for approaches to non-Medicare patients by the rest of the health care provider and insurance industry. This document recommends phased implementation of pay for performance from existing Medicare funds and in a way that rewards coordinated care across provider settings. Both high performance and improved performance should be rewarded, and meaningful and transparent public reporting of performance measures should be an integral component of the program. The program should initially be voluntary and limited in scope but is expected to evolve to be more comprehensive and mandated. Approaches for assisting providers in the implementation of electronic data collection and reporting systems to facilitate accurate performance measure reporting should be explored. Finally, the IOM recommends that implementation of the Medicare pay-for-performance system should be carefully monitored and evaluated.

WHAT THE ALLERGIST-IMMUNOLOGIST SHOULD KNOW ABOUT PAY-FOR-PERFORMANCE PROGRAMS NOW

When evaluating a particular pay-for-performance program, there are some basic questions that the allergist-immunologist needs answered to determine whether it is in his or her best interest to participate.

1. What are the specific components of each measure and the type of data that support them? Are they claims data or clinical/chart review? The allergist-immunologist should be very wary of the use of claims data because they might be less accurate than clinical data. A system that uses clinical/chart review will usually provide more precise data on your practice.
2. How will pay for performance affect the allergist-immunologist's patient care, office processes, and income? One of the main issues related to clinical processes in the office is the effect of collecting data on office operations and overhead.
3. What is the system of compensation for each measure? Is the design of the program incentive based or does it use disincentives, such as withholds or reduced compensation, for failure to reach a goal? If possible, the allergist-immunologist should avoid plans that have a withhold, where one only receives the customary charges if complying with a pay-for-performance measure and where the allergist-immunologist receives less than the customary charge if not meeting the performance goal.
4. Are provider networks reconfigured based on the proposed pay-for-performance reporting? If so, what effect would that have on the practice?
5. What type of performance reporting will be used? At present, most plans report data to internal participants only, but as noted above, certain programs in some states have report cards available to the general public. Reporting pay-for-performance results to the general public will likely increase in the future.
6. What is the process for data correction and appeals? Each program should have some means to allow the physician to review and correct data in case it contains errors.²⁴ The allergist-immunologist should evaluate the reports of each plan to ensure that they accurately reflect that physician's data and use the appropriate appeals process, if necessary.
7. Is the classification of the allergist-immunologist's provider status correct? The allergist-immunologist should check with each health care plan to make sure that he or she is being profiled as such when the performance results are evaluated.

CONCLUSION

Pay for performance is one component of a growing movement in this country to better align incentives so as to

increase the quality of medical care and reduce unnecessary costs. It could lead to positive effects for all: improved consumer health and better ability to make health care choices, less absenteeism and increased worker productivity for employers, healthier members and reduced long-term costs for health plans, and public recognition and financial rewards for physicians who provide quality care. However, to reach its potential, pay-for-performance programs must be constructed so as to avoid the many pitfalls discussed in this article that threaten its potential and could even lead to adverse effects on health care. Pay-for-performance program implementation must be carefully monitored for positive and negative outcomes, and appropriate corrective action should be taken. The allergist-immunologist should be an active participant in this evolving paradigm, advocating for the best interests of patients and providers alike.

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