Physician Pay-For-Performance

Implementation and Research Issues

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Recent research underscores the gaps that exist between evidence-based medical practices and the care that many patients actually receive. Recognizing this, large purchasers are experimenting with new reimbursement arrangements called pay-for-performance (P4P) that tie a portion of payments for physician services to measures of quality. Agency theory, from the discipline of economics, provides a perspective on the challenges P4P is likely to encounter. The focus of most P4P initiatives on medical group performance raises additional questions about its potential effectiveness as a catalyst for change.

KEY WORDS: evidence-based medicine; implementation.
DOI: 10.1111/j.1525-1497.2006.00356.x
J GEN INTERN MED 2006; 21:S9–13.
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Many clinical processes known to improve patient outcomes either are not put into practice, or become part of normal practice with a time lag that is no longer acceptable to public and private sector purchasers of health care. To address this issue, large employers and Medicare are experimenting with new reimbursement arrangements called pay-for-performance (P4P) that tie a portion of provider payments to performance on measures of quality. As 1 employer coalition spokesperson has stated, "It is our belief that this approach to physician compensation will improve the quality of health care that patients receive and will, ultimately, lower overall costs of care."[1] In this paper, we examine physician P4P using an "agency theory" framework. Based on this discussion, we offer a research agenda designed to provide policy makers—public or private—with a better understanding of the consequences of implementing P4P for physician services.

A VEXING PROBLEM

The groundbreaking Institute of Medicine reports[2,3] on medical errors and quality of medical care underscore that improvements in the quality of care in the United States are needed. This conclusion is buttressed by the findings of several subsequent studies. For example, in its 2002 report on preventive care for people with diabetes,[4] the Centers for Disease Control and Prevention concluded that about half of people with diabetes still were not receiving recommended vaccinations and 29% were not receiving annual dilated eye examinations. More recently, McGlynn et al.[5] reported that survey respondents in 12 communities received only 55% of recommended care. These and other studies[6] suggest that, even with some recent advances, the conclusions from the *Crossing the Quality Chasm* report[3] remain accurate today: "Between the health care we have and the care we could have lies not just a gap, but a chasm."

What can be done to close this chasm? Major purchasers, consistent with the recommendations of the Institute of Medicine (IOM) reports that their representatives helped draft, now are focused on addressing a perceived lack of incentives for quality improvement in current reimbursement systems. They view the problems they face in restructuring financial incentives for health care providers as, in many respects, no different from their challenges in structuring appropriate contracts with their other "vendors."

PRINCIPALS, AGENTS, AND INCENTIVES FOR PERFORMANCE

The problem of designing contracts that reward desired behaviors and outcomes is addressed by "agency theory,"[7] which considers the relationship between a party (the principal) who delegates work to a second party (the agent), for which the agent is compensated in some form.[7–9] The principal attempts to structure that contractual relationship so the agent performs the work desired by the principal. Where the work of the agent can be observed at minimal cost and accurately measured, a contract based on the agent's behavior is efficient.[10] However, where aspects of the agent's behavior are not easily observed, or are multidimensional in nature, the principal must invest in acquiring information about what the agent is doing, or reimburse the agent based on outcomes as opposed to, or in addition to, behaviors.

While, in some cases, it may be less costly for the principal to measure outcomes, paying the agent based on outcomes instead of behaviors can involve other costs, especially when outcomes can be influenced by factors outside of the agent's control. For instance, the health of a patient (the "outcome") is influenced by factors in addition to the treatment provided by the physician (the "behavior"). Under these circumstances, the agent (the provider) is likely to demand a higher payment in return for undertaking the work—a "risk premium."

Agency theory identifies a variety of factors that should be considered by the principal in arranging payments to the agent. For example, if the principal compensates the agent

The authors have no conflict of interest to declare for this article.

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See Editorial by Catarina I. Kiefe and Anne Sales, p. S67.

based on a subset of desired behaviors (e.g., those that are the most easily observed and measured), the agent has an incentive to devote more effort to these behaviors and less to other tasks. An investment by the principal in monitoring the agent's behavior and in enforcing the contractual relationship may be required to discourage this behavior. There are also instances where outcomes reflect the joint efforts of a production team. In this case, payment based on team outcomes could induce "shirking" on the part of individual team members that is difficult to detect.

The Present State of P4P

Robinson,[8] in writing about physician payment incentives in the context of agency theory, states that: "There are many mechanisms for paying physicians; some are good and some are bad. The 3 worst are fee-for-service, capitation, and salary." The P4P initiatives currently being implemented by purchasers are intended to correct this situation by compensating physicians based on a blended rate where a portion of the payment is linked to the performance of targeted medical care practices. The United Kingdom has mounted a major P4P initiative directed at primary care physicians.[11] In America, Blue Cross of California has announced a program that pays up to $5,000 to each of its contracting physicians based on their performance on 16 measures. A similar program ("Bridges to Excellence") has been launched by a coalition of large employers, and CMS has initiated a pilot program in which 10 large group practices must meet cost savings goals in order to receive bonus payments relating to quality measures.[12]

Rosenthal et al.[13] identified 31 sponsors of P4P initiatives in the United States in 2003, with most initiatives directed at hospitals. Recent surveys document almost 100 P4P programs at various stages of development[14] (see the Leapfrog Group website—leapfroggroup.org—for a compendium of P4P initiatives). Rosenthal et al.[13] noted that most P4P initiatives reward achievement of a benchmark, and not quality improvement per se; physician practices that start at a lower level, but show substantial improvement, are less likely to be rewarded by these initiatives. Pay-for-performance standards for physicians focus on process and outcome measures related to chronic diseases, as well as primary prevention (screening and immunizations). In general, while there are currently relatively few P4P initiatives directed at physicians, there is great interest on the part of large employers in expanding efforts in this area.

P4P and Physicians: Concerns and Challenges

The principal/agent paradigm emphasizes the importance of properly designed financial incentives in inducing desired behaviors from agents, but it also underscores the limitations of financial incentives as stimuli for behavioral change. Several of these limitations are applicable to P4P initiatives for physicians, as they are now structured (Table 1).

Looking Under the Lamp-Post. When contracts between principals and agents reward only a subset of desired behaviors, the choice of measures can be critical. Measures that are the easiest and least costly to observe tend to be included as P4P benchmarks. However, behaviors that are easy to monitor are not necessarily those that will yield the greatest improvements in health.[15]

The Cost of Implementation. The P4P initiatives often, but not always, reward provider performance with "new money," which adds to purchaser costs. And, as agency theory points out, costly monitoring is required under any payment arrangement that seeks to reward specific behaviors. Physician interest groups also have suggested that purchasers bear some of the costs of infrastructure changes needed to achieve P4P goals, but purchasers, for the most part, have declined to do so.

Mixed Messages. Agency theory suggests that financial incentives are most likely to influence behaviors when there is a clear and direct link between behaviors and rewards. Multiple different P4P initiatives can muddle physician incentives[16] and increase physician reporting costs. Recognizing this, some health care leaders have encouraged Medicare to assume a leading role in P4P.[17] However, this strategy has its drawbacks. Although potentially confusing, multiple P4P initiatives can provide a laboratory for identifying the most effective approaches. Centralizing P4P at the federal level could discourage innovation and result in a "top-down" program that engenders physician resistance.

Variation Versus Standardization. While agency theory assumes that agents respond to financial incentives (and there is some evidence that physicians do so[8–10,18]) it also underscores that responses vary, depending in part on the charac-

Table 1. Considerations in Designing and Implementing Physician Pay-for-Performance (P4P)

Considerations Focusing on Measures

1. P4P measures chosen primarily because they can be documented at low cost (looking under the lamp-post) may not result in significant health improvements, or may result in a reallocation of resources away from efforts with greater potential to improve quality
2. Multiple measures employed by different purchasers, coupled with different rewards, may send confusing messages to physicians, increase physician reporting costs, and discourage behavioral change
3. Individual physicians may not treat enough patients for valid measurement of processes or outcomes when measures focus on specific conditions

Considerations Focusing on Provider Responses

4. Physician responses to standardized reward systems are likely to be highly variable, depending on the practice and personal characteristics of physicians
5. Where P4P rewards are directed at the behaviors of care teams, responses will depend, in part, on how rewards are allocated among team members
6. P4P initiatives targeted at the physician group must overcome a myriad of barriers to organizational change in order to influence the behavior of individual physicians

teristics of the agent. A "one size fits all" P4P program, therefore, is not likely to be efficient in accomplishing change. Payments will be more than needed for some physicians and too small to affect the behavior of others.

Physicians or Medical Groups?. Pay-for-performance rewards will be problematic when an individual physician does not have enough patients with a given condition (e.g., diabetes) to yield reliable measures of performance.[19,20] Current physician P4P initiatives recognize this and therefore concentrate on performance at the medical group level. But, basing payments on group performance raises a host of new issues. For example, as already noted, agency theory identifies the potential for shirking on the part of team members when rewards are based on group, rather than individual, performance. Perhaps more importantly, paying based on group performance means that the ultimate effectiveness of P4P initiatives will be determined by organizational level responses.[10]

The Mitigating Effect of Organizations

The implications of targeting P4P initiatives at physician groups, in contrast to individual physicians, have received insufficient attention in discussions of P4P despite a growing literature on the role of organizations in supporting, or inhibiting, behavioral change on the part of clinicians that clearly is relevant to this issue. In order to achieve P4P rewards, most organizations likely will consider innovations in medical care processes. Klein and Sorra,[21] in their synthesis of the literature on innovation in organizations, suggest that the degree to which any innovation is implemented is likely to depend on 2 factors: implementation climate and innovation values fit.

Implementation climate " . . . refers to targeted employees' shared summary perceptions of the extent to which their use of a specific innovation is rewarded, supported, and expected within their organization" (p. 1060). A strong organizational climate for implementation of a new, evidence-based treatment approach might be characterized by training during working hours, ongoing support from supervisors for use of the new approach, financial rewards or other special recognition, development of information technology and laboratory procedures that support use, and rapid organizational responsiveness to implementation obstacles. Klein and Sorra's review also suggests that implementation effectiveness will be influenced by the extent to which targeted users perceive the innovation will support or impede fulfillment of understood values ("value fit") regarding how the organization should relate to its customers, and how members of the organization should relate to each other. This concept differs from organizational "culture."[22,23] The perceived values fit of an innovation is likely to vary across groups of targeted users. For example, the pursuit of a team-based diabetes management program in an effort to achieve P4P benchmarks may not be seen as a good fit by physicians who perceive clinician autonomy as a preeminent organizational value, but may be perceived as a good fit by nurses who believe collaboration in the treatment process is a preeminent value. Because new, evidence-based interventions usually seek to alter entrenched processes, they may be regarded by some targeted users as a poor "values fit." However, achieving current P4P benchmarks can mean providing more services to patients, or the same services to more patients,[24] either of which likely would be a good values fit for clinicians.

Purchasers seeking to change medical processes through P4P must consider the likely response of organizations, in addition to individuals, to quality-based rewards. Klein and Sorra's depiction of implementation of innovations within organizations is likely to be encouraging in some respects, and disquieting in others. In theory, organizations may respond to changes in their environments by reallocating their resources (e.g., investing in electronic medical records with embedded care guidelines) creating an organizational climate that supports innovation. However, this requires that the organization perceives the environmental change to be large enough to warrant a response that involves innovation within the organization.

The research literature on implementation of new, innovative medical treatment processes should raise concerns for purchasers in this regard. This literature, largely descriptive in nature, identifies a wide variety of factors (typically identified as "barriers" to implementation) that inhibit implementation of new treatment approaches. The incorporation of treatment guidelines within medical practices has received the greatest research attention as an organizational intervention,[25–32] stimulated in part by purchaser demands for adoption of evidence-based care processes. Consistent with the findings of this research, a panel of experienced guideline implementers has argued that " . . . implementation efforts focusing on the individual physician with a single strategy are unlikely to be successful. Rather, implementation efforts must use multiple strategies that take into account of multiple characteristics of the guideline, practice organization, and external environment"[27] (p. 172).

Summary

P4P initiatives focus on designing and implementing financial incentives to induce desired clinician-agent behavior. In reality, P4P incentives will be felt primarily at the organizational level, where they will be one of many external forces driving change and shaping the organizational climate for implementing new practices. In this paradigm, the key question is how physician organizations respond to P4P initiatives, and how they transmit incentives to the clinician level. The existing research suggests that there are formidable barriers that P4P must overcome if it is to bring about the successful implementation of quality-improving practices by physician organizations.

RESEARCH DIRECTIONS

Because P4P initiatives are in their infancy, there are few published research studies addressing their impact. Not surprisingly, findings from existing studies are mixed. Hillman et al.,[33,34] examining bonus payments and feedback in a Medicaid HMO, found no significant impact on preventive care. Fairbrother et al.[35] reached similar conclusions regarding the use of financial incentives paired with feedback to improve immunization rates for low-income children. On the other hand, Kouides et al.[36] found evidence that influenza immunization rates for Medicare beneficiaries in 1 community were improved by the use of bonus payments. And, Roski et al.[37] reported increases in the frequency with which physicians in an HMO counseled patients about tobacco use when financial

incentives, in combination with feedback on performance, were introduced. One common characteristic of these studies is that financial payments for performance were combined with other interventions, such as education and feedback, so that the incremental impact of the payments was not clear. Also, the studies offer little insight into how physician responses might vary with size of payments. In this section we identify areas that we think should receive a high priority in a P4P research agenda.

The Incremental Impact of P4P

Virtually all medical groups participate in quality improvement initiatives that started without the impetus of P4P. What is the differential incremental impact, if any, of layering P4P on top of different ongoing quality improvement activities?

Understanding Unintended Consequences

It is important to understand, at a very early stage in P4P development, the potential for unintended consequences, positive or negative. A starting point would involve interview-based work carried out over a period of time, supplemented by the quantitative performance measures. Drawing inferences from this type of study will be challenging, but any assessment of the impact of P4P should involve documentation of unintended consequences.

The Impact of Overlapping Programs

The complications introduced by multiple, simultaneous P4P incentive programs need to be understood. How will health care managers and clinicians filter the financial signals from multiple P4P initiatives? This is not a new challenge for medical group managers who already have contracts with multiple health plans, each with different payment levels and reward structures. However, there is little in the way of existing research on how groups respond to this situation. Understanding their responses is central to the debate on whether to consolidate P4P initiatives into a single effort driven by Medicare policy.

Impact of Organizational Factors in Mitigating Responses to P4P

It will be critical to understand the mediating role that organizations play in determining the impact of P4P. In particular, researchers should pay close attention to the lower level of the organization when evaluating the impact of P4P schemes. In past studies, researchers have collected data from physicians because they play a key role in implementing most evidence-based practices.[38] But, with few exceptions,[39] researchers have paid little attention to the potential for other actors in the organization to influence the response of the medical group to P4P financial incentives.[40] More attention should be paid to how the personal goals and motivations of all individuals in medical groups, not only physicians, affect group responses to P4P initiatives.

Changes Over Time

Single site, point-in-time, qualitative case studies dominate the literature on implementation of evidence-based practices.[21] Carefully done longitudinal studies are needed to determine if changes in medical processes stimulated by P4P are transitory or permanent.

Summary

The literature to date on the impact of P4P initiatives is, understandably, quite limited. The relative newness of P4P creates an opportunity to think carefully about the type of research needed to truly understand its impact on the practice of medicine. In particular, the influence of organizational characteristics on the ultimate impact of P4P needs to be understood through carefully constructed research projects. This requires a conceptual framework that melds insights from the economics and organizational change literatures with detailed knowledge of medical care processes. The challenges in conducting successful interdisciplinary research of this type are many, but such research is required to fully assess the impact of P4P on improve medical care in America.

This paper was commissioned for the August 2004 VA State-of-the-Art (SOTA) Conference on Implementation held in Washington, DC.

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