

AN ECONOMIC ANALYSIS OF THE IMPACT OF PAY-FOR-PERFORMANCE INITIATIVES ON PHYSICIANS, PATIENTS AND INSURANCE PROVIDERS

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I. INTRODUCTION

America's health system is a monster. It is by far the world's most expensive: the United States spent \$1.9 trillion on health in 2004, or 16% of GDP, almost twice as much as the OECD average.¹

There is little doubt that the costs of providing health care services in the United States have increased dramatically in the last decade (from twelve percent to sixteen percent of GDP) and continue to increase at a rapid rate.² These costs are partly driven by the increasing life expectancy, increasing chronicity of diseases, multiplication of new medical standards and protocols, proliferation of new and costly technology and medicines, and a more knowledgeable patient population demanding the newest and most expensive treatments.

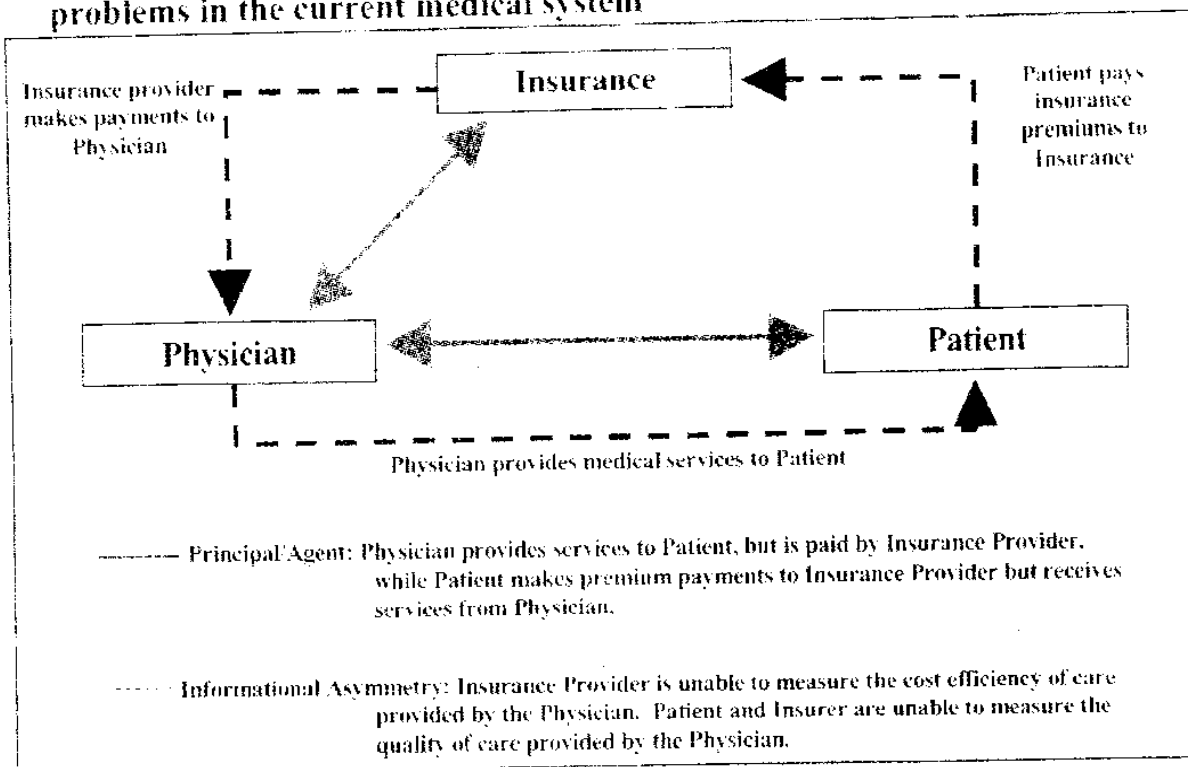
The increased costs are also driven by the tripartite nature of the medical care system. This tripartite system is accurately described as an indemnity insurance system (in which patients do not directly pay for services, and doctors are not paid by patients) that leads to what is commonly known in economics as a "principal/agent" problem. The unequal information available to each participant in this tripartite system also leads to what is commonly known in economics as an "informational asymmetry" problem (demonstrated in Figure 1).

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1. *Desperate Measures—America's Health-Care Crisis*, ECONOMIST, Jan. 28, 2006, available at http://www.economist.com/world/displaystory.cfm?story_id=5436968 (last visited Mar. 25, 2006) (article title in printed version of THE ECONOMIST is *Can George Bush Fix American Health Care?*).

2. See Marc Kaufman & Rob Stein, *Record Share of Economy is Spent on Health Care*, WASH. POST, Jan. 10, 2006, at A01.

Figure 1: The principal-agent and informational asymmetry problems in the current medical system



A. The Principal/Agent Nature of the Medical System Leads to Conflicts of Interest and Reductions in Economic Efficiencies in the Provision of Health Care Services

Public (e.g., Medicare and Medicaid) and private (e.g., Blue Cross) health insurance providers are faced with what is known in economics as an "agency problem" or "principal-agent problem." Interests are regularly at odds. The best interests of the patient (e.g., the best health care for the individual regardless of cost, since insurance pays for it, and regardless of whether that means reduced service for other participants in the system) are not routinely aligned with the interests of insurance providers (to provide the satisfactory level of care, for a fixed amount of dollars, to the aggregate members of the insurance plan). These interests in turn can be misaligned with the interests of the medical service provider (to provide the best level of care within financial limits, while receiving an acceptable personal wage). In the present system, participants work to maximize their own utility at the cost of the system, disregarding the fact that it is in the best interest of all concerned to work collectively for the common good to reduce occurrence of disease, improve the underlying health of the patient, and simultaneously, to reduce cost.

The medical service provider, occupying the middle ground, is placed in the position of having to provide health care services to the patient, while

looking to the insurance provider for payment. As will be discussed more fully below, because the existing system relies on pay for services rendered rather than pay for efficiency and performance, the physician often has little monetary incentive to provide superior or efficient services.³

B. The Informational Asymmetries Inherent in the Medical System Cause Reductions in Economic Efficiencies in the Provision of Health Care Services

The tripartite nature of the medical system directly leads to an informational asymmetry problem because all information is not equally well known by all parties in the system. For example, it is often difficult for patients and insurers to determine whether the services provided by the physician have been above or below average (e.g., the persistence of a disease could be due to the nature of the disease, the actions of the patient, the inefficiency of the doctor, or some other plausible reason). It is therefore endogenous to indemnity insurance systems that the well-being of the beneficiaries and the insurer are overlooked because there are no real base measures against which to compare success.

C. The Ideal Physician Compensation Scheme is One that Reduces the Principal-Agent and Informational Asymmetry Problems

These unique characteristics of the medical services market—described by Nobel Laureate Kenneth Arrow as uncertainty in disease incidence, treatment efficacy, and asymmetric information between doctor and patient—in conjunction with the demographic changes occurring within the United States point to the need for innovative and economically sound solutions to ensure that the U.S. health care system continues to benefit from a high level of service.⁴ To that end, Pay-for-Performance (“P4P”) initiatives, which attempt to align the incentives of health care providers, insurance carriers, and patients, and to reduce the informational asymmetry and principal-agent problems, have been proposed.

This article describes the current medical system, provides a brief description of the various P4P initiatives, and attempts to provide insight into the potential effect on the participants in the medical system (i.e., patients, physicians, and insurance providers).

3. In some instances, it is even possible that unnecessary tests may be encouraged simply because neither the patient nor the physician is bearing the costs of prescribed treatments.

4. See Kenneth J. Arrow, *Uncertainty and the Welfare Economics of Medical Care*, 53 *AM. ECON. REV.* 941 (1963).

II. A BRIEF DESCRIPTION OF THE CURRENT SYSTEM AND THE VARIOUS PAY-FOR-PERFORMANCE INITIATIVES

Proponents of P4P systems essentially believe that if physicians (or hospitals) are competing—on a relative basis to their peers—for increased monetary rewards, this form of induced competition will force them to take actions not merely for the sake of the patient, but also for their own financial good. The critical question is whether the proposed P4P incentives are sufficient to align the varying interests in a manner that allows free market conditions to generate *pareto* efficiency⁵ while resolving (or reducing) the principal-agent and informational asymmetry problems.

A. *The Current System for Physician and Hospital Reimbursement*

The P4P initiatives are markedly different than the current system for determining reimbursement levels for physicians and hospitals: the latter is based on what is called the Resource Based Relative Value Scale (“RBRVS”).⁶ The RBRVS system involves a somewhat complicated set of calculations that reimburses physicians and hospitals based on objective values calculated from thousands of procedures. The system is broken down into three parts: Physician Work component (fifty-two percent), Practice Expense component (forty-four percent), and Professional Liability Insurance (four percent).⁷ In essence, every type of medical service (e.g., fixing a broken arm) is divided into the resources necessary to provide that service (e.g., physician time, x-rays, plaster, nursing services, etc.), and these resources are given a weighted value that depends on the time, energy, and effort required to perform that function along with the medical equipment, malpractice insurance, and administrative costs. Thus, a relative value unit for physician services is comprised of three factors: actual work performed, practice expense, and physician liability insurance—each of which has its own weighted value based on the nature of the service provided. The system also takes into account cost of living differences for various geographic locations.

The RBRVS does not specifically provide physicians or hospitals with any incentives to improve service or efficiency. In fact, because compensation has to be budget neutral (i.e., total pay out to physicians/hospitals must remain steady), there may actually be less incentive to improve efficiency as

5. RONALD G. EHRENBERG & ROBERT S. SMITH, MODERN LABOR ECONOMICS THEORY AND PUBLIC POLICY 7 (8th ed. 2003) (defining *pareto* efficiency as “a condition when no more transactions take place in a market because it is not mutually beneficial”).

6. Gregory J. Przybylski, *Understanding and Applying a Resource-Based Relative Value System to Your Neurosurgical Practice*, 12 NEUROSURGICAL FOCUS, at 1 (2002), available at <http://www.aans.org/education/journal/neurosurgical/apr02/12-4-3.pdf> (last visited Mar. 25, 2006).

7. AM. MED. ASS'N., MEDICARE RBRVS: THE PHYSICIAN'S GUIDE 2005 24 (Patrick L. Gallagher et al. eds., 2005).

improvement by itself may not guarantee higher payments.⁸ Furthermore, remuneration is simply based on a set of criteria that are essentially unaffected by the performance of the medical provider; the provider is paid a fixed amount regardless of the outcome. In addition, there is often a time lag between improvements in medical procedures (i.e., a new procedure is found to improve patient outcomes) and an adjustment to the medical provider compensation calculations. In other words, a new procedure that may be costly, might remain uncompensated for a lengthy period of time before the variables and calculations are adjusted.⁹ A medical provider adopting this new costly procedure could actually end up worse off financially. Consequently, physicians and hospitals can have reduced incentives for finding superior or efficient techniques.

B. Public Pay-for-Performance Initiatives

As of 2006, there are several public P4P initiatives being actively tested in limited geographic areas as a result of the Medicare, Medicaid, and State Children's Health Insurance Program ("SCHIP"), Benefits Improvement and Protection Act of 2000 ("BIPA"), and the Medicare Modernization Act of 2003 ("MMA").¹⁰ These Acts collectively provide for the following initiatives:¹¹

- Hospital Quality Initiative
- Premier Hospital Quality Incentive Demonstration
- Physician Group Practice Demonstration
- Medicare Care Management Performance Demonstration
- Medicare Health Care Quality Demonstration
- Chronic Care Improvement Program
- ESRD Disease Management Demonstration
- Disease Management Demonstration for Severely Chronically Ill Medicare Beneficiaries

8. Medical providers do have reputational incentives which can eventually translate to financial compensation. For example, a physician practice group that develops a reputation for excellence might be able to attract higher paying non-insurance patients.

9. It is our understanding that CMS's update schedule for the RBRVS system is not very responsive to changes in the patient care field. For example, adjustment to the Physician Liability Insurance Relative Value Unit ("PLIRVU") occurs every five years. See Am. Med. Ass'n. *Medicare Resource Based Physician Liability Insurance*, <http://www.ama-assn.org/ama/upload/mm/363/pliwhitepaper.pdf> (last visited Mar. 25, 2006).

10. A complete listing of what these acts entail can be found at the CMS website.

11. Press Release, U.S. Dep't of Health & Hum. Servs., Ctrs. for Medicare & Medicaid Servs., Medicare "Pay for Performance (P4P)" Initiatives (Jan. 31, 2005), available at <http://new.cms.hhs.gov/apps/media/press/release.asp?Counter=1343> (last visited Mar. 25, 2006).

- Disease Management Demonstration for Chronically Ill Dual Eligible Beneficiaries
- Care Management For High Cost Beneficiaries

These initiatives generally detail a set of criteria by which medical service providers (e.g., physicians and/or hospitals) are graded, with compensation being determined by the awarded grade. To illustrate, the Premier Hospital Quality Incentive ("PHQI") is primarily based on criteria developed by the Centers for Medicare and Medicaid Services ("CMS"). For example, *acute myocardial infarction* (i.e., heart attack) services are graded in nine categories: aspirin provided at arrival hospital; aspirin prescribed at discharge; prescribed angiotensin converting enzyme inhibitor ("ACEI") for left ventricular systolic dysfunction ("LVSD"); provided anti-smoking advice or counseling; beta blocker prescribed at arrival; beta blocker provided at discharge; thrombolytic therapy received by patient within 30 minutes of hospital arrival; percutaneous coronary intervention ("PCI") received by patient within 120 minutes of hospital arrival; and inpatient mortality rate. A hospital scoring in the top ten percent for these measures would receive a two percent bonus payment on top of the standard diagnosis-related groups ("DRG") payment for the relevant discharges.¹² Those scoring in the next ten percent would receive a one percent bonus. Eventually, hospitals failing to meet a certain minimum score are subject to reductions in payment.¹³

Note that some of the criteria of the PHQI are process driven (e.g., whether aspirin was administered as per a protocol) whereas others are results driven (e.g., inpatient mortality rate, in which the actual outcome of the procedure is measured). Presumably the process driven measures are believed to be generally beneficial to the average patient. The results-driven criteria are more clearly reliant on the "skill" of the hospitals or physicians involved. It is also important to note that none of the grading criteria are subjective. The rules are either followed or not followed. Likewise, the patient either recovers or does not recover. The process criteria are presumably set to maximize the expected welfare of the patient while simultaneously reducing the costs of providing care. To the extent that the criteria are flawed, the end results are also flawed. If one assumes that the criteria are defined correctly, then favorable results should be obtained, assuming that the monetary incentives suffice to ensure compliance with the specified criteria (this is largely an empirical matter). Ideally, these performance measures are designed around established standards of care that provide evidence-based outcomes.

12. Note that the DRG is the current system.

13. See Fred D. Baldwin, *Where Medicare Goes... The Rest of the System May Well Follow CMS' Pay-for-Performance Example*, HEALTHCARE INFORMATICS, Apr. 2004, at 24, available at http://www.healthcare-informatics.com/issues/2004/04_04/cover.htm (last visited Mar. 25, 2006).

C. Private Pay-for-Performance Initiatives

Many private health plans have possessed their own P4P programs since the 1990s.¹⁴ These programs have typically not been standardized, have contained inconsistencies in measurement or grading (and thereby provided disparate incentives), and have not provided uniform objectives with respect to information technology ("IT") investment. In an effort to consolidate such varying standards and to better align the interests of the participants (e.g., reduce the informational asymmetry and principal agent problems), third-party associations such as the Integrated Healthcare Association ("IHA") in California have recently emerged to coordinate the initiatives. The IHA initiative involves over 225 Medical Groups/Independent Practice Associations, seven major health plans, and over 6.2 million HMO enrollees.¹⁵ The participation of prominent and nationally known health plans highlights the level of private and corporate interest in P4P and the potential impact these initiatives will have on the health industry.

1. Standardization of the P4P Plans

The importance of the standardization proposed by the P4P initiatives cannot be understated. Total incentive payments to physician groups equaled \$37.4 million for the IHA metrics in the 2003 measurement year. For this first year, payouts for the clinical and patient experience domains were relatively equal at about \$17 million each, with the balance of about \$3 million paid for information technology.¹⁶ Payouts varied considerably by health plan. This variation reflects both the differences in enrollment and maximum payment thresholds of participating health plans. Total payments in 2005 for the second measurement year, 2004, are estimated to be about \$54 million, reflecting substantial payment increases by several plans and the addition of a plan.¹⁷ While this data suggests that the plans participate significantly in the IHA initiatives, they do so inconsistently with respect to their total payment allocations. Consequently, the incentives provided by these plans are not uniform and hence, the results obtained are not uniform.

14. "Although CMS often sets a standard for private health insurers in areas like payment systems and coverage policies, MCOs are far ahead of Medicare when it comes to pay-for-performance (P4P) programs." *Private Payers Proceed on P4P Programs, While Watching CMS's Programs and Demos*, MANAGED CARE WEEK, May 2, 2005, at 1, available at http://www.aishealth.com/ManagedCare/GenBus/MCW_P4P_payers.html (Mar. 25, 2006).

15. IHA acts in collaboration with the Pacific Business Group on Health ("PBGH"), which represents over six million Californians enrolled in private health plans. Integrated Healthcare Ass'n, *Advancing Quality Through Collaboration: The California Pay for Performance Program*, at 2 (2006), available at <http://www.ih.org/wp020606.pdf> (last visited Mar. 25, 2006).

16. *Id.*

17. *Id.*

2. Uniform Performance Measurement

We have already described how uniform measurement is essential to the P4P initiatives. Within the IHA's P4P framework, the performance measures used for evaluating physician groups as of 2005 are allocated as follows: Clinical—fifty percent (percent of a physician group's score); Patient Experience—thirty percent; IT Investment—twenty percent; and Individual Physician Feedback program—ten percent override (Table 1).

Table 1: Domain weightings for IHA P4P Initiative¹⁸

CLINICAL Recommended weighting: 50%	<ol style="list-style-type: none"> 1. Childhood Immunization Status 2. Appropriate Treatment for Children with Upper Respiratory Infection 3. Breast Cancer Screening 4. Cervical Cancer Screening 5. Chlamydia Screening in Women 6. Use of Appropriate Medication for People with Asthma 7. Diabetes Care: HbA1c Screening 8. Diabetes Care: HbA1c Poor Control 9. Cholesterol Management LDL Screening 10. Cholesterol Management: LDL Control <130
PATIENT EXPERIENCE Recommended weighting: 30%	<ol style="list-style-type: none"> 1. Specialty care 2. Timely access to care 3. Doctor-patient communication 4. Care coordination (PAS Composite) 5. Overall ratings of care
IT INVESTMENT Recommended weighting: 20%	<ol style="list-style-type: none"> 1. Integrate clinical electronic data sets at group level for population management 2. Support clinical decision making at point of care through electronic tools

The weightings of these allocations relate significantly to levels of objectivity. The clinical entities, for example, are commonly accepted standards of care with important clinical ramifications. Moreover, they are readily measurable. Patient experience and information technology, conversely, are less

18. Integrated Healthcare Ass'n. *P4P 2005 Measurement Year / 2006 Reporting and Payment Year*. <http://www.ihc.org/p4py3.htm> (last visited Mar. 25, 2006).

standardized entities and are more challenging to measure and implement on a large scale.

3. *Consistent Incentives and Objectives with Respect to Information Technology*

It is useful here to further comment on the properties of the information technology investment, as this component is often mistaken for a panacea for the health care system's ills. Within the P4P initiatives, there exist information technology components that seek to encourage physicians and hospitals to upgrade and modernize their information technology processes by standardizing and automating record keeping, improving communications between providers, and generally increasing data management techniques.¹⁹ It is clear that medicine suffers from uncoordinated data services; indeed, one of the greatest difficulties for healthcare providers and insurers in a P4P program is to adequately quantify their performance. These difficulties stem from high overhead costs and flawed processes downstream in the healthcare system where provision of care actually occurs.

Because of these significant limitations, the IT component of P4P initiatives at this stage aims to coordinate and support data systems. Major IT efforts include clinical messaging, creating condition-specific registries, forming P4P "action lists", streamlining billing, and establishing in-house technical support.²⁰ Importantly, such suggested IT systems are not merely electronic reiterations of the ubiquitous paper systems. They aim instead to be dynamic portals that not only enhance data transfer and accountability, but also provide a clearer window into traditionally un-measurable information. Only this type of system and capability will generate the support of providers, insurers, and healthcare purchasers who want to track meaningful population data.

III. THE POTENTIAL IMPACT OF P4P INITIATIVES ON PHYSICIANS

As we have shown, the initiatives generally seek to enforce physician and hospital compliance with procedures that are *believed* to be beneficial to patients while simultaneously being cost effective. There is currently no conclusive evidence as to whether these plans will perform as hoped - therein lies the debate. On a theoretical level, it is our belief that a P4P system reduces at least some of the informational asymmetry and agency problems of the RBRVS system. For the purposes of the following theoretical analysis, we assume that the initiatives work as expected.

19. Am. Med. Ass'n, *Physician Pay for Performance (P4P) Initiatives*, http://www.wsnia.org/resources/p4p.revised_wc2.pdf (last visited Mar. 25, 2006).

20. *Id.*

A. P4P Initiatives Will Likely Increase Overall Physician Performance Levels While Compensating Superior Performers

As discussed earlier, compliance with the P4P protocols is ensured by rewarding complying physicians with additional payments.²¹ To the extent that physicians exhibit logarithmic utility functions (in essence always preferring more compensation to less), we would expect the initiatives to increase compliance. The critical question is not whether financial incentives can elicit the desired behavior, but rather whether the specified criteria are indeed maximizing patient welfare while concomitantly minimizing cost. This is an empirical matter, but simplistically, if all physicians are forced to adhere to the procedural criteria, the result criteria will dominate. This will allow superior physicians and facilities to earn additional money at the expense of those who perform less ably.

It should be noted that certain physician groups have expressed concerns that physicians will focus only on measured criteria at the expense of other important medical decision making; this in turn may argue for broader clinical penetration of P4P.

A welcome result for physicians will be the substantial transfer from utilization review (a process for monitoring the use and delivery of services that is often used by managed care providers to control health care costs) to quality review (performance as a function of quality, as in outcomes or appropriateness/effectiveness of care). Utilization review has long been known to be necessary but has been viewed as a relatively passive and disconnected metric for evaluating and reimbursing patient care. Utilization metrics can merely dissuade appropriate patient care; P4P more closely aligns physician action (versus inaction) with quality processes and outcomes. In other words, utilization review focuses on strictly curbing the cost of services provided thereby often placing financial decisions above quality healthcare decisions. The P4P approach aims to make quality the driver for medical decision making, with the long-term goal of decreasing costs as a result of more appropriate medical decision making.

Importantly, P4P still faces challenges within the physician community. Some primary care physicians are skeptical of Medicare's P4P initiative because they believe Medicare has financially undervalued the role of primary care services. The American Academy of Family Practice, for example, opposes CMS's recently unveiled the Physician Voluntary Reporting Program (in which physicians themselves directly report performance data to Medicare

21. Baldwin, *supra* note 13, at 23.

and receive feedback on their performance) because it feels physicians will shoulder a disproportionate burden of the program.²²

The most significant divide, however, will exist between those physicians and provider groups that possess functional infrastructures and those that do not. The collection of data demanded by P4P requires IT and communication protocols to function as accessible data portals; currently, it is not uncommon for such systems to be merely extensions of inadequate and cumbersome paper systems. Whether P4P's IT initiative alone can help meet this challenge in step with its other initiatives is uncertain.

IV. THE POTENTIAL IMPACT OF P4P INITIATIVES ON INSURANCE CARRIERS

The financial effects of P4P initiatives on insurance carriers (whether government funded Medicare system or private health insurance company systems) could be significant. Again, the financial incentives inherent in the P4P systems are likely to cause physicians and hospitals to adhere to the stated criteria, while simultaneously developing improved techniques or procedures, and improving patient outcomes. As previously stated, the relevant question is whether adherence to the stated criteria for each initiative reduces costs, while improving patient outcomes. It is unknown whether the introduction of new procedures (motivated by the P4P initiatives) will increase or decrease the cost of medical care. For example, development of new efficiencies may reduce costs, whereas development of new techniques could require costly new medicines. Additionally, an argument could be made that P4P may result in additional expense for insurers if better screening (because of P4P) diagnoses more patients with treatable diseases, as these patients or conditions will, of course, require treatment.

Consequently, it is not clear whether the financial impact on insurance carriers will be positive or neutral. Unfortunately, it is impossible to tell on a theoretical basis what will be the direction (i.e., more or less expensive) or the magnitude of the change. One potential indication as to the expected direction of the change is that the insurance companies themselves are positioning sound P4P initiatives as a marketing driver.²³

It is important to remember that a key characteristic of providing medical care is inconsistent with most other provision of goods and services in a market economy: the majority of healthcare is provided locally.²⁴ Motivation for an information infrastructure on a state or national scale, therefore, has

22. *Medicare Takes First Steps Toward Pay-For-Performance*, 13 *FAM. PRAC. MGMT.* 27, 27 (2006).

23. Press Release, Integrated Healthcare Ass'n, Top Performing Northern and Southern California Physician Organizations Identified by Integrated Healthcare Association (Oct. 10, 2005) available at <http://www.ihc.org/100605.htm> (last visited Mar. 25, 2006).

24. A.J. Vogl, *Is Anybody Happy with Our Healthcare System?*, 42 *ACROSS THE BOARD* 34, 34-40 (2005).

been lacking. The IT component of the P4P initiatives has hope for success largely because it ventures to meet the needs of all involved parties (providers, insurers, and purchasers). With support, physicians will be incentivized to redesign or upgrade their electronic management of patient data, billing, and scheduling systems. By definition, P4P necessitates accurate and transferable patient-related data among insurers, purchasers, and providers. Success among the P4P clinical initiatives should further illuminate this important relationship.

V. THE POTENTIAL IMPACT OF P4P INITIATIVES ON PATIENTS

The effect of P4P initiatives on patients (or consumers of medical services) will be felt in two ways. First, for consumers of medical services and purchasers of medical insurance (either private or public), any resulting reductions in medical costs will likely result in reduced medical insurance premiums (private) or reduced government expenditures (public). Note that medical insurance premiums are set to cover the expected cost of providing coverage. Competition ensures that reductions in costs will generally be translated into reductions in premiums. Second, to the extent that P4P encourages superior service and the development of new beneficial techniques, patient care and outcomes could be improved. Economic theory suggests that patient outcomes will improve while efficiencies are obtained but, again, this is largely an empirical matter.

VI. PRELIMINARY RESULTS OF P4P INITIATIVES AND CONCLUSION

Given the agency and informational asymmetry problems inherent in the existing medical system as described above, it is probably impossible to achieve perfectly competitive market conditions. Nevertheless, economic principles and theory indicate that the current P4P initiatives are likely to produce improvements over the RBRVS system.

The final determination as to whether the P4P system provides long-term reductions in costs and improvements in the level of medical service will require empirical verification. Recent studies have shown encouraging results. Preliminary analysis of first-year performance found median quality scores for hospitals had improved²⁵:

- from ninety percent to ninety-three percent for patients with acute myocardial infarction (heart attack);
- from eighty-six percent to ninety percent for patients with coronary artery bypass graft;

25. Press Release, CMS Office of Public Affairs, Medicare Pay-for-Performance Demonstration Shows Significant Quality of Care Improvement at Participating Hospitals (May 3, 2005), available at <http://www.cms.hhs.gov/apps/media/press/release?counter=441> (last visited Mar. 25, 2006).

- from sixty-four percent to seventy-six percent for patients with heart failure;
- from eighty-five percent to ninety-one percent for patients with hip and knee replacement; and
- from seventy percent to eighty percent for patients with pneumonia.

Of particular relevance in the context of these metrics, provider accountability can in fact improve performance significantly by as much as six times in comparison to situations where no accountability is present.²⁶ The long-term implications of the quality changes listed above, in combination with the magnitude of accountability they may engender, are yet to be determined. Ultimately, the strength and ramifications of this combination will be central to best evaluating P4P's impact on healthcare delivery.

26. Judith H. Hibbard, Jean Stockard & Martin Tusler, *Does Publicizing Hospital Performance Stimulate Quality Improvement Efforts?*, 22(2) HEALTH AFF. 84, 84-94 (2003); see also François De Brantes, *The Promise of Pay for Performance: Better Value*, GE Corporate Health Care, available at <http://www.ehcca.com/presentations/plpsummit/debrantes.pdf> (last visited Mar. 25, 2006).