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By George Avery, PhD

-Pay for Performance- Advances in the Understanding How Provider Incentives Produce Quality Health Care

Since the 2000 publication of the Institute of Medicine report, "To Err is Human," the issue of healthcare quality has been one of the foremost issues in healthcare. According to this report, as many as 99,000 preventable deaths occur annually due to medical errors. Most of these are believed to occur as a result of system errors rather than failure on the part of an individual provider.



Addressing this problem is of increasing importance.

Roughly defined, health care quality is the delivery of the appropriate care at the right time. Concern over the quality of healthcare is not new. Indeed, it is responsible for most of the major systemic reforms in the United States healthcare system, including such early

quality have focused on punitive measures such as malpractice litigation or regulatory policies such as facility and provider licensing. In recent years, the litigation approach has come under fire as rising malpractice insurance premiums have resulted in providers withdrawing from practice, as happened with emergency physicians in Las Vegas, Nevada. Such incidents have raised concerns that the opportunity costs of regulation through litigation decrease healthcare access and increase costs. The regulatory approach, represented by such varied policies as provider licensing, direct regulation such as the Clinical Laboratory Improvement Amendments of 1988, and so forth, have been found to improve quality, but again at a high opportunity cost. Christopher Conover of Duke University, for example, has estimated that the net cost of healthcare regulation over and above the benefits obtained exceeds \$120 billion annually.

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reforms as the licensing of physicians, regulation of pharmaceuticals, and the accreditation of medical schools as advocated in the Flexner Report nearly a century ago. Studies in the 1970s and 1980s noted wide inconsistencies in the practice of medicine, indicating that many patients may not have been receiving appropriate care. Much of the "Managed Care Backlash" of the 1990s focused on perceptions of reduced quality of care supposedly resulting from payer interference in the physician-patient relationship. In a 2003 article in the *New England Journal of Medicine*, Elizabeth McGlynn and colleagues found that Americans receive as little as half of the appropriate care that they should.

Historically, public policies to address health care

As a result, much recent attention has been focused on creating positive incentives for providers to improve the quality of care, primarily by adjusting payment rates to reward higher quality providers. Such "Pay-for-Performance" programs are not new. Part of the motivation for the 1973 Health Maintenance Organization Act was a belief that capitated provider payment would create incentives to minimize unnecessary care. This philosophy played a role, along with a desire to control costs, in formulating the diagnostic related group (DRG) payment system for hospitals in the 1980s. Capitated plans, whether based on patients or incident of care were intended to promote the most efficient care, however, they did not discriminate on the overall quality of that care.

This can be a problem because quality improvement can be costly. In a 1992 Medical Care study, RC Morey estimated that for every 1%

improvement in quality, hospitals incurred cost increases of 1.34%. In a cost control environment, this creates disincentives to quality improvement. As a result, a movement has begun to try to reward providers with increased payment levels for meeting quality goals, with the belief that by increasing reimbursement, the barriers imposed by higher costs can be overcome, resulting in a better quality of care. To date, over 100 health care pay-for-performance programs have been attempted in the United States, and the Center for Medicaid and Medicare Services is funding several demonstration projects to test the feasibility of using pay-for-performance in Medicare to spur systemic improvement.

In practice, the results from these programs have been mixed. The PacifiCare Health System program, as reported in 2006 in the *Journal of the American Medical Association*, gave bonuses to providers meeting certain basic fixed quality measures. Unfortunately, the program ended up paying bonuses largely to already high quality providers, and resulted in little improvement. On the other hand, Blue Cross/Blue Shield of Hawaii has had success in improving cardiac care, as has Michigan's Participating Hospital Agreement Program.

These disparate results largely result from the fact that, until recently, there was a lack of a theoretical understanding of how incentives change provider behavior. This is changing. In August, we presented a model in the *American Journal of Medical Quality* that explains the tradeoffs made by providers between maximizing profits and quality. What we found is that the critical issue is the marginal return to providers from improving quality, that is, providers improve quality until the return from adding another unit of quality is matched by the cost of doing so.

In programs such as the PacifiCare demonstration, with a fixed bonus payment for meeting a target goal, the only point at which a marginal gain can be realized from quality improvement is when the provider is close to, but below, the quality target. In this small range, providers can increase their income by a small effort to reach the goal. For most low-quality providers, the cost of reaching the goal exceeds the return from the fixed bonus, and thus there is no incentive to improve. For high-quality providers, no effort is necessary to earn the bonus, and hence no incentive exists for improvement. Thus, funds primarily flow to already high quality providers, and no real incentive exists for improvement. Successful programs, in contrast, have a floating incentive system with increasingly higher quality levels receiving increasing reimbursement levels.

R. Adams Dudley and colleagues elaborate with a behavioral model of provider responses to incentives in a 2007 *Health Policy* article. In addition to the structure of the incentives, they argue that the salience of the measures used to the provider's practice, the structure of the provider organization and internal incentives, the provider's regulatory and market environment, and patient factors are also determinants of how healthcare provider's respond to incentives. While consistent with our general model, this model raises a number of other important questions. Are the measures used to assess quality true measures of quality? As Creech noted in *The Seven Pillars of TQM*, outputs that are measured and rewarded are those that are performed. Hence, ensuring that measures are appropriate is a critical task to assure that quality improves. Current measures such as the Hospital Quality Alliance Hospital Compare dataset are good indicators of the quality of care for specific conditions, but legitimate questions remain over whether they

capture broader views of hospital quality.

Who is assessed and rewarded a bonus – individual physicians? Medical groups? It is important that the proper organizational level is chosen to ensure that the incentives are targeted at the right decision level. As we increasingly learn that team work is critical to proper quality, it becomes important to target the right team of care providers. The issue is also important for provider buy-in. Proper diabetes care, for example, involves coordination of primary care with laboratories, ophthalmologists, and potentially other subspecialists. Targeting the incentives at the primary care physician or group alone does little to get buy-in from specialists, and can create distrust among the primary care providers, who may see themselves as unfairly singled out. At the same time, incentives can be undercut if internal provider payment structures do not result in providers realizing a gain from changes in how they practice.

All of these remain open questions as we advance into an era of rewarding providers for providing high quality health care. While problems remain, there is hope in the fact that we are beginning to develop sufficient understanding of the way these incentives work to finally begin to ask the right questions and structure programs to maximize the return from investing in quality.

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