

Is Quality Free? It Depends

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In their article, Solberg et al present results of analyses of claims data from 1996 to 1998 from 18 healthcare delivery systems who contracted with Buyer Health Care Action Group (BHCAG) in Minneapolis, Minnesota.¹ Overall, case-mix and inflation-adjusted cost of care for the enrollees of these 18 healthcare delivery systems were compared on the basis of 21 ambulatory care process indicators covering 3 chronic diseases and 5 preventive services. The authors found no evidence of relationship between overall cost of care and quality of care.

The quality indicators used by the authors are measures widely used for evaluating the delivery of chronic and preventive care. These are limited to process measures and are appropriate especially given the 3-year time frame. In this way, these measures are no better or worse than many similar quality studies, particularly studies performed using claims data. In fact, many of the authors' measures are similar to those of the Health Plan Employer Data and Information Set (HEDIS), although, as the authors point out, they were completely limited to claims data, and HEDIS relies on a combination of claims and chart abstraction.

Many arguments support using process measures over outcome measures. First, the consequences of care are very much influenced by the severity of illness and other patient characteristics (and it is difficult to ensure adequate case-mix adjustments). Second, many of the relevant outcomes are relatively rare and, therefore, require large samples for measurement and longer periods of time. Finally, the logistics of outcome measurements are complicated by necessary time lags and by the fact that the more time elapsing between the receipt of care and measurement of outcomes, the more opportunity for extraneous factors to enter the picture. Such arguments have been outlined numerous times.²⁻⁴

Many factors can produce the results presented by Solberg et al that they have not discussed. The quality measures used were for a sample of chronic care and preventive care services, but the cost data

used reflected the cost of all care—in fact, not even the total cost incurred, but the total negotiated capitation payments. Acute care costs may account for as much as 40% to 50% of the total cost of care,⁵ but the study did not examine the quality of any type of acute care. A second variable is medical education. Teaching hospitals usually have 40% higher costs than non-teaching hospitals^{6,7} because Medicare cost reports are prepared with all of the costs incurred for teaching fully allocated for reimbursement purposes. Several care delivery systems among the 18 systems under study may be part of teaching hospital systems and in negotiating contracts may have used the fully allocated costs, including teaching costs of medical students and residents. These costs may not have anything to do with the activity cost of providing care for chronic diseases and prevention services.

Another factor that could impact the cost data is the differences in utilization rates for services in a lower socioeconomic population as compared to a higher socioeconomic population. Only minimal risk adjustment was used and only in 1 of the analyses. At the Henry Ford Medical Group, eg, for patients managed under full capitation, hospital utilization and care delivery costs are as much as 30% higher in the inner-city population as compared to that in the suburbs. This is the case within the same medical group and care delivery system and within the same insurance plan. The cost differences observed in the study may also be due to the differences in health status of the population and the family support system rather than the activity cost of delivering care for chronic diseases and preventive services. Another related factor not discussed in the study is age differences among the population served by different care delivery systems. Employed populations

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receiving care from a delivery system may consist of adults 20 to 30 years old or 50 to 60 years old and these variations may affect costs.

Finally, this study used prices negotiated by care systems as opposed to the cost actually incurred for providing care. Prices negotiated may not have any relationship to costs actually incurred, but may have more to do with competitive advantage of location or attractiveness of the care delivery system. In the Detroit-area market, eg, several well-located healthcare delivery systems have used their location advantage to negotiate much higher prices with insurance companies. Their position is further strengthened by Certificate of Need laws that have preserved their monopoly in suburban regions. In Boston, a major teaching healthcare system negotiated much higher rates with insurance companies using threats to deny access to the system's hospitals and high-tech care to the companies' policyholders.

Healthcare quality experts and policy makers often assert that higher-quality reduces cost based on misunderstood themes from other industries. My question is a simple one. Is Lincoln Continental a higher-quality car than the Ford Escort? Is Toyota Lexus LS 400 a higher quality car than Toyota Corolla? The answer in both of these cases is, of course, yes. But a Lincoln Continental costs 4 times as much as a Ford Escort and the Toyota Lexus LS 4000 costs 3 times as much as the Toyota Corolla. So what about the notion that higher quality reduces costs? The difference is in quality of design. Major design features are built into the Lincoln that are not offered in the Escort and that raise the price of the car. This is different from quality of conformance. The same product when produced to specifications will have lower costs, if errors in production were avoided. One should not confuse quality of conformance with quality of design. Unfortunately, these concepts are often confused in healthcare. Healthcare benefits that provide for first-dollar coverage for such items as pharmaceuticals, lifestyle drugs, and new technology such as transplantation, positron emission tomography (PET) scanners, and robotic surgery will increase the cost of healthcare regardless of how efficient a delivery system we have, compared to a benefit design that does not cover these services.

The authors referred to the concept that "quality is free," often attributed to Crosby,⁸ Deming,⁹ and Juran,¹⁰ whose observations were made based on their experiences in the manufacturing industry.

Their basic proposition is that poorly designed processes cause poor quality and higher costs. Examples of unnecessary costs incurred include cost of nonconformance (ie, scrap, waste, work that has to be redone). Examples of such costs in healthcare are the costs associated with the reordering of a test when the results of a previous test(s) or medical record cannot be found, readmission, or extended length of stay because of medication error. Cost of nonconformance also includes cost of warranty repairs and complaint management. In healthcare, cost of malpractice insurance would fall into this category. Deming⁹ explained this concept as the "Deming chain reaction." Improving quality leads to reduction of rework and mistakes and makes better use of equipment. Reducing waste leads to improved productivity, enabling an organization to improve its market share and profitability. Thus, while quality per se is not free, some quality can be improved without incurring additional expenditures by eliminating the costs associated with poor quality.

Healthcare leaders face a dilemma in their quest to provide the highest quality of care to their patients, one the authors do not address but has some relevance. This topic has been labeled in the Institute of Medicine (IOM) "Quality Chasm" report as "The Business Case for Quality"¹¹ and discussed by Molly Coye in a recent article.¹² Many situations occur in which process improvements will lead to lower costs of operation while, at the same time, improve the quality of care delivered to patients. Unquestionably in these situations it is smart to work on improving processes. On the other hand, improvement of care often requires investing additional resources—utilizing reminder systems, nurse monitoring systems, or, in the case of preventive care, additional screening tests or high-cost pharmaceuticals such as lipid-lowering agents. In an environment in which patients have the choice to switch care delivery systems annually, it is not a very smart business decision for care delivery systems to invest in preventive care or even in care of chronic diseases, especially under fixed payment systems. The IOM report¹¹ recommended that providers, insurance companies, and employers work together to design new payment systems that aligned the incentives to accomplish goals for management of preventive care and chronic disease care.

Four scenarios are possible with regard to the relationship of quality and cost: (1) increase quality while not increasing costs (always a good idea); (2) increase quality and increase costs (may be a good idea); (3) decrease quality and increase costs (never

a good idea); or (4) decrease quality and decrease costs (may be a good idea). All of these scenarios are quite possible. The challenge is to identify opportunities to capitalize on the first scenario. Thus, we need not only to academically study the relationship between cost and quality, but also to put an infrastructure and a culture¹³ within an organization that has quality as a priority so performance—both fiscal and quality—can be assessed in an ongoing manner for operational purposes. Only then will our health-care system capitalize on opportunities to improve quality within existing spending levels.

Finally, the answer to the question raised by the title of this article—“Is Quality Free?”—is that it depends. Quality improvement achieved through process improvements in many cases may reduce cost (quality of conformance), but quality improvement that requires new technology, additional benefits, or coverage rarely will reduce cost (quality of design).

Deming has said “defects are not free.”^{9(p11)} Someone always pays for the defects. But in health-care, it is a complex issue of who pays and when. In fee-for-service medicine, we even have a system where providers could be rewarded through payments for defects, eg, using antibiotics for viral infections. Another way to look at this issue is to use IOM classification of underuse, overuse, and misuse. In general, correcting underuse will add costs to improve quality, while correcting overuse will decrease cost while improving quality. The selection of quality indicators dramatically narrows the definition of quality. I would strongly urge a broader definition of quality recommended in the IOM report,¹¹ which defined quality on 6 dimensions—safety,

timeliness, effectiveness, efficiency, patient centeredness, and equity.

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