The Health Care Value Transparency Movement and Its Implications for Radiology

Daniel J. Durand, MD[a], Anand K. Narayan, MD, PhD[b], Frank J. Rybicki, MD, PhD[c], Judy Burleson, MHSA[d], Paul Nagy, PhD[b], Geraldine McGinty, MD, MBA[e], Richard Duszak Jr, MD[f]

Abstract

The US health care system is in the midst of disruptive changes intended to expand access, improve outcomes, and lower costs. As part of this movement, a growing number of stakeholders have advocated dramatically increasing consumer transparency into the quality and price of health care services. The authors review the general movement toward American health care value transparency within the public, private, and nonprofit sectors, with an emphasis on those initiatives most relevant to radiology. They conclude that radiology, along with other "ancillary services," has been a major focus of early efforts to enhance consumer price transparency. By contrast, radiology as a field remains in the "middle of the pack" with regard to quality transparency. There is thus the danger that radiology value transparency in its current form will stimulate primarily price-based competition, erode provider profit margins, and disincentivize quality. The authors conclude with suggested actions radiologists can take to ensure that a more optimal balance is struck between quality transparency and price transparency, one that will enable true value-based competition among radiologists rather than commoditization.

Key Words: Quality, value, transparency, pay for performance, value-based contracting

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Although there are many reasons the US health care system fails to deliver value on par with those of peer nations, few would argue that "market failure"—the inefficient allocation of goods and services by the free market—plays a significant role. Beginning in March 2013 with Steven Brill's [1] landmark *Time* cover story, "Bitter Pill: Why Medical Bills Are Killing Us," and culminating later that spring with the first ever release by CMS of Medicare pricing data on all US hospitals [2], this view has been empirically validated by reports of price variation among hospitals at the local and national levels that appear unrelated to any substantive difference in the quality of care delivered. Within the market for medical imaging services, for example, 500% variations in price in the same metropolitan area have been cited as "commonplace" [3].

Given the broader societal movement toward information transparency in health care, this recent wave of controversy over price variation marks only the beginning of what is likely to be a prolonged national dialogue. We review recent trends toward health care transparency on both quality and price, both from a general perspective and with an eye toward radiology in particular. Our purpose is to acquaint the reader with the major transparency initiatives currently active in the United States throughout the public, private, and nonprofit sectors and to review their potential impact on radiology.

THE PREVAILING THEORY: BRINGING PERFECT VALUE TRANSPARENCY TO HEALTH CARE CAN SAVE A FAILING MARKETPLACE

Before considering the nature of market failure in the complex ecosystem of US health care, first consider how price and quality are supposed to interact in an "ideal"

[a]Evolent Health, Arlington, Virginia.

[b]The Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins School of Medicine, Baltimore, Maryland.

[c]Applied Imaging Science Laboratory, Department of Radiology, Brigham and Women's Hospital, Boston, Massachusetts.

[d]Department of Quality and Safety, American College of Radiology, Reston, Virginia.

[e]Weill Cornell Medical College, Cornell University, New York, New York.

[f]Department of Radiology and Imaging Sciences, Emory University School of Medicine, Atlanta, Georgia.

Corresponding author and reprints: Daniel J. Durand, MD, Evolent Health, 800 N Glebe Road, Arlington, VA 22203; e-mail: daniel.j.durand@gmail.com.

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marketplace in which value is maximized. In this world, *value* is defined in the simplest terms: some quantity of "quality" per unit price. Rational buyers who desire goods and services and who have access to perfect information on price and quality collectively form a market. Most readers are familiar with the classic price-setting relationship between supply and demand. In most industries, price is also related to quality in that, generally speaking, higher quality goods command higher prices at any time point [4]. When quality is measured in the proper units, this relationship may be positively and perhaps even linearly correlated with price. Some authors have even referred to a "quality elasticity function" that describes the degree to which value-conscious consumers will pay more for progressively higher quality goods (ie, the slope of a regression line that relates price to quality) [5]. For example, a good with a price elasticity of zero is a "perfect" commodity; quality is meaningless, and price is purely a function of quantity supplied and quantity demanded.

Such relationships among supply, demand, price, and quality are not necessarily desirable when allocating essential services such as health care. The predictable result would be wide disparities in access and health outcomes based on income levels. This concern over access to high-quality care is the reason many governments, including that of the United States, have taken a heavy hand in regulating health care relative to other sectors of the economy. These regulations complicate the price-quality relationship considerably. For example, in many states, certificate-of-need programs limit the supply of imaging providers, partly as a means of reducing overall health care expenditure, which increases the bargaining power of providers in general and would be expected to increase unit prices across the board for both high- and low-quality imaging services. At the same time, econometric studies of Medicare populations have generally found that quality per unit price (ie, increased price elasticity of quality) is increased in more competitive markets, which has been interpreted as meaning that when providers cannot compete on price, they will compete more aggressively on quality [6]. The preceding two examples are not meant to be exhaustive but merely to illustrate the myriad ways in which both state and federal regulatory bodies can complicate the economic framework described above.

Furthermore, empirical research has repeatedly demonstrated that even in relatively unregulated and transparent markets, price-quality relationships are not necessarily linear and often do not conform well to trend lines [7]. Nevertheless, the scenarios depicted in Figure 1 are intended to illustrate, at a high level, the theoretical implications of different types of potential consumer behavior in reaction to value transparency and their resultant implications for market dynamics. For inasmuch as consumers (or their proxies, such as a primary care practitioners or insurance benefit managers) are increasingly motivated decision makers who understand and have access to information on both price and quality, this basic framework should apply.

A growing chorus of economists, entrepreneurs, and policymakers believe that part of the answer to improving value in US health care is to drastically increase transparency on both price and quality [8]. This, in combination with higher deductibles and other mechanisms of increasing patient cost consciousness, should gradually correct irrational variations in price known to plague the system. This is also the approach currently embraced by a large number of health insurers and radiology benefits management organizations with regard to imaging utilization management and unit price reduction. By using claims-based analytic algorithms, pricing firms can now compare prices with local benchmarks to direct patients to specific sites of care using either carrots (eg, incentivizing patients to choose higher value providers) or sticks (eg, keeping high-priced and/or low-value providers out of the network or using tools such as varied copayments) [9].

Assuming that both measures of price and quality are given ample weight by decision makers, one can immediately see the benefits of such a strategy (Figs. 1A and 1B). The winners include high-quality providers, who can now more reliably charge higher prices. Low-quality providers, who now fetch lower prices for their work, are the losers. Patients as a population receive more consistent value. But the aggregate cost of the services obtained and the average unit price will depend on the dynamics of the market, which are impossible to predict in advance.

PRICE AND QUALITY DATA MAY INFLUENCE PATIENT BEHAVIOR IN A DIFFERENTIAL MANNER, LEADING TO SEVERAL POTENTIAL MARKET OUTCOMES

One potentially important predictor of market behavior is the relative importance consumers assign to price data versus quality data, which itself depends on the nature of the data provided. Before discussing this in depth, it is important to note that the issue of relative importance or "weighting" is not solely a function of the sheer volume of data available to consumers. Rather, consumers' decision making will likely be influenced by several factors, including their levels of access to transparency data, ability to understand it, trust in its accuracy, and belief that the data are relevant to their own choices of health care providers. For example, if quality data are readily available but poorly understood or not trusted, they will likely not be valued by consumers. Conversely, relatively few data points on quality could be quite powerful