Heterogeneous Quality Information in Healthcare Marketplace

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INTRODUCTION

Contemporary healthcare systems are utilizing new information technology to digitize and share previously paper-based information among the legitimate but distributed participants in the healthcare marketplace. A critical stumbling block the participants face in this effort is the questionable quality of the information. Demands for quality information in the healthcare arena are dramatically increasing as information is being used as a basis for evidence-based medical care. Quality information is also critical for management decision-making and benefit design, but more importantly for providing decision choices for healthcare consumers: patients. Although everyone agrees on the critical need for quality information, there is a lack of agreement on what constitutes quality information for healthcare systems.

In this research, we use the classical stakeholder perspective (Butterfield, 2004; Freeman & Reed, 1983) and information quality research (Lee, Pipino, Funk & Wang, 2006) to examine what constitutes quality information among directly participating stakeholders in the healthcare marketplace. We argue that the role a stakeholder plays in the healthcare marketplace affects the nature of quality information each provides and uses, thus shaping the principles that dictate each stakeholder's view of quality information. Our findings, based on participatory observation and the analysis of research publications, provide a basis for a shared understanding of quality information in the healthcare market place.

BACKGROUND

The healthcare industry is at a crossroads. With healthcare costs continuing a trend of annual double-digit increases, employers are in the unenviable position of either absorbing these costs, passing them on to their employees, or dropping insurance all together. As a result, consumers are responsible for more of their overall healthcare costs and are challenging the healthcare system to become more consumer-driven. A virtual healthcare marketplace is developing in which consumers "shop" for their healthcare. As with any marketplace, consumers are becoming cost-conscious and therefore demand transparency of cost and quality information throughout the healthcare system. In this marketplace, five major groups—consumers (patients), physicians, government, healthcare plans, and employers—form the key stakeholders who play a critical role in shaping what constitutes quality information.

Issues and factors associated with technology acceptance, diffusion, and training (e.g., effective use of new systems by doctors and nurses) have been studied thoroughly (Aas, 2001; Bashshur, Reardon & Shannon, 2001; Cloutier, Godin, Gagne & Reiharz, 2005; Hu, Chau, Liu & Tam, 1999; Jayasuriya, 1998; Menon, Lee & Eldenburg, 2006; Raitoharju & Laine, 2006); the information shared, the contents of the systems, has not been studied adequately.

Guided by the stakeholder perspective (Butterfield, 2004; Freeman & Reed, 1983) and research on information quality (Lee, 2004; Strong, Lee & Wang, 1997; Wang, Lee, Pipino & Strong, 1998), this research asks the following question: What constitutes quality information by multiple stakeholders in the healthcare marketplace? This work further examines principles held by each stakeholder, which serve as the basis for different views on quality information.

This chapter contributes to the research in the healthcare arena for both research and practice. For research, the study will expand and deepen the research in healthcare systems by including the analysis on information that healthcare systems design and use. For practice, the research helps to design and use healthcare information considering all stakeholders'

perspectives for an effective evidence-based practice of healthcare. Furthermore, the findings of this study will elevate the discussion on establishing measurements and a common definition of quality information for healthcare practice based on the goal of sharing useful and useable information.

QUALITY INFORMATION IN THE HEALTHCARE MARKET

Many recognize the importance of quality information through a crisis. For example, a CEO of a hospital received a letter with a fine for poor-quality information submitted to the state government (Davidson, Lee & Wang, 2004). An insurance provider paid mistaken claims due to its information quality problems, which resulted from its misaligned business and information processes (Katz-Hass & Lee, 2005). A hospital could not make a critical business decision on medical project initiatives due to inconsistent information (Lee & Pipino, 2004). Physicians resisted using the information from the hospital's data warehouse due to the inconsistent and not-believable service records shown on the report (Lee & Pipino, 2004). Worse yet, ad hoc reports on the news evidenced disasters from mistaken surgeries based on poor-quality information.

A crisis, errors, mishaps, financial loss, and an inability to make decisions are often the results of many cumulated and interdependent factors. A key common factor involved, however, is poor-quality information. Inconsistent data fed from various sources are aggregated to produce a report. Financial and medical information is often aggregated to support decision-making in medical care, medical service project prioritization, and physician compensation. Data collectors, those database professionals who store and maintain the data, and data consumers who use this data and further produce data for various medical and business purposes are all involved in designing, collecting, storing, maintaining, distributing, analyzing, and utilizing the same data. Therefore, various aspects of information quality have different impacts along the long value chain of information.

So what is "quality" information as it pertains to healthcare? Among the various dimensions of information quality (Wang & Strong, 1996)—free of error, timeliness, consistency, conciseness, privacy, accessibility, believability, reputation, ease of use,

flexibility, security, value added, objectivity, amount of information—what the healthcare market is currently grappling with is accessibility of information. For example, consumers want to know which physicians and hospitals are the "best." The trouble is, who defines what is the best? Currently, the healthcare industry does not have a unified answer to this question. For example, ask a physician, "Who would you go to if you needed heart surgery?" The physicians would tell you that he or she would ask friends and colleagues to find out who the best heart surgeon is. Health plan providers would resort to statistical information that has measures of evidence of a good practice. Regardless of the fact that one answer may be better than others for a particular purpose, shouldn't this information be available to consumers, the patients? Until recently, this information has been placed in a virtual "black box" unavailable and inaccessible to consumers. Magazines such as *U.S. News and World Report* and *Boston Magazine* publish annual lists of the "best doctors," but critics will tell you that those lists are based on reputation and not actual evidential data, and often the doctors and surgeons on the lists are affiliated with the most well known and largest teaching institutions, not rated according to well-articulated objectives and measured outcomes.

The common definition of quality care needs to be acceptable to all stakeholders, and it needs to be practical enough in order to be usable and useful. Currently, there is a race to define healthcare quality and to provide the information. The quality information and the packaging of this information will be a key differentiator in the coming months and years, particularly for health plan providers.

The pivotal event for quality information in the healthcare arena goes back to 1999. In 1999, the Institute of Medicine (IOM) reported that as many as 98,000 people die annually as a result of medical errors, and they called for a national effort to make healthcare safe. The IOM's report, *To Err is Human: Building a Safer Health System* (Kohn, Corrigan & Donaldson, 1999), galvanized a dramatically expanded level of conversation and concern about patient injuries in healthcare, both in the United States and abroad (Leape & Berwick, 2005). The vision required by the IOM charged the Agency for Healthcare Research and Quality to bring together all stakeholders, including payers, to agree on a set of explicit goals for patient safety to be reached by 2010.

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