



Advancing Patient Safety Through Information Access and Interchange

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The Quality Colloquium, held this past summer at Harvard University, brought together national experts on patient safety to present current knowledge and trends in this now high-profile discipline. Although just one session was specifically dedicated to the broad use of information technology in clinical care and its impact on patient safety, many other sessions referred to clinical information technology systems, such as computerized physician order entry or physician portals, as key tools to enhance safety.

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The widespread use of information technology has revolutionized other industries in areas of quality, efficiency, and customer service. With the many challenges facing health care such as increasing utilization by an aging baby-boomer population or shortages of health care workers, there is reason to believe that information technology can provide the necessary assistance to the health care industry to address these challenges.

Although it has been shown that clinical decision support provided by information technology tools can have a great impact on quality, the success of such tools is essentially founded upon availability and access to information. Information technology systems function solely as delivery vehicles for information, while in some cases helping to generate the valuable information itself (i.e., point-of-care bar-coded medication administration system that helps generate medication administration records). Irrespective of the widespread focus on the technology, it is the information itself that is the real currency for action and that delivers enhanced clinical results.

Even though we all take for granted that our ATM bank cards will work flawlessly in any ATM machine around the world, this was not always the case. Over 25 years ago, banks supported their own proprietary data networks in which account information was available at automatic tellers only to those individuals who had accounts at the supporting member banks. There were no account information transfer standards among banks, forcing customers to seek out only those machines that were part of specific networks. Over time, financial institutions realized the inefficiencies in such a framework and therefore developed and implemented processes to make their data interchangeable. The benefits of that effort are evident today through the conveniences provided by the banking industry, especially when compared to the limitations seen in the 1970s.

Unfortunately, health care cannot be described as anywhere near the level of interoperability of financial networks. Many technology vendors develop and maintain proprietary systems, making it difficult for clin-

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ical information to flow between and even within hospitals, clinics, and physician offices. Although Web-based physician portals are able to break down these information flow barriers, the integration effort is slow and filled with proprietary battles among vendors.

Fortunately, there are competitive organizations that understand the virtues of the Nash Equilibrium, recognizing that groups can often benefit more through cooperation than competition. Several large pharmacy benefit managers believe that providing accurate, reliable, up-to-date medication history to physicians at the point of care significantly impacts patient safety. Intuitively, reduced incidence of drug-drug interactions and poly-pharmacy are immediate benefits. By providing current medication history, physicians are better able to make informed decisions about their patients.

Physicians receive current patient medication history records irrespective of the physician's setting, the place

where the medication was ordered or dispensed, or the provider of the patient's health care insurer. A secured Internet is used to transfer information among participants including hospitals, providers, payors, and pharmacy benefits managers. The key link is the pharmacy benefits management companies that established a mutually owned but independent organization that functions as a hub, moving data from one place to another¹. As long as a provider or insurer participates in this data-sharing program, and the organization obtains pharmacy benefits management from one of the participating companies, a comprehensive, up-to-date patient medication history is available. Currently, three major pharmacy benefits management companies participate, with the potential to provide information on over 80 percent of all commercially insured patients. The pharmacy benefit managers, as well as other payors, reap savings associated with reduced duplicate prescription writing, fewer adverse drug events, and increased administrative efficiencies.

There is much work ahead to truly make patient information flow smoothly among information technology tools and the organizations that deploy them. This first step toward the free flow of a patient's medication data among systems strongly demonstrates that it can and should be done. Benefits to all stakeholders, including patients, providers, and payors, will continue to grow as the interchange of patient data becomes more prevalent and expansive. It will be interesting to watch over the next few years how various clinical information technology vendors, both encouraged and prodded by this effort, and the federal government's establishment of SNOMED as a standard clinical vocabulary, work to make information easily interchangeable among all clinical information systems. Such an effort would be

most welcome among clinicians and administrators concerned about patient safety and quality. ☼

Footnote

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Barry Chaiken has more than 17 years of experience in medical research, epidemiology, continuous quality improvement, utilization management, risk management, healthcare consulting, and public health. As founder of his own company, he has worked on quality improvement studies and clinical investigations for the National Institutes of Health, the Framingham Heart Study, and Boston University Medical School. Over the past 11 years, Chaiken has provided expertise in quality and patient safety to provider organizations helping them utilize information technology to improve clinical and administrative activities. Chaiken is board certified in General Preventive Medicine and Public Health as well as Quality Assurance and Utilization Review. He is a Diplomate, on the Board of Directors, and Chief Medical Officer of the American Board of Quality Assurance and Utilization Review Physicians (ABQAURP).

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