An Interpretive Study of Critical Issues in Electronic Health Information Exchange

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ABSTRACT

In this paper, the author examines the critical issues that have emerged in the area of electronic healthcare information exchange (HIE) in the United States. An interpretive, longitudinal study was conducted over a total of four years through a study of seven field cases. This paper aggregates findings from these seven efforts into one research study for a more comprehensive view of HIE issues. The findings provide a framework for understanding the issues of HIE for researchers and practitioners. Research, teaching, and practitioner implications are discussed.

Keywords: Consent Management, Consumer Education, Electronic Health Records (EHR), Health Information Exchange (HIE), Privacy, Security

BACKGROUND

In a 2007 study by California HealthCare Foundation, about 40% of the responding Californian physicians stated that within the past year, their patients had experienced problems because coordination of care did not occur across multiple healthcare providers’ sites. In the same study, 21% of the responding physicians stated that, because the necessary health information wasn’t available at the point-of-care, there were patients who had repeated tests. And, due to the many silos of health information at different providers’ offices, 57% of the physicians felt that it was difficult to compile a comprehensive list of patient medications. Not having prescription medication lists could put the patient at risk for interactions. There are also an increasing number of patients with chronic illnesses or patients who are transient (moving from one doctor to another, perhaps due to changes in employment and insurance coverage). Due to these reasons, it will be critical to improve the management of health information so that it is accessible at the point of care and will improve health outcomes.

In response to the need to share patient information between providers, the healthcare industry is transforming the way that it manages health information. In the United States, the federal government has mandated that Electronic Health Records (EHR) be adopted by 2014 (Durkin, 2009). Electronic Health Record systems can capture and store patient health information. The sharing of EHR information...
between providers is called Health Information Exchange (HIE), and the goals are to improve the quality of healthcare and to reduce costs (Jha, 2006; Barrick & Iyer, 2010). If healthcare providers have accurate patient records at the point-of-care, the premise is that they will be able to make better medical decisions and avoid duplicate tests (CHCF, 2007; Mertz & Folkemer, 2008).

Unfortunately, one issue impeding Health Information Exchange has been the reluctance of physicians to implement EHR systems due to cost, workflow interruptions, privacy and security issues, and uncertainty about which system to implement (DesRoches et al., 2008). There are conflicting adoption rate of EHR systems reported in research (DesRoches et al., 2008; Jha et al., 2008), but the rates for adoption of “basic” EHR systems seem to have risen between 2007 to 2008 to approximately 44% to 50% (Bakhtiari, 2010; McKinney, 2010). Reporting of EHR adoption depends on how a “functional” EHR system is defined in the studies since there is no standard definition of EHR adoption (Jha et al., 2006). This is because EHRs contain many functionalities such as patient demographics; medication lists; clinical notes; electronic order-entry management for prescriptions, lab tests, radiology tests; results management of electronic results for tests ordered; clinical-decision support such as drug interaction warnings and out-of-range test results; and the capability for other providers to access EHR information (DesRoches, 2008). The reluctance to adopt EHRs ultimately affects the capability of providers to access patient information electronically.

An HIE usually consists of multiple physician offices, hospitals, or other providers joining efforts to access patient information across their EHR systems. Because of the slow EHR adoption rate, the state of HIE is fairly limited. According to a 2010 survey by the eHealth Initiative, there are 234 HIE active initiatives in the United States. However, of the respondents to the survey, there were many differences in the functionality of the initiatives; the types of data exchanged; and how the initiatives were governed and funded. If the goals of HIE are to be realized, technology needs to be successfully implemented on a wider scale.

However, exchanging health information is not only a matter of implementing the appropriate technology. HIE is a “social and economic interactive process between the healthcare organizations and their operating environment” (Chang et al., 2009, p. 109). To examine this HIE phenomenon, it is critical to examine the viewpoints of different stakeholders. The landscape for HIE has been a long, dialectical, and continuing process between providers, policymakers, professional organizations (such as the American Medical Society), grassroots organizations (such as Patient Privacy Rights), patients, pharmacists, clinical research organizations, HIE vendors, and marketing organizations. These stakeholders need to collaborate in a way not achieved before in the healthcare industry so that successful healthcare information exchange can be realized. Because there are many stakeholders involved, the management issues in HIE are complex. As an evolving phenomenon, HIE requires an understanding of critical issues involved for its successful implementation.

While a considerable percentage of literature has focused on EHR-related technology adoption, diffusion, and implementation from very specific perspectives (Angst & Agarwal, 2009; Reardon & Davidson, 2007; Hoffman, 2009; Miller & Tucker, 2009, Angst et al., 2010), the overall issues of health information exchange need to be examined. The purpose of this paper is to investigate and report the critical issues which have emerged in the area of electronic healthcare information exchange (HIE) in the United States. This will enable a more comprehensive understanding upon which HIE can be discussed in research and practitioner groups. Specific areas of future research will be suggested so that we can move the dialog in academia from HIE technology adoption to the complicated implications of implementing HIE on a wide scale.
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