Factors Impacting Use of Information Technology by Physicians in Private Practice

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ABSTRACT

This research examines the impact of various factors on the use of IT in clinical practice, prescriptions, and patient information. This was done using a national sample of 3425 physicians who worked in a solo or group practice in the United States. Besides the extent of use of electronic medical records by physicians and number of physicians in practice, none of the other factors consistently impacted the use of IT in clinical practice, prescriptions, and patient information, respectively. The results of this study highlight the need to develop specific strategies to increase the use of information technology in healthcare.

Keywords: Electronic Health Records, Health Information Technology (HIT), Healthcare, Information Technology Use, Patient Information Retrieval, Private Practice Physicians

INTRODUCTION

Health information technology (HIT) has been identified as a necessary tool in the battle to improve the efficiency, quality and delivery of health care in the United States (Payton, Pare, LeRouge, & Reddy, 2011). In spite of the explosion of applications of information technology at work in various sectors of the US economy, it is rather surprising that healthcare remains one of the few industries which still rely heavily on paper records (Gates & Roeder, 2011). Through the Office of the National Coordinator for Health Information Technology (ONC), the federal government has been actively pushing for the rapid transition of healthcare information and communication into the 21st century. The potential for quality, accuracy, and cost improvements is tremendous and preliminary studies show that many benefits like improvements in accuracy, quality, and efficiency can accrue to different stakeholders like institutions, patients, and providers (Blumenthal, 2010; Goldzweig, Towfigh, Maglione, & Shekelle, 2009).

Unfortunately, in spite of the overwhelming evidence regarding the positive effects of HIT innovations like electronic health records (EHR) on the quality and efficiency of health care, there is still considerable skepticism about adopting the technology among health care providers, especially those in private practice settings (Buntin, Burke, Hoaglin, & Blumenthal, 2011).
In fact, a recent report indicated that although the USA spends around $2 trillion per year on healthcare (16% of GDP, $6697 per capita) only about 15% of its physicians use EHRs to manage patients’ health information. This compares with a roughly 29% utilization rate by physicians in the European Union (Maharajah & McIntyre, 2010). Since 2009, the Obama Administration has made an unprecedented attempt to promote the adoption of EHRs and spur the development of further innovations in health care delivery systems. This includes passage of the Health Information Technology for Economic and Clinical Health (HITECH) Act into law in 2009 (as part of the American Recovery and Reinvestment Act), the commitment of approximately $27 billion as incentive payments to hospitals and care providers, and the establishment of various programs and centers to promote, coordinate, and supervise the development and implementation of innovative payment, health care delivery models, and health information systems in the United States (Buntin et al., 2011).

Preliminary reviews on the effects of health information technology innovations have revealed positive benefits, especially for larger organizations that were early adopters of the technology (DesRoches, Campbell, Rao, Donelan, Ferris, & Jha, 2008; Jha, DesRoches, Campbell, Donelan, Rao, & Ferris, 2009). However, there have been significant negative reactions from health care providers regarding the start-up costs and loss of patient contact time that would result as a consequence of adopting the technology (Bates, 2005; Georgiou, Westbrook, Braithwaite, Idema, & Ray, 2007; Georgiou & Westbrook, 2009). These kinds of reactions have resulted in a significantly slower than anticipated rate of adoption of the Health IT systems by some types of health care providers.

LITERATURE REVIEW

A recent review of 154 studies on the effect of health information technology on various desired outcomes (e.g., including quality, efficiency, and provider satisfaction) found that 62% of the studies concluded that HIT was associated with improvements in one or more aspects of care, with no aspects worse off. In addition, 92% (142 out of 154) of the studies were either positive or the authors drew a positive conclusion overall but pointed out at least 1 negative aspect of HIT (Buntin et al., 2011). The negative findings included such issues as: longer times taken for e-prescribing versus hand-written prescriptions (Hollingworth, Devine, Hansen, Lawless, Comstock, & Wilson-Norton, 2007); lack of proper leadership and implementation of health IT in a small rural hospital leading to an increase in patient care, medication, and procedure errors (Spez & Keane, 2009); inhibition of provider-patient interaction during ward rounds caused by use of EHR rather than paper charts (Morrison, Jones, Blackwell, & Vuylsteke, 2008); work-flow problems at a pathology lab after electronic receipt of orders (Georgiou et al., 2007, Georgiou & Westbrook, 2009); unsuccessful implementation of HIT systems due to variability in computer literacy and information systems (Trivedi, Daly, Kern, Grannemann, & Sunderajan, 2009); impairment of nurse-physician medication collaboration caused by computerized provider order entry (Pirnejad, Niazkhani, van der Sijs, Berg, & Bal, 2008); and over-reporting of cases due to implementation of an e-reporting system (Centers for Disease Control and Prevention, 2008). Most of the negative findings point to the need for a better assessment of the human element in HIT implementation. In particular, there is a need for studies that document the challenging aspects of implementing health IT more specifically and attempt to explain how these challenges might be addressed (Buntin et al., 2011).

Most of the HIT research to date has focused on the effectiveness and utilization of EHR by health-care providers (Shea & Hripcsak, 2010). Although recent reports indicate that the availability and use of EHR is increasing in the United States, the rate of increase is much slower than that required for reaching the goal set by the Obama Administration of a
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