Challenges Associated with Physicians’ Usage of Electronic Medical Records

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ABSTRACT

Using the Theory of Planned Behavior, institutional and diffusion theories as theoretical foundations, this study investigates physicians’ attitudes towards and usage of electronic medical records (EMR). Interviews with seventeen physician-residents enrolled in a Family Practice residency program and eight attending physicians in the same clinic showed that most physicians held rather negative attitudes regarding the EMR system. EMR was often times seen as an intrusion in the patient-physician interaction. Other findings relate to how EMR impacts physicians’ time, expertise, and learning, as well as the length (and sometimes the accuracy) of clinical notes. Challenges associated with behavioral control issues such as availability of computers and the physical positioning of computers are shown to be very important in the context of this case. In this organization, physician-residents are required to use EMR because of its mandatory nature, however, if they had a choice or the power, the majority of them would use the paper chart. [Article copies are available for purchase from InfoSci-on-Demand.com]

Keywords: EMR; Healthcare; IS Implementation; Mandatory Use

INTRODUCTION AND CONTEXT OF THE STUDY

Information systems researchers have long been interested in the adoption of emergent information technologies (IT). There have been many studies investigating IT adoption in different settings and different theoretical models have been used (Venkatesh, Morris, Davis & Davis, 2003). However, with some significant exceptions (Chau & Hu, 2001; Chismar & Wiley-Patton, 2003; Devaraj & Kohli, 2003; Kohli & Kettinger, 2004; Lapointe & Rivard,
2005), information systems (IS) research is scarce regarding IT adoption in a healthcare environment.

Adoption of IT in healthcare to support physicians’ clinical decisions (Weiner, Savitz, Schulamit & Pucci, 2004) is a major problem facing the healthcare industry (Treister, 1998; Leonard, 2004). While administrative IT systems have been in use for quite some time in hospital environments (Anderson, 1997), clinical information systems that require physicians to write orders, prescriptions, access lab results and support other aspects of their work are not yet very common.

Electronic Medical Records (or EMR) is the focal technology of interest to this study. While clinical IS hold much promise in reducing medical errors and cutting healthcare costs (U.S. Department of Health and Human Services, 2004), many physicians seem to be reluctant and unwilling to accept these new healthcare applications in their practices (Anderson, 1997; Bujak, 2002; Fitzhenry, Salmon & Reichelt, 2000; LeTourneau, 2004). Today, in many hospitals, physicians often write orders in the traditional manner, while nurses or other personnel enter them into an information system. However, this clerical input of physician data can be quite expensive overall. The annual cost of physician transcription for a subset of dictated notes was estimated at $325,000 (Fitzhenry, Salmon, & Reichelt, 2000). Thus, understanding what drives physicians’ acceptance of IT systems and how they use these systems is a major research problem, both for research and practice (Jensen & Aanestad, 2007).

The healthcare industry received little attention in IS research and theory although the industry itself provides an important “contextual space” to evaluate the boundaries of existing IS theory (Chiasson & Davidson, 2004; Chiasson & Davidson, 2005) and move IS research forward. Furthermore, context may be particularly important to consider in IS adoption studies (Jeyaraj, Rottman & Lacity, 2006).

Relatively little is known about the adoption and use of healthcare IS among healthcare professionals. However, several studies investigated physicians’ perceptions of IT in different settings. For example, (Chau & Hu, 2001) looked at the adoption of telemedicine by healthcare professionals. They found that attitudes, together with system usefulness are major determinants of physicians’ acceptance of telemedicine. Several other authors found similar results in investigating physicians’ acceptance of telemedicine or Internet-based applications (Chismar & Wiley-Patton, 2003; Hu, Chau & Sheng, 1999). These results suggest that physicians are a special professional group and thus their evaluations of the technology may differ from those of other subjects previously examined in IS research. It is worth mentioning that most of these studies have used telemedicine as the technology of interest. Fewer studies have looked at consequences of EMR implementation. For instance, Lapointe & Rivard (2005) used a longitudinal approach to investigate physicians’ resistance to EMR in three hospital settings, focusing on the factors triggering physician group level resistance during different phases of EMR implementation. In early stages of EMR implementation, the object of resistance was the system itself and its features while in the latter stages of implementation the object of resistance evolved to the significance of the system and the system’s advocates.

The focus of this study is the EMR technology in the context of individual physician’s acceptance and usage of EMR.

EMR is defined as by the Institute of Medicine as follows: “a type of clinical information system, which is dedicated to collecting, storing, manipulating, and making available clinical information important to the delivery of patient care. The central focus of such systems is clinical data and not financial or billing information. Such systems may be limited in their scope to a single area of clinical information (e.g., dedicated to laboratory data), or they may be comprehensive and cover virtually every facet of clinical information pertinent to patient care (e.g., computer-based patient record systems)” (Institute of Medicine, 1997). An EMR thus, may encompass simple clinical data retrieval systems or more complex systems that allow
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