

Chapter 14

Web-Based PHR (Personal Health Records) Systems Adoption: Patients' Perspectives

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ABSTRACT

The purpose of this study is to find factors which explain patients' intention to use web-based personal health records (PHR). It is hypothesized that patients' perceived value of information, perceived worthwhileness of searching, concerns about privacy issues, trust in information, and perceived security on web-based PHR systems are related to patients' intention to use PHRs. Using data from health information national trends survey (HINTS), direct and indirect effects of these factors on patients' intention to use PHRs were analyzed. The results show that perceived value of information, privacy, information trust, and security have significant and direct associations to intention to use PHRs. Meanwhile, perceived value of information is a strong antecedent of perceived worthwhileness of searching; however, it has no direct association to intention to use PHRs. The findings suggest that the efforts should be targeted to increase perceived value of the information and trust in privacy and security as well as the information to increase patients' intention to use PHRs.

INTRODUCTION

Previous studies have shown that new IT systems in the healthcare industry, such as electronic medical records (EMRs) for physicians and web-based personal health records (PHRs) for patients, may reduce costs and improve efficiency, quality (Thompson & Brailer, 2004; Menachemi et al., 2007; Li et al., 2014; Menachemi, 2006; Simon et al., 2008; Simon et al., 2007), and the safe delivery of health care (Li et al., 2014). The American Telemedicine Association (2010) has found that patients believe that new

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e-health care systems will improve access to, and the quality of, healthcare. For example, web-based PHRs that are connected to EMRs are patient-focused IT applications (for details see Goldzweig et al., 2009) that can empower patients to be responsible for their own health by allowing them to check and manage their personal health information, while also facilitate communications with their health care practitioners (Institute of Medicine, 1997).

However, even though the e-health care systems have potential benefits, either health care providers or patients were not willing to adopt the e-health care systems (Bhattacharjee & Hikmet, 2007; LaPointe & Rivard, 2005). According to Ilie et al. (2009), four reasons have been identified that explains why new IT adoptions among health care providers are slow from a provider's perspectives: complexity, dual organizational structure, different characteristics of physicians and general IT users, and concerns about changes in the power structure between patients and physicians. Ilie et al. (2009) also found that both physical accessibility (i.e., the availability of computers to access EMRs) and logical accessibility (i.e., the ease or difficulty of logging into the system) were significant indicators of a physician's decision to use EMRs. However, relatively few studies have examined why patients are hesitating to adopt PHRs or what makes patients adopt PHRs. Therefore, this study focuses on the patients' viewpoints related to the adoption of web-based PHR systems. Specifically, the purpose of this study is to explain patients' intentions to use web-based PHR systems by examining patients' perceptions of the issues around PHRs, such as information quality, value of the information, and privacy and security concerns.

This study will contribute academic and practical areas. Currently, relatively few studies have been conducted from patients' viewpoints, compared to studies from providers' viewpoints. This study will fill the gap by focusing on patients' adoption factors. Practically, the results of this study will provide guidelines for both program developers and health care providers in regard to how to develop and implement web-based PHR to reduce costs and improve service quality.

Using an interpretive review analysis of qualitative research studies, a study (Hare, Law, & Brennan, 2013) identified that patients' experiences with health care services can be classified into seven themes: patients' life experiences; service design to address patients' complex needs; point of service delivery; accessibility to service and decision-making processes; availability of choices; education and training of service providers for users, and consumer typology of not being empowered. According to these classifications, the present study belongs to the categories of accessibility and point of delivery because it focuses on how patients make decisions to use web-based PHR systems (i.e., accessibility) and how PHR systems could be improved to be more patient-friendly (i.e., the point of delivery).

The following section reviews existing literature on this topic and proposes hypotheses derived from this literature review. The data analysis section explains the procedures used to collect and analyze the data. The discussion will follow the analysis of the results. This study concludes with some implications and limitations.

LITERATURE REVIEW

Electronic PHRs refer to “a universally accessible, layperson comprehensible, lifelong tool for managing relevant health information, promoting health maintenance, and assisting with chronic disease management via an interactive, common data set of electronic health information and e-health tools” (Institute of Medicine [IOM], 2009, p. 95). This definition implies that PHRs are one type of IT used in the healthcare industry. In regard to considering the adoption of new IT, many studies have discussed

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