Electronic personal health record use among registered nurses

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ABSTRACT

Introduction: Nurses promote self-care and active participation of individuals in managing their health care, yet little is known about their own use of electronic personal health records (ePHRs). The purpose of this study was to examine factors associated with ePHR use by nurses for their own health management.
Methods: A total of 664 registered nurses working in 12 hospitals in the Maryland and Washington DC area participated in an online survey from December 2013 to January 2014. Multiple logistic regression models identified factors associated with ePHR use.
Results: More than a third (41%; 95% confidence interval [CI], 0.37−0.44) of the respondents were ePHR users. There was no variation between ePHR users and nonusers by demographic or job-related information. However, ePHR users were more likely to be active health care consumers (i.e., have a chronic medical condition and take prescribed medications; odds ratio [OR] = 1.64; 95% CI, 1.06−2.53) and have health care providers who used electronic health records for care (OR = 3.62; 95% CI, 2.45−5.36).
Conclusions: Nurses were proactive in managing their chronic medical conditions and prescribed medication use with ePHRs. ePHR use by nurses can be facilitated by increasing use of electronic health records.

Introduction

Digital health records are an important element in reducing medical error and increasing quality of care by bringing efficiency and accessibility to the health care system (Markle Foundation, 2005). Electronic personal health records (ePHRs) are consumer-centric tools that individuals can use to communicate with their health care providers to manage their own health and health care (Healthcare Information Management and Systems Society, 2007). An ePHR is described as "an electronic application through which individuals can access, manage and share their health information

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and that of others for whom they are authorized, in a private, secure and confidential environment "(Tang, Ash, Bates, Overhage, & Sands, 2006, p. 2). ePHRs can be nontethered or tethered. Nontethered ePHRs include stand-alone formats (e.g., personal computer or USB drive) and Web-based formats (e.g., Health-Vault; Microsoft, Redmond, WA; American Health Information Management Association, 2010). The ideal ePHR is one that can be integrated and augmented (tethered) with data from health care provider electronic health records (EHRs), pharmacies, health monitoring devices, and laboratory and radiology clinics to provide a more complete view of relevant health information for both consumers and their health care providers (Johnston et al., 2007).

Studies suggest that a tethered ePHR can increase patient-centered care, improve patient ability to manage their health and health care, enhance the use of appropriate preventive services, and promote ePHR use (Ant Ozok, Wu, Garrido, Pronovost, & Gurses, 2014; Do, Barnhill, Heermann-Do, Salzman, & Gimbel, 2011; Wagner et al., 2012). Users have the ability to access their own medical information as needed to manage chronic conditions and monitor behavioral changes (Dorr et al., 2007; Patel et al., 2012; Tang et al., 2003; Tenforde, Jain, & Hickner, 2011; Tobacman et al., 2004), but ePHRs also allow caregivers to oversee health management for other family members, such as a child or elderly parent (Tang et al., 2006). The usefulness of tethered ePHRs has also been reported for accessing laboratory results and patient education materials, requesting medication refills and appointments, and engaging in preventive screening and health promotion behaviors (e.g., vaccinations; Krist et al., 2011; Nazi, 2010; Wright et al., 2012).

Although the potential for ePHRs to improve health care is significant, there are barriers to the widespread adoption of ePHRs. Although almost 50% of Americans responded favorably toward the idea of ePHRs, they are relatively unfamiliar and inexperienced with ePHRs (Markle Foundation, 2008). A national survey estimated that the rate of ePHR use among Americans was only 10% (California HealthCare Foundation [CHCF], 2010a). Data accuracy, concerns of data privacy and security full-time, the "digital divide" (i.e., a difference in the racial and socioeconomic status in information and communication technologies), and literacy have been found to be prevalent concerns affecting ePHR adoption (Archer, Fevrier-Thomas, Lokker, McKibbon, & Straus, 2011; Kahn, Aulakh, & Bosworth, 2009; Kim, Mayani, Modi, Kim, & Soh, 2005; Tang et al., 2006). Activating and engaging consumers are essential components to health care reform in the United States (Hibbard & Cunningham, 2008), and this process can be facilitated by nurses (Kim et al., 2007). Nurses have always promoted self-care and the active participation of individuals in managing their health care. There is a professional obligation to become familiar with the technology and promote personal health care information management supported by the Office of the National Coordinator for Health Information Technology and the American Nurses Association (ANA; ANA, 2014). Nurses can learn about ePHRs by using them personally. Assessing nurses' use of ePHRs as consumers themselves is very important. There is no existing research that examines health care professionals' use of ePHRs for their own personal health management. The purpose of this study was to examine factors associated with ePHR use by nurses for their own health management.

Methods

Study Design and Sample

A descriptive cross-sectional study design was used. We conducted an anonymous self-administered online survey of registered nurses (RNs) about ePHR use for their own health management from December 2013 to January 2014 in 12 hospitals located in the Maryland and Washington DC area. Retired, currently unemployed (including students) nurses were excluded. RNs were informed about the survey through their hospital Listservs (i.e., e-mail lists). The invitation e-mail and follow-up reminders were sent out by the research director in each hospital. In total, 664 nurses completed the 37-item survey that took approximately 15 minutes to complete. Two participants received tablets (height = 7.87 in., width = 5.3 in., and depth = 0.29 in.) from a raffle offered as an incentive to participate. Institutional review board approval was provided by the University of Maryland, Baltimore, MD, and each facility.

Measures

The survey began with a definition of an ePHR described as follows: "Unlike an EHR used by health providers, an ePHR is used by you to enter and view your own data, update your health information, and manage your health care. An ePHR requires you to assign yourself a username and password to access it" (Healthcare Information Management and Systems Society, 2007; National Alliance for Health Information Technology, 2008). The description did not distinguish between types of ePHRs (tethered or nontethered). An example of an ePHR image was also shown after the description. The main outcome of interest was defined as ePHR use or not based on the response to the following question: "Have you ever used an ePHR to view, update, or manage your health information?"

To preserve anonymity, only a few demographic characteristics (age, gender, ethnicity/race, education, and marital status) and job-related variables were collected (working full-time or not, years working as an RN, current practice position, and specialty area). The items for the job information