Chapter 1

The Benefits and Challenges of Using Mobile–Based Tools in Self–Management and Care

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ABSTRACT

An effective intervention tool in self-management and care is the patients' use of mobile-based devices. This tool reflects a paradigm shift in many areas of health management from healthcare professionals to the patients themselves. These mobile devices contribute to a growing public interest in self-care. This new use will save patients not only expensive hospitalization costs and doctor visits but will also save the US treasury millions of dollars. To successfully empower the patients who use these mobile-based tools to manage their own health as well as to see positive health outcomes, Mobile app developers need to consider many things when developing these mobile apps such as an engaging and easy-to-use interface, relevant content, and more. In addition, the developers must secure patient data and ensure user privacy.

BACKGROUND

Evidence suggests that a self-management program is an effective intervention tool that can improve health status, reduce hospitalization costs (Effing, et al., 2007; Lorig, et al., 1999), and reduce the provider's workload (Nazareth & Murray, 2010). The terms "self-care" and "self-management" are interchangeable and imply the actions and decisions people make in dealing with their health and illnesses (Wagner & McCorkle, 2010). Self-care in this context refers to the activities the patients undertake, without the help of professionals, in promoting their own health, preventing their own diseases, limiting their own illnesses, and restoring their own health (Levin & Idler, 1983). Increasingly, health experts agree that self-management is a strong determinant of positive health outcomes in illnesses such as chronic diseases (Janson, McGrath, Covington, Cheng, & Boushey, 2009), diabetes (Funnell, et al., 2009), asthma (Krishna, et al., 2003), mental illness (Cook, et al., 2009), arthritis (Lorig, Ritter, Laurent, & Plant, 2008), eating habits (Irvine, Ary, Grove, & Gilfillan-Morton, 2004), and other illnesses. There's also a growing public interest in self-care because of epidemiological factors, personal responsibility for health, availability of self-care information and technology, and more (Levin & Idler, 1983). In order for self-management programs to succeed, patients have to achieve the skills and confidence to manage their own health, which means a shift from management by their healthcare provider to management by the patients themselves (Bourbeau & van der Palen, 2009).

Self-management entails learning about the illnesses, treatment options, and understanding medical terminologies, which means the patients need the skills and the tools to empower themselves to manage their health (Alpay, Verhoef, Xie, Te'eni, & Zwetsloot-Schonk, 2009). Self-management also means that in designing applications for consumers, developers need a deep understanding of the consumer's background, needs, and preferences because today's consumers are a lot more involved in their own healthcare and more technology-minded (Alpay, et al., 2009). Therefore, self-management programs are much more than patient education; they must also include assessments of progress and problems, goal-setting, and problem-solving (Bourbeau & van der Palen, 2009). Although modern technologies hold tremendous potential in developing effective health communication interventions, there are a few challenges to reach its full potential such as the design must (1) maximize interactive communication with users to encourage their active involvement, (2) work effectively across communication platforms, (3) personally engage the users, and (4) have broad reach across diverse populations (Kreps & Neuhauser, 2010).

Much evidence exists to suggest that mobile phone technology can support behavior change (Whittaker, Merry, Dorey, & Maddison, 2012). So, the question

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