

An exploratory study of mHealth technology acceptance for type 2 diabetes self-management among adults in later life

Author: Simmons, Tia-Jane'l

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Abstract: In 2011, the Center for Disease Control and Prevention (CDC) reported that diabetes affects 8.3 percent of the entire U.S. population. These numbers continue to rise, and they increase as people grow older; about a million people between 45 and 65 were newly diagnosed cases in 2010. Further, as of March 6, 2013, a study commissioned by the American Diabetes Association cited that diabetes costs have risen from \$174 billion to \$245 billion in 2012; which is a 41% increase in the numbers from five years before. Astronomical costs provide evidence that the link between self-management and healthier outcomes has not been effective. Without systems that make it easy for people to manage their disease, along with some support in doing so, these numbers will continue to rise.

mHealth systems have shown efficacy in improving health outcomes. mHealth is the application of wireless technology to deliver or enhance healthcare services and functions, while allowing patient-centered mobility. More specifically, the mHealth product used in this research is a diabetes self-management system that can provide real-time, contextually relevant content and patient coaching, and a means of provider support from sophisticated data trends and pattern analysis based on patient input of blood glucose (BG) values - all via the patient's cell phone.

A modified version of a previously used Patient Technology Acceptance Model guided my research to look at factors that could influence acceptance of mHealth technology for use in this population made of up limited mobile phone users, within three domains: beliefs, attitudes, and practices; external facilitating conditions; and patient-centered antecedent factors.

Using qualitative research and analysis methods, I conducted in-depth interviews with adults in later life and gained insight into my research questions. The results of this research can inform recommendations for product design and development, marketing outreach, and product implementation and training. Finally, the plan for change would allow leadership in both industry and the public health community to use the research recommendations in a systematic, standardized way that could affect this populations' acceptance and ultimate use of mHealth technology for type 2 diabetes management.

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Advisor: Greene, Sandra

Committee member: Dilworth-Anderson, Peggye, Fisher, Ed, Havala Hobbs, Suzanne, Anthony Kouyate, Robin

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