

# Engagement with Social Media Platforms via Mobile Apps for Improving Quality of Personal Health Management: A Healthcare Analytics Case Study

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## EXECUTIVE SUMMARY

*Patient engagement in self health and wellness management has been identified as an important goal in improving health outcomes. As a result, the use of mobile and social media for health and wellness promotion is gathering considerable momentum. Several early adopting health plans and provider organizations have begun to design and pilot social and mobile media platforms to empower members to enhance self management of health and wellness goals. Based on a member survey of a large health plan in Pennsylvania, the authors identify factors that are significantly associated with member interest in adopting such technology platforms for obtaining health related information and services. Analysis of relevant data from more than 4,000 responses from health plan members indicate significant effects of several factors such as age, gender, general health condition (including presence of chronic conditions like diabetes and high blood pressure), level of computer and social media usage and frequency of engaging in different online activities such as banking, shopping, and emailing. This analysis allows us to identify important consumer segments that are correlated with professed willingness to use applications and programs offered by the health plan. Besides, the authors also develop statistical models to predict people's odds of adopting health-related mobile apps and identify the significant predictors thereof. The authors anticipate that these insights can assist health plans to develop and deploy targeted services and tools through integration of mobile and social media platforms for health and wellness management.*

*Keywords: Consumer Segmentation, Health and Wellness Management, Health Plan, Mobile Apps, Predictive Models, Social Media*

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## INTRODUCTION

The convergence of health reform regulation, consumer demand, market realities and technology developments are driving healthcare organizations to explore new models of care delivery and payment across the delivery spectrum (IOM, 2011, Healthcare.gov). With increasing focus on consumers, there is a growing demand for outcome-based health management (DeNicola, 2012, Sarasohn-Kahn, 2009a). The explosion of social media, in particular, is creating new opportunities for insurers to not only market themselves using innovative tools, but to also engage their customers in highly accessible and customized ways (Sarasohn-Kohn, 2009b). A recent survey of health leaders by the National eHealth Collaborative indicates that an overwhelming 95% identified patient engagement as very important or important in transforming healthcare (National eHealth Collaborative Survey, 2012). Hence consumers' understanding, expectation and interest in engagement with their healthcare organizations are critically important issues to investigate.

Health plans are thus exploring new and creative methods to reach out to members to offer health information, provide support, encourage healthy behaviors, and leverage the emerging trend among consumers to play a more active and engaging role in self health management. The explosion of Internet technologies has opened up new platforms to connect stakeholders such as patients, providers, and insurers. Consumption of online media is widespread among the adult population who are active online users and is correlated with the growing penetration of broadband Internet access in the US (Estabrook, et al., 2007, Gensing-Pophal, 2009). According to a survey that measured patient activation, less than half of the adults in the US, at 41.4%, have the highest (fourth) level of activation (Hibbard and Cunningham, 2008). At this level, people have the skills and confidence to manage their health; moreover, they are more likely to obtain preventive care,

such as yearly health screenings, immunizations, and seek information about healthy eating habits and physical activity. At the third level (37.2%) individuals may lack confidence and skills to take action. Individuals in the first and the second levels are passive and more likely to be incapable of managing their own health effectively. The ability to move up and down rankings is possible with accumulation of health information in conjunction with willingness to be active in personal health management. This is where the use of social media can provide value, namely, to offer health information and self-health management tools and services in a quick, credible, and convenient fashion (Elkin, 2008, CSC, 2012). Whether it is Facebook, LinkedIn or Twitter, social media is a big part of people's lives today. Facebook reported 1.2 billion monthly users as of January 2014, whereas Twitter reported 200 million such users as of February 2013 (Wikipedia pages for Facebook and Twitter).

Additionally, with the advancement of mobile technology and the growing popularity of smartphones (iPhones, Android), many users are constantly connected to the Internet. People want to find health information fast, on-the-go, and in the cheapest possible way, with 69% of US adults tracking a health indicator such as weight and diet (Fox & Duggan, 2013). As of August-September 2012, 85% of Americans owned a cell phone or a smartphone and 55% of all adult phone users use it to access the Internet (CSC, 2012). As of April 2012, there were 13,600 health, medical, and fitness applications within the Apple AppStore, the official source for downloadable applications for iPhones, with the majority intended for use by patients. Some popular examples of mobile applications include Text4baby (Text4Baby, 2010), a free mobile information service which was designed to promote maternal and child health, and California's cellular texting to maximize the spread of knowledge about the 2009-2010 pandemic flu crisis (Calvan, 2010).

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