Chapter 16

mHealth Collaboration for Social Good: Lessons on Adaptability

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ABSTRACT

The World Health Organization lauds mobile health (mHealth) technology as a means of creating stronger healthcare systems and improving health-related outcomes. This chapter reports on an action research study examining the development of a mHealth technology hypertension app to help people living in India’s urban slums and rural villages take better care of their health. The collaboration involved a multidisciplinary team of U.S.-based academic researchers, and India-based healthcare and technology professionals. This study suggests that traditional Western-based project management approaches alone are insufficient when developing technology for social good. Specifically, the study finds that team, process, and technology adaptability are key to successfully developing healthcare technology to serve at-risk populations in resource-constrained areas. Implications of these findings to systems development research are discussed.

DOI: 10.4018/978-1-7998-0047-7.ch016
INTRODUCTION

Mobile Health (hereinafter mHealth) technologies have the potential to improve the accessibility to and personalization of medical care, particularly in limited resource settings (WHO Global Observatory for eHealth, 2011). The World Health Organization (WHO) describes mHealth as using mobile technologies to support public health practice, and advocates for its use to improve health care delivery systems around the world (2011). Mobile technologies may be particularly useful in India given the country’s large percentage of people lacking basic health care and the country’s technical prowess (Garner, Sudia, & Rachaprolu, 2018). In recent years smart phone and Internet access has surpassed roadway and other infrastructure in India (Garner et al., 2018). In one study, many physicians and nurses report using smart phones to support their everyday health care practice in India. Unfortunately, these healthcare providers struggle to find credible and culturally appropriate mHealth applications to teach the population about the growing rate of non-communicable diseases like hypertension. Most mobile resources currently available in India were created in the western world with many concepts that may not translate to the Indian population where diet and lifestyle are different (Garner et al., 2018).

This chapter reports on an action research project aimed at developing a mHealth application to help people living in India’s urban slums and rural villages understand how to prevent and manage hypertension. Hypertension is a major contributor to cardiovascular disease, and is the leading cause of death in India and around the globe (World Health Organization, 2016; Zhou et al., 2017). This chapter describes the creation of a hypertension mHealth application that overcame the shortcomings of other health applications used in India’s urban slums and rural villages.

The development team included a cross-cultural, multi-disciplinary group of medical, technology and creative professionals who donated resources to the project. The development team’s belief systems, values and realities often starkly contrasted with the daily realities of the people it aimed to help with the mHealth application. This divide made conducting analysis with the people difficult and pushed the boundaries of traditional systems development theories (Walls, Widmeyer, & El Sawy, 1992). In fact, the team found that many traditional project management and control techniques were ineffective (Tiwana & Keil, 2009) and bringing this project to successful completion required adaptability. The objective of this research is to highlight the role of adaptability, not project management control techniques, in developing mHealth systems to help people with limited resources, education and access to health care take better care of their health.

BACKGROUND

This section highlights insights from the research streams that informed the study. These streams include: mHealth, systems development project management, social innovation collaboration and adaptability.

Implications and Benefits of mHealth

The rapid global advancement of wireless mobile technologies and recent proliferation of cellular networks in growing economies such as India, creates an optimal milieu for mHealth use (WHO Global Observatory for eHealth, 2011). Ninety percent of people living in a low and middle income countries have access to a mobile phone with mobile-cellular subscriptions (Sondaal et al., 2016). The United Na-