Chapter 7

Implementation of Mobile Health Initiatives in Malawi:
Current Status, Issues, and Challenges

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ABSTRACT

Malawi has been implementing mobile health (mHealth) model for close to five years. This was aimed to address the challenges of access to accurate, timely information and healthcare services to the people and bridge the gap of health service delivery disparities that currently exist in the country. This chapter reviews the mHealth initiatives being implemented in the country by drawing two case studies into context: Chipatala Cha Pa Foni (CCPF) Project for improving Maternal, New born, and Child Health (MNCH) and Rapid SMS Project for improving the Child Nutrition Surveillance. The chapter also examines the success stories registered in the implementation of the projects; and identifies the challenges that hampered the adoption and scalability of the mHealth projects. Based on the challenges, the chapter makes recommendation that Malawi and other developing countries may adopt for scaling up or replicating similar mHealth programmes. The chapter is based on literature review and the author's points of view.

INTRODUCTION

With almost 5 billion phone users around the world, health care professionals and other experts have realised the potential benefits of using mobile phones and portable digital assistants (PDAs) to deliver access to health services (Kallander, *et. al.,* 2013). Statistics also indicate that 64% of all mobile phone users are found in developing countries. It is also estimated that half of the individuals in remote areas of the world will have mobile phones by 2020. This growing ubiquity of mobile phones is a central element for the growth of mobile health in both developed and developing countries. This is known as "mHealth" (Vital Wave Consulting [VWC], 2009). mHealth provides health services and information through mobile technologies. It also supports the performance of health workers in disseminating clini-

cal updates, reminders, and learning materials to people situated in rural communities where access to a health facility is a challenge (Kallander, *et. al.,* 2013).

mHealth components include short text messages (SMS), voice messages, voice calls, internet based videos and chat system. Over the past five years or more, many mHealth projects have been piloted in Africa and other developing countries. More than 27 projects have been piloted in countries like Kenya, Uganda, Tanzania, Ghana, South Africa, and Nigeria (WHO, 2011; Lemaire, 2011; VWC, 2009). The motivations for these projects are high innovation in mobile technology; decline in mobile phone costs; and increasing number of mobile phone users (WHO, 2011).

According to Lemaire (2011), mHealth initiatives have penetrated the marginalized populations and improved their health behaviour and outcomes. In addition, the implementation of mHealth programmes has demonstrated positive impact on health outcomes such as reducing mortality, decreasing the rate of contracting diseases, and leading to long life spans (WHO, 2011). mHealth initiatives have also managed to a lesser extent, to address and overcome disparities in health services, inadequacies of infrastructure within countries, shortages of professional health workers, high cost of accessing health services, and limitations on the availability of financial resources (Mendoza, Okoko, Morgani, & Konopka, 2013).

On the other hand, while evidence that supports the use of mHealth to improve health outcomes and save costs is expanding, barriers to full adoption of mHealth continue to exist (Aitken, 2015). Nyemba-Mudenda and Chigona (2013) argue that it is interesting that mHealth initiatives are on the rise in Africa, although the majority of them are abandoned during pilot phase, hence failing to deliver accessible healthcare services. The situation is worsened by inadequate personnel, lack of adequate monitoring and evaluation, lack of incentives, low literacy levels, cultural barriers, and inadequate finances to up scale the projects. In addition, lack of interoperability, privacy and security issues remain the major impediments to the success of mHealth in Africa (Kaller, et. al., 2013). There has been also very little scientific assessment of mHealth evidence from a qualitative and quantitative perspective. Other scholars have also blamed the health sector for being late adopter of Information and Communication Technologies (ICTs). As a result, mHealth is considered as a disruptive innovation, hence facing a difficult, slow adoption and implementation in healthcare (Aitken, 2015; Dehzad, Hilhorst, de Bie & Claassen, 2014).

THE CONCEPT OF mHEALTH

The concept of mHealth was coined by Robert Istepanian in 2004. He described it as the use of emerging mobile communications and network technologies for healthcare. Following Robert Istepanian, many authors, experts and professional bodies have defined mHealth in different contexts. For instance, Lemaire (2011) defines mHealth as the use of mobile phones to improve the quality of care and enhance efficiency of service delivery within the healthcare system. Similarly, WHO (2011), describes mHealth as the provision of health services and information through mobile technologies such as mobile phones and Personal Digital assistants (PDAs). mHealth also refers to mobile application designed to deliver health-related services via smart devices often processing personal information (European Data Protection Supervisor[EDPS], 2015). mHealth is further defined as the application of wireless technologies in delivery of health services (Lester, et. al., 2011, cited in Myemba-mudenda & Chigona, 2013). Consequently, it is clear that there is no universal definition that has emerged and agreed upon. Based on the definitions cited above, mHealth can simply be defined as the use of mobile phones to deliver, provide access to and extend health services to people within the healthcare system.

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