Chapter 5

Implementation of mHealth Interventions for Public Healthcare in East Africa:
Lessons Learnt

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ABSTRACT

The potential of mobile technologies to address health-related challenges has been widely acknowledged. The objective of this chapter is to identify factors that led to the successful implementation of mobile health interventions for public healthcare in the East African Community (EAC) and lessons learnt from these implementations that could assist in devising successful mHealth interventions. Findings reveal that forging partnerships with key stakeholders, adapting mHealth interventions to the cultural context, leveraging local opportunities, involving users in the design phase of interventions, planning for sustainability from the design phase of mHealth interventions, having a policy framework and a monitoring system to guide mHealth activities are key factors that led to the success of these interventions.

INTRODUCTION

The use of mobile technologies to provide healthcare services or mHealth has received much attention in developing countries (Ndayizigamiye & Maharaj, 2016a; Ndayizigamiye & Maharaj, 2016b; Ndayizigamiye, 2016; Ndayizigamiye &

Maharaj, 2017; Ndayizigamiye, Hangulu & Akintola, 2017; Imaja, Ndayizigamiye & Maharaj, 2017; Ndayizigamiye & Maharaj, 2018; Ndayizigamiye, Soni, & Jere, 2018; Matiyabu & Ndayizigamiye, 2019; Soni, Ndayizigamiye, & Kante, 2019; Kante & Ndayizigamiye, 2020a; Kante & Ndayizigamiye, 2020b; Kante & Ndayizigamiye, 2021; Ndayizigamiye, Kante & Shingwenyana, 2020). The World Health Organisation (WHO) defines mHealth as "medical and public health practice supported by mobile devices, such as mobile phones, patient monitoring devices, personal digital assistants and other wireless devices" (WHO, 2011: 6). In Resource-Limited Countries (RLCs), there is a notable increase in the ownership of mobile cellphones (ITU, 2014) coupled with an expansion of mobile technology infrastructure (Aranda-Jan, Mohutsiwa-Dibe & LouakanoUTva, 2014). Thus, mHealth interventions can reach a large portion of the population from RLCs who would otherwise not have access to affordable healthcare. In this regard, mHealth interventions have often been hailed for being much more cost-effective compared to the conventional (non-ICT led) delivery of healthcare services. In addition, in RLCs, mHealth interventions have been identified as part of the solutions to the shortage of healthcare professionals in rural communities, lack of proximity of healthcare facilities and practicable roads that lead to such facilities (Schweitzer & Synowiec, 2012; Mishra & Singh, 2008). Hence, some mHealth interventions support Community Healthcare Workers (CHWs) in their quest to deliver healthcare services within communities either through SMS-based interventions or mobile applications loaded on smartphones. mHealth has also been used to strengthen healthcare systems by replacing inefficient paper-based data collection methods with mobile-enabled data collection systems (Aranda-Jan, et al., 2014) and in other cases to facilitate and enhance communication amongst healthcare professionals (Chang, et al., 2012) and training of healthcare professionals (Vélez, 2011; Chib, 2010; Knight & Holt, 2010). Other mHealth interventions are directly targeting the community through preventive and curative interventions. Preventive interventions include mHealth interventions for behavioural change to induce healthy lifestyles through education and awareness programs (Jamison, Karlan & Raffler, 2013), while curative interventions entail remote patients' diagnosis and treatment (DeRenzi, et al., 2012). mHealth has also been used to remotely monitor disease spread and epidemic outbreak, patients' health and patients' adherence to treatment (Sidney, et al., 2011; Chen, Fang, Chen & Dai, 2008). However, notwithstanding the potential and the demonstrated capabilities of mHealth to address healthcare issues in developing countries, there is a general agreement from the literature on the need for more evidence-based research to substantiate the call for scaling mHealth interventions (L'Engle, Plourde & Zan, 2017). Such evidence-based research is also needed to identify best practices that may lead to the successful uptake of mHealth interventions and yielded benefits. These best practices may assist implementers of mHealth to make informed decisions pertaining to introducing mHealth interventions

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