Chapter 8
Impediments to the Adoption of mHealth Interventions in Burundi

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ABSTRACT

This chapter investigates the impediments to mHealth adoption in Burundi. A survey was conducted with 212 healthcare professionals from 48 primary healthcare centres in Burundi. The findings reveal that although there is a high acceptance of mHealth capabilities from the primary healthcare workers, a host of factors mitigate against the implementation of mHealth interventions in Burundi. Amongst these are lack of skills to develop mHealth applications, high cost of mobile devices, low rate of cellphone and other mobile devices penetration, unreliable network coverage in rural areas, and a high cost of network connection. These factors have a low effect size on the acceptance of mHealth capabilities by primary healthcare workers in Burundi. Partnerships between Burundi's Ministry of Health and mobile service providers, extensive consultation with potential users of mHealth systems, and a performance-based system are further factors that need to be considered for the successful implementation of mHealth projects in Burundi.

INTRODUCTION

Many studies have recognized the potential of mHealth capabilities to address healthcare issues in developing countries (Seidenberg et al., 2012; Bellina and Missoni,

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2009; Colven et al., 2011; Ndayizigamiye, 2016;Ndayizigamiye & Maharaj, 2016a; Ndayizigamiye & Maharaj, 2016b;Ndayizigamiye & Maharaj, 2017; Ndayizigamiye, Hangulu & Akintola, 2017; Imaja, Ndayizigamiye & Maharaj, 2017; Ndayizigamiye & Maharaj, 2018; Matiyabu & Ndayizigamiye, 2019; Ndayizigamiye, Soni, & Jere, 2018; Soni, Ndayizigamiye, & Kante, 2019; Kante & Ndayizigamiye, 2020a; Kante & Ndayizigamiye, 2020b; Ndayizigamiye, Kante & Shingwenyana, 2020; Kante & Ndayizigamiye, 2021). Although the outcomes of some mHealth interventions have been assessed as positive (Andreatta et al., 2011; Adedeji et al., 2011; Wakadha et al., 2013), Wave (2009) emphasizes the need for designing scalable mHealth interventions. The emphasis has shifted from just having experimental and pilot projects, to having mHealth interventions that have a larger impact countrywide. Scalable mHealth interventions can also assist in building resilience within healthcare systems especially in developing settings that often experience adverse conditions that hamper the deployment of healthcare services. Indeed, many mHealth interventions have focused on the continuity of care in developing countries amid a shortage of healthcare professionals and limited access to healthcare in remote areas (Wave, 2009).

In 2014, the East African region contributed "over 30% of the global innovative healthcare delivery programs" with Kenya ranked second after India for its innovative eHealth programs (Excelsior, 2014:1). However, Burundi has lagged in terms of mHealth adoption compared to other East African Community (EAC) member states.

This chapter investigates the impediments to mHealth adoption that need to be taken into consideration for successful mHealth interventions to address healthcare challenges in Burundi and enable the attainment of the country's national health goals.

COUNTRY'S PROFILE

Burundi was classified as the fourth poorest country in the world (ADBG, 2011). It is believed that 69% of people living in rural areas are poor while the poverty level in urban areas sat at 34% (ADBG, 2011). In 2014, the ratio of doctors to inhabitants was 1:19,231, far below the World Health Organization's (WHO) recommended ratio of 1:10,000. For nurses, the ratio was 1:11,349 which is far less than the 1:3,000 WHO's recommended ratio (Burundian Ministry of Health, 2014). Furthermore, qualified doctors and nurses were unequally distributed across the country with 50% of doctors and 21% of qualified nurses based in the capital city Bujumbura. In 2006, The Government of Burundi (GoB) introduced free healthcare services for infants and mothers, but still the country is far from achieving the Sustainable Development Goals in terms of access to healthcare (Burundian Ministry of Health, 2014). In 2010, the maternal mortality rate was still very high with 800 deaths per 100,000 births (UNICEF, 2013) (see Figure 1), ranking it the fifth-highest