Chapter 45
E–Government for Health Facilities in Africa

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ABSTRACT

Low and Middle Income Countries (LMICs) face healthcare worker shortages, skill mix imbalances, and maldistributions; there is concern in their quality and productivity. Africa's infrastructural developments also are way behind the rest of the world, and this gap is widening. Scalable, cost-effective, and long-term strategies in healthcare services are greatly needed. This chapter explores how Information and Communication Technologies (ICTs) could play an important role in improving healthcare. Components of e-health, an emerging field in medicine, clinical care, and public health are discussed. The role of m-health is explored, identifying the benefits of integrating mobile phone technologies in healthcare. To meet the health financing deficiencies, the chapter also explores how Bring-Your-Own-Device (BYOD) could drive healthcare professionals' productivity through increased workplace flexibility.

INTRODUCTION

Access to healthcare services and the existence of a functioning health system are taken for granted in the developed world. However in sub-Saharan Africa, due to limitations in funding, staffing, training and other manifestations of essential infrastructure the quality of healthcare is below expectations. A higher prevalence of infectious diseases also greatly impacts life expectancy and mortality rate among productive segments of the population (Stilwell et al, 2005).

Initiatives aimed at facilitating the widespread deployment of Information and Communication Technologies (ICTs) to support the operations of health delivery systems could address health needs of Sub-Saharan Africa. Use of ICTs in healthcare as a tool for collecting community information;

linking health care professionals and enhancing health administration, remote diagnostics and distribution of medical supplies would positively impact health outcomes (Hongoro et al, 2004).

BACKGROUND

e-Government can be defined as a Country's use of innovative Information and Communication Technologies (ICTs) to provide its citizens with convenient access to information and services (Fang, 2002). Although e-Government is a global phenomenon, additional effort is needed to make it work in developing Countries (Schuppan, 2009). Scalable, cost-effective and long term strategies in preventive and curative care services are greatly needed. Information and Communication Technologies (ICTs) can play an important role in improving health systems (Lucas, 2008). e-health is an emerging field in medicine, clinical care and public health where health services and information is delivered or enhanced through Information and Communication Technologies (Eysenbach, 2001).

ISSUES

Sub-saharan Africa faces a shortage of health workers hampering the capacity to improve health outcomes (WHO, 2008), ICTs can bridge this gap by bringing great benefit to health care systems in the areas of medical information, clinical data exchange and treatment (Ojo, 2006). e-health can provide an opportunity to extend healthcare ability to meet patient needs in a manner that supplements traditional delivery of health care (Juma et al, 2012). An increase in cheaper, efficient and reliable mobile phones avails technological opportunities to offer m-health solutions for preventive and curative care services in low and middle income countries (Tamrat & Kachnowski, 2012).

Mobile phones can revolutionize health care services offering immediate and secure access to critical clinical information when needed to provide patient care (Phillips et al, 2010). Health care facilities have demonstrated that quality of care can greatly improve to meet patient needs if use of ICTs is increased in ways that improve service delivery by health care providers to their patients (Bates, 2002).

CHALLENGES

Human resources to provide healthcare in low and middle income countries are in very short supply, WHO estimates a deficit equivalent to about 2.4 million doctors, nurses and mid-wives worldwide with sub-Saharan Africa accounting for over two thirds of this deficit (Anyangwe & Mtonga, 2007). There are also very serious concerns about the quality and productivity of this workforce (Hongoro et al, 2004). Most African Countries are faced by worker shortage, skill mix imbalance, maldistribution, negative work environment, and weak knowledge base (Chen et al, 2004). This health workforce is also under assault by HIV/AIDS, out-migration, and inadequate investment affecting the capacity to delivery healthcare in an equitable way (Stilwell et al, 2004).

Africa's infrastructural developments are way behind the rest of the world and this gap is widening. Infrastructure in Africa is very expensive with very high tariffs compared to any other parts of the world. (Foster & Briceño-Garmendia, 2010). Power shortage in Africa has been on the increase in recent years affecting economic growth and productivity. Generation capacity is inadequate, electrification is limited, the services are unreliable and very costly (Rosnes et al, 2011).

Africa accounts for 25 percent of the global disease burden; however Africa has less than 1 percent of global health spending and with only 2 percent of the global health workforce. Low levels

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