

**POTENTIAL/PREPAREDNESS OF E-HEALTH SERVICES IN ZIMBABWE****Dereck shepherd chikuni**

Great Zimbabwe University

**ABSTRACT**

Zimbabwean health sector is struggling mainly due to the economic climate prevailing in the country. There is shortage of qualified personnel, medicines and equipment. The distribution of the few resources available is also skewed. This is happening at a time when E-health technology is gaining momentum in southern Africa but hasn't set a foothold in Zimbabwe. I explore the condition prevailing in the country with regards to implementation of a successful national E-health system that can alleviate some problems in the health sector.

**Keywords:** E-health, tele-health, national health policy, Zimbabwe

**Introduction and Background**

Zimbabwean health sector is being hampered by lack of adequate funding due to the economic conditions prevailing caused by the failure to stabilise the economy in the 1990's coupled with the growing political conflict since the 1990s (Addison, 2003), the shortage of qualified medical professionals due to the failure by the government in retaining qualified and experienced health professional(Makondo & Makondo, 2014). The health sector also faces serious challenges in funding (MoHCW, 2012). This calls for an ingenious way to provide medical care to the population of Zimbabwe. Even though there has been advancement in E-Health in other countries, there has been little activity in Zimbabwe where it could benefit the population most.

Quality health care is inaccessible to the majority of the population mainly because healthcare centres are concentrated in urban areas and most qualified health personnel are stationed there leaving most rural centres manned by unqualified personnel, (Mudyarabikwa & Mbengwa, 2006). There is a vacancy rate of 50% for medical professionals such as doctors. Midwives, nurses, laboratory and environmental health staff (National Health Strategy for Zimbabwe 2009-2013). To even this out would require a means of transferring the expertise in the city to the rural centres. This requires a full utilisation of all available resources. MHCW (2009), reiterates the point that some resources like ICT infrastructure has been made available but due to unknown factors, it has not been fully utilised.

Electronic health has been defined as an amalgamation of healthcare system and Information Communication Technology (ICT) to enable better health and healthcare (Nykanen, 2006). Silber (2003), defines it as "application of information and communication technologies (ICT) across the whole range of functions that affect health". It is basically the application of ICTs in health systems

with the intention of making health systems more effective in terms of availability, quality of service and information availability.

Despite the initially stated benefits of EHealth, thus this paper intends to look at the level of preparedness or the available resources which are the pre-conditions for the implementation of a successful EHealth system.

### **Objectives and methodology**

I seek to outline the state of preparedness of Zimbabwe to accept and use mobile Health systems in a way that enables it to draw maximum benefit from the technology.

I seek to outline the benefits of E-Health that could be enjoyed by Zimbabwe-a developing country with a struggling economy and also a model that could be used for the adequate rollout of successful E-Health policy.

I would like to recommend ways to kick-start the mobile health revolution.

The study is descriptive, based mainly on current implementations in Zimbabwe and contextual literature.

### **Health care facilities**

There are public and private health care facilities in Zimbabwe. The public health sector contributes 65% of the health care facilities according to (WorldBank, n.d.). Public healthcare facilities are found all over the country while private facilities are mainly found in urban centres where they provide specialist services at a high cost thus they are not accessible to the majority of the population. The number of public healthcare facilities has grown from 1,313 in Round 1 (Feb-May 2009) to 1,399 in Round 16 (May-July 2013) [VMAHS,2013]. 14% of these facilities are in urban centres while the rest are located in the rural areas.

In the same report, they also report that cellular network coverage has also improved to cover 94% of all public health facilities. The cellular network coverage enable both voice and data.

### **Medical staff**

The distribution of medical staff in health care facilities in Zimbabwe is such that the most qualified are found in urban areas with the less qualified being stationed mostly in rural health care facilities. This creates a gulf in the quality of medical services that are available to those in cities and those in rural areas. This mirrors the situation in other developing counties (chanda and shaw, 2010). The distribution of medical doctors is difficult to present as a single doctor usually serves several health care facilities(VMAHS, 2013).

Medical staff training is not expanding fast enough to meet the growing need of the country. This is hampered by inability of training centres to increase their intakes or lack of new training institutions due to economic challenges (Feltoe, 2010). With many of the experienced professional

migrating, there is need to step up effort to train more medical professional in order to reduce the high vacancy rate (MoHCW, analysis of MoHCW human resources database, 2008).

### **Government policy**

There is an ICT policy (MICT, 2010) and a national E-Health strategy policy (MoHCW, Zimbabwe's E-Health Strategy, 2012) that are in existence. (WHO) States that these policies have not been implemented. According to its survey carried out in 2009, the biggest challenges that E-Health systems are facing in Zimbabwe are perceived costs are too high, underdeveloped infrastructure, lack of nationally adopted standards, no formal evaluation and/or publication of E-health initiatives and competing priorities.

Policies are in place but their implementation seems to be the biggest challenge hence most attempt to implement E-Health systems are usually standalone systems which are not evaluated for effectiveness of even properly supported for effectiveness. There is need for Ministry of health and child welfare to coordinate the implementation of E-Health systems if they are to be effective.

Problems with government policies is that they are drafted in isolation with one another. By the very nature of EHealth being broad, it is imperative to have it work in tandem with other policies like the national ICT policy as well as the rural electrification policy so that desired goals can be achieved. EHealth will require that there be reliable power supply to the rural health care facilities, which is not always the case even though solar power has been made available mainly by donor funds. It is also imperative that there be some standardisation when it comes to EHealth. EHealth requires that there be transfer of data between different EHealth systems. This could be hampered by have lots of independent eHealth system this no framework data sharing between them.

### **Supporting infrastructure**

Power is a problem in the whole of southern Africa. In Zimbabwe power shortages have been experienced since the beginning of the political conflict and economic slowdown. The government however, is making strides in making sure that power reaches the rural communities through its rural electrification programs. There is also foreign funding for solar systems to power rural clinics.

ICT infrastructure has been improving though it still has room to improve. More people now have computing gadget and more are now using the internet. The number of active cell phone subscriptions keeps steadily increasing (POTRAZ, 2014). The number of subscribers has risen to 11.4 million which is a rise of 2.6% in the last quarter ending 30 December 2014. In the same period, internet penetration has also risen by 0.5% to reach 47.5%. The number of base stations also increased by 117 to reach 4486 signifying an increase in the cell phone coverage. International internet bandwidth also increased by 32.4% to reach 21,840Mbps from 16,498Mbps, also in the same quarter of 2014. This makes it possible to employ mobile health systems because the majority of the population have access to either SMS or mobile internet.

## Conclusions and recommendations

Although the majority of elements required for a successful EHealth implementation are already in place in Zimbabwe, a lot still needs to be done to in order to kick start the EHealth revolution. Firstly, government must address policy issues, this is basically aligning the following policies together, the education policy(training of health personnel and ICT personnel – for the development and maintenance of ICTs), the ICT policy (internet and network availability and also the availability of computing gadgets), rural electrification( availability of electricity in all rural health care centres) as well as the national health policy (for overall control of the EHealth services and availability of health care personnel to operate them). The national health policy should enforce the use of electronic health record systems which are the basis for the EHealth systems (JunHua Lia, 2010). This will act as a backbone for the integration of all the standalone EHealth applications that being introduced. If local level-systems remain standalone there is a big chance that they will fail as they do not have any standards they strive to match especially when considering that the majority of these health facilities do employ fulltime Information technology personnel. Government should also determine which systems should be implemented and also provide all the necessary support which is key for the fully implementation of an integrated EHealth system.

Internet coverage has improved but a lot still needs to be done to make sure that all the remaining areas get coverage. Telecommunication costs are high which restrict the usage of the internet, this has to be addressed by the government.

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