

Chapter 15

Integrated Big Data E–Healthcare Solutions to a Fragmented Health Information System in Namibia

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ABSTRACT

This chapter showcases a big data platform solution for the Namibian health sector using handheld, portable devices, mobile devices, desktops, and server systems targeted to capture patient information, keep records, monitor and process patient health status. This chapter oversees the architectural design of the system that is more oriented towards specifications of user requirements on usability of mobile devices and their applications for e-health systems. This chapter is looking ahead to the benefits that come along with good investment in the e-health, which require a very philosophical and pragmatic systematic transformation of the hardware, software, and human resources in the health sector. Sustainability of the e-health system in the future is very promising as young professionals embrace these technological advancements from the training time and can take over the system without a big IT support staff as most of them are IT literate.

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INTRODUCTION

The ministry of Health and Social Services is the entity responsible for facilitating the well-being of the Namibian citizens by making sure the nation has put in place awareness programs on how to prevent diseases, adequate hospitals, health care centers and pharmacies in the country. This should be facilities with qualified professional and state of the art medical equipment for use to diagnose and treat diseases. The ministry is also responsible for the provision of medicine, hence the need for an integrated pharmaceutical service centers with treatment centers (Schultz, 2013).

The health system has more than 340 hospitals and clinics, as well as more than 1150 small service points across the country including emergency centers (Services, 1990). Although this seems to be a lot of facilities in the country looking at the population of only above 2 million people, the county is vast populated and many people still live in remote and rural areas where there are less or not health care center at all. Most people still work distances to reach certain health care center.

In remote rural areas inadequate housing, information and communication technology infrastructures, and lack of social services in the country contributes lack of professional residing to such health care centers. Thus, most health care centers in remote rural areas have limited medical services due to unqualified or lack of specialists in the country (Dr B. Haufiku, 2018).

Since independence in 1990 the Namibian Healthcare sector uses a manual system to keep patients records. The information about the patient is written down on a manual Passport (fig 1). All the illness and the prescription of medication are written in the manual health record Passport pages. This makes it difficult for doctors and nurses to keep track of the patient's treatment, medication prescription and record if the patient's health record Passport is not available.

Historically, traditional frameworks and solutions generally placed policies and regulations that mostly entails ethical control measures of data use at the initial data generation and gathering stages by getting consents from patients and family members.

Even though people make use of the existing health care centers, there is still many gaps within the health care service provision system of the country to make it interoperability functionalities for proper health services delivery in the country.

Figure 1. Namibian Healthcare patients Passport.



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