E-Health Solutions in Rural Healthcare in the Mbaise Area of Imo State: Nigeria

Elochukwu Ukwandu, Department of Computer Science, Imo State University, Owerri, Nigeria
Sylvanus Iro, Department of Geography and Environmental Management, Imo State University, Owerri, Nigeria

ABSTRACT

Information and Communication Technology (ICT) solutions (e.g. e-health, telemedicine, e-education, e-Planning) are often viewed as vehicles to bridge the digital divide between developed and developing Nations, rural and urban centers, to achieve a better planning and distribution of health infrastructures and equipments, and to resolve shortcomings in the rural health sector. This study focused on factors perceived to influence the uptake and use of ICTs as e-health solutions in rural healthcare centres in Mbaise Imo State, and on structural variables relating to these facilities and processes. Attention was also given to patients who equally decide whether to go for e-health solution or to maintain the statuesque. Facilities on ground that will enable the immediate take off of ICTs e-health solutions were accessed. Recommendations were made with regard to how ICTs can be used more effectively to improve health systems in rural healthcare centres.

Keywords: E-Health, E-Planning, Information and Communication Technology (ICT), Mbaise Imo State, Rural Healthcare

INTRODUCTION

The meaning of e-health is the use of computers to store, protect, retrieve, and transfer information electronically within health care settings. The potentials of e-health are to reduce medication errors; increase sharing of health information between providers, laboratories, pharmacies, and patients; ensure safer patient transitions between health care settings; and reduce duplicative and unnecessary testing, and a more rational urban and regional distribution of health infrastructures and equipments. Using e-health to drive improvements in health care will require the support of many diverse stakeholders in the healthcare system including practicing clinicians, policy makers, hospitals, patients and ICT suppliers. The consideration of e-health solutions in the context of urban and regional e-planning can improve and turn more

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rational the distribution of health infrastructures. There are many barriers to the implementation of e-health solutions that cause delays or hinder its use. The Commission of the European Communities (2004) stated that healthcare systems around the world are faced with major challenges, although their nature and scale differ between developed and developing countries.

The challenges and setbacks facing implementation of e-health in rural areas of Imo State are the focus of the present study and warrant further detailing here. The rural areas in Imo State health sector faces many challenges, such as epidemics, historical issues, and factors that impact directly on the digital divide between developed and developing countries. Rural communities in particular are compromised by lack of infrastructure, services and expertise, limited resources, low literacy levels and professional isolation (Herselman & Jacobs, 2003; Littlejohns, Wyatt, & Garvican, 2003; Olugbara et al., 2006; Uys, 2006). Adoption and implementation of e-health solutions is often delayed when underlying problems are not resolved.

According to IT-Online (2007), the four fundamentals of e-health solutions are improved access to healthcare, improved quality of care, illness prevention and health promotion, and better efficiency (i.e., better healthcare for the same or lower costs). However, the healthcare sector does not fully benefit from these fundamentals due to delays in reaching agreement on best practice and processes. In Imo state, there appears to be no uniform healthcare approach, let alone a system that can be truly proffered as a proven template. The lack of standardization and integration between health information systems are major barriers to the realization of the benefits of e-health solutions. When systems are integrated and there is a standard way of keeping and updating patient records, only one entry is necessary for each patient. Thus, duplication of diagnosis and patient history is avoided, medical errors reduced and costs saved.

The aim of the study was to better understand how ICTs can be used more effectively to improve the health system in rural areas of Mbane Imo State healthcare centers. The study addresses the following research questions:

- What factors influence the use of ICTs as e-health solutions in specified healthcare centers?
- What technologies currently in place can support e-health solutions?
- What is the level of access to computer equipment at healthcare centres?
- What are the perceived benefits of ICT applications in rural healthcare centers?

**METHODOLOGY**

This is a qualitative research–design based on primary data. The data was collected through questionnaire survey. The questionnaire contained issues relating to whether the health center has access to computer with internet connection, also the basic technologies currently in place that will support e-health and whether e-health is applied to improve service delivery, etc. The questionnaire covered the three general Hospitals and fifty seven hospitals and health centers in the three Local Government Areas (LGA) of Mbane. Of the 60 copies of questionnaire administered to these health centres, all of them were returned. Also another set of questionnaires was designed for patients, 180 copies of questionnaire were returned out of 200 copies. For the survey, the 3 General hospitals of the three LGAs were covered while all the major health centers were equally covered. Some patients were interviewed and their responses filled in the questionnaire for them. Data collected from these respondents was analyzed using descriptive statistics.

**RESULTS AND DISCUSSION**

The present study has attempted to better understand how ICTs can be used more effectively to improve the health system in the rural hospitals and health centres in Mbane. The main research question was to determine what factors were
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