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The Effect of eHealth Information Systems on Health Information Management in Hospitals in Bulawayo, Zimbabwe

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ABSTRACT

EHealth information systems have brought about a lot of positives which include timeous reporting, efficient data analysis, better decision making, coordination and better work processes. Zimbabwe has also adopted the eHealth information systems and this study sought to establish the effects of eHealth information systems on the management of health information in hospitals in Bulawayo, Zimbabwe. The study applies a qualitative research methodology in which a case study research design and a purposive sampling technique were used. Document analysis and face to face interviews were held with a total of eleven research participants.

KEYWORDS

District Health Information System, eHealth, Health Information Management, Health Information System, Information Communication Technologies, Internet, Technology, Work Processes

INTRODUCTION

The advent of ICTs in the health sector has led to the implementation of eHealth information systems which are expected to improve health information management. An eHealth information system is a set of components and procedures organized with the objective of generating information which will improve health care management decisions at all levels of the entire health system" (Lippeveld, Sauerborn, and Bodart 2000). Prior to the implementation of these ICT based information systems, the health sector depended on paper-based health information management systems. Morton (2008), "postulated that ICTs provide numerous advantages over the use of traditional paper-based information" (p.3). ICTs are useful when they simplify work processes, make procedures more accurate and reduce the risk of human error (Kiekkas, Karga, Poulopoulou, Karpouhtsi, Papadoulas and Koutsojannis, 2006). To the United Nations Development Programme (2001), ICTs have the potential to improve the performance of the delivery of health services. There is evidence which proves that ICTs have the potential to enhance today's information-driven health sector (Odedra, Lawrie, Bennett and Goodman, 1993). The quality and performance of technology in healthcare should provide support with good quality, through service and information technology that performs data processing well (Phichitchaisopa1 and Naenna, 2013, p. 432).

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However, the mere implementation of eHealth information systems does not automatically translate to improved health information management (Clegg, Axtell, Damodaran, Farbey, Hull, Lloyd-Jones, Nicholls, Sell and Cleveland, 2009). Saxena and Aly (1995) noted that eHealth information systems literature depicts a failure scenario especially in the developing countries. Technology that is not used to its fullest cannot reasonably be expected to contribute to improving quality (Wills, El-Gayar and Bennett 2008, p. 396). Thus, adoption rates of eHealth systems among healthcare professionals have been reported to be lower than expected (Hersh, 2004). Alwahaishi and Snášel (2013) asserted that "more technological innovations are introduced in rapid succession and an increased number of those innovations are failing, and thus profound insights in the determinants towards adoption and use become more important" (p. 2). Berg (2001) noted that low acceptance of health information technology applications would result in delays or even failure to successfully implement health IT systems, and to achieve relevant organizational goals, such as effective data patient management and storage.

Bulawayo is a Metropolitan Province and second largest city in Zimbabwe. It is serviced by six hospitals which comprise of three central hospitals namely; Ingutsheni Central Hospital, Mpilo Central Hospital and the United Bulawayo Hospitals. The other three hospitals include Mater Dei Hospital which is a private medical facility, the Thorngrove Isolation Hospital and the Premier Hospital. This study sought to investigate how the adoption of ICTs has affected health information management in hospitals in the Bulawayo Metropolitan Province.

Problem Statement

The Ministry of Health and Child Care, Zimbabwe, was considering discarding the paper-based tally health information system in favor of a paperless eHealth information system (Khumalo, 2016). However, eHealth information systems have not always produced the much-anticipated positive results in Zimbabwe's health care delivery system, hospitals in Bulawayo included.

Purpose of the Study

The study sought to establish the effect of eHealth Information Systems on the management of health information in hospitals in Bulawayo, Zimbabwe. The specific objectives of the study were:

1. To determine how ICTs have affected coordination in health information management in hospitals;
2. To establish how ICTs have affected health information management work-processes.

METHODOLOGY

The study applied a qualitative research methodology and a case study research design. Krauss (2005) averred that qualitative research and qualitative data analysis in particular have the power to generate new levels and forms of meaning, which can in turn transform perspectives and actions. The application of the case study research design was informed by Darke, Shanks and Broadbeat (1998) who asserted that case study research is well suited to understanding the interactions between information technology- related innovations and organizational contexts. Thus, the researchers used the case study research design to assess how ICTs have affected health information management at hospitals in the Bulawayo Metropolitan Province. A purposive sample was applied and health information practitioners working in the five hospitals and the National Health Information Manager were selected as the study population. Document analysis and face to face interviews were held with a total of eleven research participants. Documents analysed included the Ministry of Health and Child Care reports and strategic plans which detailed the impact of ICTs on health information management in Zimbabwe. The National Health Information Manager, 5 Medical Records Officers and 5 Records Clerks from the five hospitals were interviewed. The National Health Information