

## Chapter 4.8

# Factors Affecting the Adoption of ICT for Health Service Delivery in Namibia: The Role of Functional Literacy and Policy Implications

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### ABSTRACT

The article examines ICT use in health service provision in Namibia. The patterns of ICT use for health services by patients, public and private health service providers are not yet fully understood. This study describes ICT applications in health service delivery to patients in the Khomas and Oshana regions of Namibia. The study interviewed 134 patients and 21 health service providers. Factor analysis on ICT use identified three main factor groupings namely, ‘high technology’,

‘mobile technology’ and ‘traditional technology’. Multinomial regression results showed the major factors affecting multiple ICT awareness in the two regions as functional literacy, diverse sources of health information services, age and educational level of the patients. Logistic regression results on individual ICT use identified functional literacy, personal privacy, cost of ICT, age, education, and positive perceptions about ICT applications in improving health services as statistically significant factors influencing adoption by both rural and urban patients in Namibia.

## **INTRODUCTION**

The use of Information and Communication Technologies (ICT) in the provision of health services is growing rapidly throughout Sub-Saharan Africa and the developing world. As ICT are deployed in health service delivery (HSD), there is a need to understand how individuals are using the new devices to access health services. Namibia is one of the few African countries that have demonstrated leadership in ICT utilization (SIDA, 2002; Hesselmark & Miller, 2002:36), and HSD seems to provide growing opportunities for the application of these modern technologies.

For the effective use of ICT for health services to occur, both patients and health service providers (HSP) must be willing and able to use the new devices in health service provision. In addition, the use of ICT for HSD must be socially inclusive; that means both rural and urban-based patients must be exposed to the new ways of health service provision. Moreover, social inclusivity requires that both young and old, rich and poor, able-bodied and physically challenged, and individuals of various backgrounds must have equal access opportunities.

However, the emerging patterns of ICT use for health services by Namibian patients are not fully understood. Similarly, the use of ICT by public and private health service providers remains unknown, yet this may influence how they deliver services to their patients in the future. Given the gap that exists between the understanding of (i) the patterns of ICT use by patients and (ii) the degree or the extent to which ICT are being used for HSD by HSPs in Namibia. It is of paramount importance that knowledge is amplified of how this growing phenomenon is unfolding. Therefore, successful utilization of ICT for HSD requires that digital divide constraints, patient technology demand patterns, service provider access and utilization, and public policy among others are seriously addressed.

Failure to understand the key factors affecting ICT use for health services by patients may lead to gaps in enabling policies, ineffective policy formulation, or a total absence of policy. In turn, this may lead to a general lack of ICT awareness or it might affect the effective use of ICT in HSD in general. Without doubt, HSPs in both private and public health sector play a central role in the provision of ICT-based health services. In order to improve our understanding of the circumstances surrounding ICT use for health services, this particular article seeks to examine; (i) the factors affecting the use of both individual and multiple ICT by Namibian patients (ii) Highlight key constraints that inhibit patient's access to ICT for health services, and (iii) Recommend policy considerations for improving the uptake of ICT for HSD in Namibia. In order to address the above stated issues, this study analyzes the type of ICT being used in HSD to patients in the Khomas and Oshana regions of Namibia, an urban and rural setting respectively.

The rest of the article is structured as follows: In the next section, background information on transformations in HSD in Namibia is presented. Then secondly, the significance and limitations of the study will be described. Thirdly, institutional policies in support of ICT for HSD in Namibia will be examined focusing on government ICT policy and its implications for HSD and this is followed by a presentation on the theoretical framework of the study. Fourthly, the next Section presents the methodology used to collect and analyze data. And finally, the results and discussion of the findings will be presented and this will lead into the concluding remarks and recommendations for future research.

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