

**Utilization of Information and Communication Technology for
Accessing Health Information by Medical Professionals in
Kenya: A Case Study of Kenyatta National Hospital**

By

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the degree of
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DECLARATION

DECLARATION BY CANDIDATE

This thesis is the candidate's own work and has not been previously published or submitted for a degree in any other university. All the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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ABSTRACT

This study was conceived with the aim of investigating the availability and utilization of information and communication technology for accessing health information by medical professionals in Kenya. The study started from the premise that access to relevant information and knowledge is critical to the delivery of effective healthcare services. Although most of the health information is continuously being delivered electronically, many healthcare professionals in developing countries including Kenya are disadvantaged because of limited access to and use of ICT. The research was exploratory in nature and used Kenyatta National Hospital as a case study.

The specific objectives of the study were to: identify the information needs of the medical professionals; determine the sources and channels of information used by the medical professionals; identify the factors for which they require ICT support in accessing health information; establish the extent of the current usage and level of adoption of ICTs among the medical professionals; determine the potential challenges and prospects of utilization of ICTs in health information access; and suggest and recommend measures to be taken into account in the improvement, adoption and use of ICTs in health information access by the medical professionals.

Interpretivism which was identified as a suitable philosophical framework for the execution of the study offered a methodological rationale for a pragmatic qualitative investigation. Data were collected on individual occurrences of the phenomenon using semi-structured interviews. Grounded theory approach was used as an analytical tool. The analysis revealed three main themes which occurred frequently across the interviews namely: *information needs and information seeking behaviour, access to information, and access to electronic resources.*

The key findings of the study were that: medical professionals needed information continuously in the course of their clinical work. Clinical governance, care of patients and professional updating on the current medical practices were the main reasons for needing and seeking information. When the medical professionals needed clinical information, they turned to colleagues. Text books and journals were also frequently used sources of information. However, there was a substantial preference for e-searching for information from the internet and e-journals. The findings revealed lack of library and information services, inadequate access and use of electronic information resources and inadequate ICT skills among the medical professionals.

Conclusions arising from the study findings were that many critical information needs of the medical professionals were not being met adequately, and improved usage of ICT was viewed as the only realistic strategy for enhancing information access and information sharing among the medical professionals at the hospital. Using the insights gained from the study and the Actor Network Theory (ANT) a framework for establishing an e-health library was proposed and presented.

Recommendations directed towards enhancing access to health information at KNH include: establishment of a hospital library and information services; appointment of information professionals with skills and capabilities to conduct online information searches to assist in clinical decision-making and ability to train clinicians in ICT skills; formulation of ICT strategies and policy; capital investments in the form of internet and supporting ICT infrastructure; involvement of all stakeholders; and allocation of adequate financial resources for improved access to health information by the medical professionals.

DEDICATION

To my wife ***Njeri*** and our children ***Wangui, Wambui, Wairimu*** and ***Muthui***
and

To the memory of my late mother ***Miriam Wangui Muthui***

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LIST OF ABBREVIATIONS

AAR	Africa Air Rescue
AJOL	Africa Journals Online
AMREF	Africa Medical Research Foundation
ANT	Actor Network Theory
BNF	British National Formulary
CME	Continuing Medical Education
EBP	Evidence-Based Practice
EU	European Union
GOK	Government of Kenya
GT	Grounded Theory
HIMS	Health Information Management Systems
HINARI	Health InterNetwork Access to Research Initiatives
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
ICT	Information and Communication Technology
IHC	Interactive Health Communication
INASP	International Network for the Availability of Scientific Publications
IS	Information Systems
ISPs	Internet Service Providers
KDHS	Kenya Demographic and Health Survey
KEMRI	Kenya Medical Research Institute
KMTC	Kenya Medical Training College
KNH	Kenyatta National Hospital
LIS	Library and Information Service
MDGs	Millennium Development Goals
MIMS	Monthly Index of Medical Specialities
NDP	National Development Plan
NEPAD	New Partnership for Africa Development
NHSSPII	National Health Sector Strategic Plan, 2005 - 2010
OPP	Obligatory Passage Point
PDA	Personal Digital Assistant

PERI	Programme for the Enhancement of Research Information
SMS	Short Message Services
UNDP	United Nations Development programme
UNECA	United Nations Economic Commission for Africa
UON	University of Nairobi
USD	United States Dollar
VHL	Virtual Health Library
WHO	World Health Organization
WSIS	World Summit of Information Society
WWW	World Wide Web