

# A Framework for e-Health Information Management in Ugandan Hospitals: A Case of Kampala and Arua

Hope Sally AJIDIRU<sup>1</sup>, Lawrence NKAMWESIGA<sup>1</sup>, Agnes NAKAKAWA<sup>2</sup>  
<sup>1</sup>Muni University, P. O Box 725, Arua, Uganda, Faculty of Techno science  
Tel: +256 774 546 755, Fax: +256 476 420316 Email: favorhopesally@gmail.com,  
l.nkamwesiga@muni.ac.ug  
<sup>2</sup>Makerere University, P. O Box, 7062, Kampala, Uganda, College of Computing  
and Management Science, Tel: +256, 772 690 247, Fax: + 256 414 540 620,  
Email: anakakawa@cit.ac.ug

**Abstract:** The study aims at developing a framework for guiding the establishment of an e-health information management solution in a developing country including Uganda focusing on: the challenges faced and the requirements to address them; designing a framework and evaluating it. The study used Qualitative and Quantitative research designs. Data was collected from 6 health facilities in Arua and 10 from Kampala using 48 respondents for qualitative inquiry and 16 for expert review. Interviews were used for qualitative and questionnaires for quantitative data. Purposive sampling technique was used for qualitative while simple random sampling for quantitative. Thematic analysis was used to analyse qualitative data while quantitative data was analysed using SPSS version 23. Findings reveal that the design decisions are likely to fulfil their purposes. The study can be used by e-health software developers, government to formulate eHealth policies, and researchers on eHealth information management.

**Keywords:** Electronic Health, Electronic health records, Health Information System, Telemedicine

## 1. Introduction

Developing countries have not fully benefited from e-health implementations due to several challenges that have hindered the adoption, implementation and maintenance of e-health solutions. Existing information management frameworks [1] enable quality healthcare through providing sufficient access to health information, but do not give more details on guidelines for integrating e-health solutions since frequent data changes require upgrading of data or information tools. In Uganda, government recognized the use of information and communication technology (ICT) in the National Development Plan II 2015/16 - 2019/20 as an enabler to improve service delivery to its citizens across its sectors [2]. Uganda's Ministry of Health (MoH) also adopted e-Health in the Health Sector Development Plan 2015/16 - 2019/20 as a key enabler for supporting the health system in order to deliver good health to the population [2]. The National e-Health Policy provides guidance on how to use ICT to facilitate improvement in the flow of information; and to support the delivery of health services and the management of the health system so as to facilitate universal access to care, health sector efficiency, and social transformation [1][2]. However, the health sector in Uganda is characterized by a fragmented landscape of ICT pilot projects and