

Medical Imaging Trends and Implementation: Issues and Challenges for Developing Countries

Rohaya MOHD-NOR

Faculty of Economics and Business, Universiti Malaysia Sarawak, Malaysia
mnrohaya@feb.unimas.my/mnrohaya@gmail.com

Abstract. To meet the increasing demand for radiological services over the past few years there has been a growing trend toward introducing medical imaging across hospitals worldwide. Medical imaging technologies consist of a number of components including PACS (Picture Archiving Communication Systems), RIS (Radiology Information Systems) and HIS (Hospital Information Systems) which are typically linked and interfaced through a computer network. In this paper, we present an overview of global trends in the deployment of medical imaging and highlight some of the key issues and challenges which are faced by developing countries in its implementation.

1. Introduction

The potential benefits arising from the introduction of medical imaging in developing countries are numerous. Several studies have argued that medical imaging is a viable solution to some of the on-going problems and healthcare challenges experienced by these countries. For example, many studies have found that the use of medical imaging can increase efficiency in accessing, viewing and sharing patient radiographic images and diagnostic reports. There has also been an increase in the use of teleradiology and teleconsulting activities. These services have the potential to address problems associated with shortages of medical specialists and the lack of access to adequate healthcare infrastructure and services.³ Further, the use of medical imaging has been found to be useful in containing disease outbreaks within hospitals. For instance, in the case of the severe acute respiratory syndrome (SARS) outbreak, the technology enabled the radiographic images of SARS patients to be readily available to clinicians which facilitated clinical consultations between the hospital's clinicians and radiologists, and allowed consultations to be conducted via telephone.⁶⁶ In addition, the use of medical imaging helped to reduce the unnecessary movement of staff and materials from the radiology department which helped to minimize the spread of the SARS virus.⁴¹ In recent years, a number of studies have highlighted the need to have adequate access and proper use of medical imaging to perform clinical diagnosis and to confirm whether patients contracted H1N1 virus (see for example¹). The World Health Organization (WHO) officially confirmed on June 11, 2009 that the H1N1 influenza outbreak, which started in early 2009, had reached global pandemic levels⁶⁷.⁵⁷ recommend the utilization of teleradiology to help to minimize the risks of influenza outbreaks among healthcare professionals. From the patient's standpoint, the use of