Special Issue Editorial

Evaluation and implementation of e-health and health information initiatives: international perspectives

This special issue of the *Health Informatics Journal* contains papers from the 14th annual International Symposium for Health Information Management Research (ISHIMR 2009) hosted by the University of Kalmar (now Linnaeus University), Kalmar, Sweden in collaboration with the Centre for Health Information Management Research (CHIMR), University of Sheffield, from 16th-18th October 2009.

The annual ISHIMR conference encourages researchers and practitioners working with information and information and communication technologies (ICTs) in the health care sector to present their latest research and developments. The theme for ISHIMR 2009 was "Evaluation and implementation of e-health and health information initiatives: international perspectives" and a range of papers and posters on this theme were presented during the conference. This special issue contains six of the best papers from the conference, as reviewed by the ISHIMR 2009 Programme Committee. The selected papers are from a range of countries, i.e., the host country Sweden, the US, England, Wales and Malaysia, giving a truly international perspective, and utilise a range of qualitative and quantitative methodologies.

Pesola and Waterworth [1] discuss the practical experiences of evaluating e-health services and the readiness of potential pilot sites for e-health services. Their paper reports from a three-year European Union project that aims to improve access to health care services in sparsely-populated areas in northern Europe using existing e-health technologies. The paper describes the evaluation processes carried out in Sweden to examine the transferability of e-health services and the potential use of innovations in e-health. The authors combined the use of interviews and a SWOT analysis, together with the e-Health implementation toolkit (e-HIT) to explore the readiness of potential pilot sites to implement e-health innovations. These innovations included a mobile eye unit to screen for diabetic retinopathy and follow-up of glaucoma and remote speech therapy and the monitoring of physiological parameters.

Urquhart and Currell [2] discuss the controversies surrounding home uterine monitoring, using a Socio-Technical Interaction Networks (STIN) approach. Building on a Cochrane systematic review of telemedicine, the authors identified 14 studies from 15 papers on home uterine monitoring and applied the STIN approach. The paper describes the STIN approach and discusses its adaptation to critique the studies included in the review and to map the decisions made regarding home uterine monitoring to the socio-technical characteristics of a home uterine monitoring system. Urquhart and Currell concluded from their study that using the STIN approach helped in understanding the apparent failure of home uterine monitoring, above and beyond that which was learned from the systematic review itself.

Dalrymple et al.'s paper [3] describes their qualitative study investigating why an evidence-based anticoagulation guideline was being applied irregularly within a hospital in the US. The authors used semi-structured interviews with internal medicine residents who were responsible for managing anticoagulant therapy from one unit within the hospital and also used field observations from similar units and ward rounds to provide a rich description and identify contextual factors. They used Roger's diffusion of innovation theory to analyse how evidence was evaluated and applied when caring for their patients. The authors' conclusions emphasise the need for greater in-depth analysis in the early stages of proposed changes, and stress the importance of identifying barriers to, and incentives for, these changes to ensure that they are implemented effectively. From a methodological perspective, the authors also conclude that multi-method, qualitative designs should be used to explore how people interact with information and the changes that arise as a result of information.

Ayatollahi et al. [4] describe factors influencing the use of IT in an emergency department (ED). From 34 interviews and a qualitative approach they found that the user characteristics and perception of task, technology, environment and impact of technology could influence people´s use of IT in the ED. Among the main concerns were the usefulness of the systems, the impact of technology, IT training and the feasibility of using IT by all members of the staff. By addressing these factors in designing and

implementing a system, the authors believe it could help to introduce the change successfully and improve the acceptance of IT.

The various types of threats in Healthcare Information Systems (IS) have been studied by Samy et al. in a hospital in Malaysia [5]. By studying three departments, i.e., Information Technology Department (ITD), Medical Record Department (MRD) and X-Ray department employing in-depth interviews the authors identified 22 types of threats based on ISO/IEC 27002. The most critical threat for the Hospital Information System was the power failure followed by acts of human error and other technological factors. The authors stress the importance of the identification of these kinds of threats a basis for risk analysis since it increases awareness and understanding of security threats associated with patient handling.

Patient centred health care requires team work but current information systems are not well suited for that. Skilton et al studied the needs for different roles including practitioners regarding access in a unified electronic patient record (EPR) in the UK [6]. The paper proposes the use of a role-based access to the EPR displaying information related to the tasks associated with a particular patient. The paper also proposes tracking of care team members by introducing a coordinating database. This system is found to reduce information overload and to add flexibility. Currently, the systems require a significant amount of upkeep as teams must be manually entered and updated.

We hope that you enjoy reading this selection of papers and may indeed encourage you to submit papers based on your work for future ISHIMR conferences (see http://www.ishimr.co.uk/). We thank Rob Proctor, and the Health Informatics Journal editorial team for their continued support in publishing the best ISHIMR conference papers in the Health Informatics Journal. This ensures a wider audience for the dissemination of high-quality work as well as giving authors the incentive and opportunity of having their paper published in the journal.

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References

[1] Pesola U-M and Waterworth EL *Evaluating e-health services for transnational implementation – an experience report* Health Informatics Journal, 2010, 16(3):x-y.
[2] Urquhart C and Currell R *Home uterine monitoring: a case of telemedicine failure?* Health Informatics Journal, 2010, 16(3):x-y.
[3] Dalrymple PW, Lehmann HP, Roderer NK, Streiff MB *Applying Evidence in Practice: A Qualitative Case Study of the Factors Affecting Residents' Decisions* Health Informatics Journal, 2010, 16(3):x-y.
[4] Ayatollahi H, Bath PA and Goodacre S *Factors Influencing the Use of IT in the Emergency Department: a Qualitative Study* Health Informatics Journal, 2010, 16(3):x-y.
[5] Samy GN, Ahmad R and Ismail Z *Security Threats Categories in Healthcare Information Systems* Health Informatics Journal, 2010, 16(3):x-y.
[6] Skilton A, Gray WA Allam O and Morrey D *Role Based Access in a Unified Electronic Patient Record* Health Informatics Journal, 2010, 16(3):x-y.