International Perspectives on Health Information Systems and Technology Safety: Issues, Controversies and Challenges

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Abstract. In this workshop we discuss the issues, controversies and challenges of conducting research focusing on health information systems and health information technology (HIS/HIT) safety across regional and country contexts. Such an exchange of knowledge and information is critical to addressing HIS/HIT safety at a global level and to improve the safety of systems over time. Workshop facilitators come from four different global regions: Europe (i.e. Denmark), South East Asia (i.e. Australia), North America (i.e. Canada) and the Middle East (Saudi Arabia). The panel is supported by the IMIA Working Group on Health Informatics for Patient Safety.

Keywords. Health information system, health information technology, technology induced error, international perspectives, issues, controversies, challenges, safety

Introduction

Health information systems and information technology (HIS/HIT) can promote as well as detract from patient safety. In the early 1990’s, researchers documented the ability of HIS/HIT, when designed, developed, and maintained effectively, to improve the quality and efficiency of patient care while at the same time reducing medical error rates. In 2005 research documented how HIS/HIT could detract from patient safety and could introduce new types of medical errors (i.e. technology-induced errors) [1, 2]. In this research HIT features, functions and workflows were found to be able to lead to technology-induced errors (i.e. errors that arise from health professionals interactions with HIS/HIT during the process of patient care) [2]. In this workshop we discuss the issues, controversies and challenges of conducting research focusing on HIS/HIT safety across regional and country contexts. Such exchange of knowledge and information is critical to actively addressing HIS/HIT safety at a global level and to improve HIS/HIT

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1. Aim of the Discussion

The overall aims of the workshop are to:
1. Discuss HIS/HIT safety initiatives that are being undertaken in differing regions around the world.
2. Discuss the key issues, challenges and controversies associated with designing, developing and implementing safe HIS/HIT.
3. Describe how HIS/HIT can promote patient safety while at the same time reducing the likelihood of a HIS/HIT feature, function or workflows resulting in technology-induced errors.
4. Describe approaches that have been shown to be effective in different countries to improve and ensure healthcare system safety.

2. Format and Speakers

Each of the speakers will give a 10 minute presentation about HIS/HIT safety in their regional and country contexts. The presentations will include some of the issues, challenges, gaps and controversies in their region. Christian Nohr of Denmark will speak about Danish national HIT initiatives, including the: National Board of E-health (NSI), public health portal (sundhed.dk), and regional health IT organization (RSI). In the Danish national health IT strategy there is no direct connection between HIT functionalities and patient safety. It is mentioned that IT systems will provide “Feedback (that) will give Health Care Professionals the knowledge that can be used to improve patient care and increase patient safety” [3-5]. Paul Turner of Australia will discuss a number of major projects being undertaken by researchers on behalf of the Australian Commission on the Safety and Quality in Healthcare on clinical handover and electronic handover tools at admission, referral and discharge of patients from health care services, focusing upon electronic health communications and practice level indicators for safety and quality in primary health care and allied health care professional communications [6-8]. Elizabeth Borycki of Canada will describe research that has focused on methodologies used to identify technology-induced errors across the software development lifecycle. Initial research in this area involved identifying the types of technology-induced errors that arise from interactions between HIS/HIT and health professionals during the process of patient care [1,2], followed by research focusing upon the development of new methods for identifying technology-induced errors prior to HIT implementation [9]. Mowafa Househ of Saudi Arabia will discuss the King Abdullah Bin Abdulaziz Arabic Health Encyclopedia (KAAHE) on the Web. The initiative is being lead by the National Guard Health Affairs with the goal of providing credible and reliable health information to the Arab world, which is different than more local hospital and ministry initiatives that have focused on a certain
population or disease group [10]. The KAAHE project is expected to be a credible source of health information and to improve health literacy and indirectly improve patient safety.

Workshop participants will be invited to share their experiences involving HIS/HIT safety. More specifically, country/regional level challenges and gaps will be identified as well as key learning’s. We expect 10 to 20 participants in the workshop. Andre Kushniruk will moderate and facilitate the participant discussions.

3. Expected Achievements and Outcomes

Workshop participants will discuss HIS/HIT safety initiatives in each of their respective countries, focusing on key issues, challenges, controversies and learning’s in the advancement of the current state of the knowledge about how HIS/HIT can promote safety while at the same time reducing the likelihood of a HIS/HIT leading to technology-induced errors. The outcome of the workshop will be a paper documenting initiatives in countries where HIS/HIT has improved safety as well as initiatives aimed at improving HIS/HIT safety.

References