Informing the Business of Healthcare - Selected Proceedings of the 2010 Health Informatics Conference

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The 2010 Health Informatics Conference, the annual event organised by the Health Informatics Society of Australia (HISA), has again provided an opportunity to review Australian and international developments in e-health and health informatics. The Health Informatics Conference each year presents an experience unique in the world to allow the delegate to hear the latest in research and development, as well as real experiences of implementing change using health IT in the healthcare system. In addition, industry is strongly represented, and hence the conference provides an opportunity for the sharing of ideas and experiences to a wide audience.

HIC 2010 showcased research and development as well as technologies and processes that are required to *inform the business of healthcare*. While the business of healthcare is complex, the conference looked at how information and communication technologies (ICT) could inform healthcare in the key areas of:

- Improving healthcare delivery through the capture and use of data

- The feedback loop: the importance of secondary data use

- Measuring the benefits of health informatics

- Identifying the clinical and economic opportunities of new technologies.

Conference delegates could hear presentations in multiple formats at HIC 2010. Eight keynote presentations were complimented at HIC 2010 by three panels, discussions, including a Q&A session led by Tony Jones from Australian television's ABC. Spanning the four themes of the conference, presentations were given in

scientific and industry tracks, with 23 original research presentations accepted from over 45 submissions. Nine papers selected for this special issue of the electronic Journal of Health Informatics (eJHI) are extended and improved versions of the best papers accepted to HIC 2010. These papers were nominated by members of the Scientific Program Committee and then subjected to revision and additional peer review in collaboration with eJHI. These papers illustrate the breadth of the HISA annual conference and the truly international nature of this event.

A number of papers, as well as keynote speakers, addressed the ongoing issue of improving healthcare through the capture and use of data. Siaw-Teng Liaw and colleagues [1] used a newly installed EMR system at a New South Wales Emergency Department to compare the principal diagnosis on admittance to the diagnosis on the discharge summary. With the increased use of EMRs in general this study will inform thinking on on-going audit of data in EMR systems. This work tied in nicely with a research study by Michael Lawley and colleagues [2] at the CSIRO who used a SNOMED CT mapping tool to compare the clinical meaning of terms that might be in an information system across different users – important as healthcare information systems transition to using SNOMED CT concepts.

The secondary use of data in healthcare, whether for reporting, research or audit, is key to an efficient healthcare business. Anthony Nguyen and colleagues [3] from the Australian e-Health Research Centre reported on software for extracting clinical information from free text pathology reports. The study used the standards of SNOMED CT and the College of American Pathologists Cancer checklists and a rule based approach to

generate structured reports from the original free text reports.

It was pleasing to see that measuring the benefits of health informatics was well represented in submitted papers. A number of papers already referred to show that measuring the benefits of health IT implementations is increasingly becoming a standardised part of planning and implementations. Creswick et al [4] used semi-structured interviews and focus groups to examine the perception of users of a new information system, with the study highlighting the many areas where the technology is adding value to the users, their patients and co-workers. Meanwhile Mark Ballermann et al [5] used the WOMBAT method to examine the impact of introducing a clinical information system on multitasking in intensive care units, again providing important information on the impact of EMR systems on the healthcare business.

Bob Russell and Alan Taylor [6] used multiple methods to identify both economic and social benefits of introducing mobile digital breast screening in Queensland, showing the sorts of methods that can be used to assess the impact of health IT implementations. Atalag and colleagues [7] have looked at a different sort of impact – the impact on software maintenance of changes in clinical knowledge and how choosing the correct architecture for a clinical information system might mitigate this.

Many of the keynote speakers took the opportunity to address new technologies in healthcare, from bioinformatics through to ambulatory monitoring in the community. In this special issue we include two papers about the use of new technologies in healthcare. Yulong Gu and co-authors [8] used over 40 interviews with stakeholders to examine the gap in knowledge, particularly in the healthcare profession, of the clinical utility of genetic testing. Ann Merete Duedal Jensen et al [9] used Second Life to build a virtual hospital along with scenarios for patient transfer and infection control procedures. Both these papers concerned the information that needs to be processed by our health workforce and the decisions they need to make. Information and communication technologies can offer novel tools and processes to help the workforce in their everyday work.

These papers from HIC 2010 show the breadth of information and communication technologies that can be brought to informing the business of healthcare. Taken alone, each paper represents a contribution to improving that business, but together they show the remarkable innovation that is occurring in our health system right now. HIC 2010 again succeeded in its objective of bringing together healthcare professionals, researchers and the health IT industry who believe in the transformational potential of health informatics. We hope that this volume will help to reinforce the trend and encourage more authors to submit papers to future HIC conferences.

Acknowledgments

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