eHealth Event Report

Event Name	**3rd Annual Technology in Health Administration Conference**
Organised by	ChilliIQ
Date	20th & 21st July 2011
Location	Swissotel Sydney
Duration	2 day conference
Participants	Healthcare providers, healthcare administrators, clinicians, health information managers, health software vendors, IT directors
Report by	Lynne Paine, Director Information Management, Nepean Blue Mountains Local Health District & Western Sydney Local Health District, NSW

Summary of Event

The central theme of the conference was "Generating Knowledge through Holistic Processes" and focused on the role of communication technology on modern-day health practices. The premise being that the more holistic IT processes become the greater knowledge the front-end users will a have about the context they are working in.

The conference assessed the pitfalls and challenges, as well as the success and innovation of technology in health administration.

The presenters covered a range of topics, focusing on the innovative use of technology in the administration of healthcare, including assessing achievements in health technology, interoperability in health technology, scanning of medical records, change management, business intelligence in health, use of tablet and other mobile technologies, cloud computing and eLearning. Case Studies were also presented on the NSW Ambulance Service eMR and the Commonwealth PCEHR.

Key take home messages were:

- Knowledge is a key element to improving health
- Despite major challenges some real progress is being made in regards of implementation of the EHR in pockets of the 'real' world, as demonstrated by the case studies presented
- Importance of effective project management, executive support, change management and accessible training in successful implementation of eHealth

Summary of Presentations

Professor John Patrick, School of Information Technologies, University of Sydney
Assessing Australia's Achievements in Technology in Health
Professor Patrick, in his keynote address, spoke about the way forward for Australia's health information technology needs. He summarised where we are today in regards to a mixture of:

- local eHealth solutions, e.g. local clinical information systems (CIS), legacy systems;
- generic solutions, e.g. PAS and specialized systems such as PACS/ICU, etc; and
- the push towards enterprise-wide systems, such as Cerner EMR

A case study of the implementation of Cerner FirstNet ED system in several NSW hospitals was explored, highlighting the pitfalls and design limitations of enterprise-wide

technology in comparison to best-of-breed technology, which Professor Patrick considers better suited for clinical use. The challenges for clinicians working with hybrid records (both paper-based and electronic) were also highlighted. Data governance was also explored with its aim being to ensure better data usage in a ready, useable framework. The new requirements of a CIS for a new generation of users –satisfying the needs of many interests and being adaptable to changing interests – are usability, responding to business needs and workflow, data retrieval and analytics. Professor Patrick concluded his keynote address by describing a prototype his team are developing in collaboration with clinicians – a 'Generative Clinical Information Management System (GCMIS).

<u>Senator Sue Boyce, Senator of the Australian Liberal Party</u>

'A Response to the Current Government's Directions in eHealth: A Possible Platform for the Liberal Party's Intended Direction'

Senator Boyce provided an overview of the history of the national eHealth reform agenda from 1999 to the present and the current government's eHealth direction (PCEHR). The aims of eHealth were identified as efficiently and securely exchanging data and the potential for better health outcomes. Senator Boyce shared her concerns regarding some of the investments made in eHealth with very little demonstration of what is being achieved and identified one of the biggest barriers to further development of eHealth over the last 15 years has been privacy, security, confidentiality of the patient record. In regards to the PCEHR, Senator Boyce identified that lack of consultation at the right time has not induced ownership in sectors of the industry that is required to make it a success. Another concern is lack of agreed definitions and standards and that after 15 years this is still being sorted out, e.g. definition of a 'hospital'. The difficulty in bringing a system for consumers and a system for health care professionals together was noted and that there is a need to stop and review and ensure money is well spent to achieve an outcome that works. Key messages were that NEHTA needs to have better oversight and accountability; and that there needs to be increased involvement of both consumers and commercial stakeholders in eHealth.

<u>Anne Larkins, Director of Information Services, Barwon Health, Victoria</u>

Interoperability in Health Management Technology: Holistic eHealth by Design – Our Golden Opportunity

Anne advised that Barwon Health has consciously been on the eHealth journey since 2005 with a strategic focus on replacing legacy systems and is only just now seeing improved capability. New models of care require eHealth – it cannot effectively be done with paper-based systems. Data elements need to be the standard, not the system and interoperability is the key. Anne indicated that Barwon Health use 'best of breed' systems (with connectivity provided by eGate and HL7 integration) and do not make clinicians use enterprise wide systems. Core systems in use are iPM and Bossnet (much more agile than Cerner). Transition to the eMR included scanning of medical records with go-live in 2008. Reporting is performed from the data warehouse. Anne stated that the eHealth journey has involved enormous physical, social and cultural change and that the importance of change management cannot be over emphasised. Anne also noted that achievements to date are just the beginning and her team needs to focus on how they provide support to clinicians to evolve their working environment for sustainable efficiency and safe practice (customer service focus), raise IT literacy of clinical staff and patients, achieve full EHR integration for patients and clinicians, and manage control over data (importance of single data dictionary to an interoperative EMR). The key challenge is ensuring any data, anywhere, anytime and FAST!

Fran Vaughan, IS Project Manager, Sydney Adventist Hospital

Using Tablets in Health Organisations: The Complexity and Evolution of Using Tablet Technology in a Private Hospital Setting

Fran outlined her thoughts on the changing face of health care in relation to electronic health records. Challenges include the need to obtain information quickly, increasing expectations of patients, increase in technology savvy staff, productivity requirements of management, need for data retention, increased worker mobility and the requirement to link a variety of systems. Fran described the implementation and evolution of tablet PCs, which were first implemented at Sydney Adventist Hospital in 2004 for medication discharge summaries. Key drivers were identified as exploration of wireless technology, wanting to move to an EHR, and wanting mobility for pharmacy staff. Key learnings were the importance of change management, training, the importance of review and mapping of workflows and processes to ensure appropriate technology, gaining input and feedback from key stakeholders, and support from senior management. Fran's key message was that tablet technology has a key place in health care but don't be constrained – look at other technologies to suit workflows and processes.

Michael Strachan, Electronic Health Record Program Manager, Mater Health, Queensland

E-HR Case Study: EHR – Is it Worth Doing…

Mater Health has been chosen as one of the Wave 2 sites for the PCEHR program. Michael outlined Mater Health's EHR journey that commenced in 2003 with consolidation of their PMI. The EHR Program was formed in 2006 with the goal being to implement an EHR across 7 hospitals, extended to providers and accessible to patients. The key focus was to put the patient first - improve patient safety, and to embed technology to improve clinical practice. There is a need to accept that certain clinical business areas are better served by 'best of fit' - Mater Health's preferred term for 'best of breed'). Components of the Mater Health EHR include an enterprise PMI, external doctor portal, health provider index (linked to credentialing system), and a federated model with lots of disparate 'best of fit' systems linked via a clinical portal. This solid EHR foundation provides the basis for Mater's contribution to the commonwealth PCEHR project with the delivery of a shared record for mothers. The current patient portal will be aligned with the consumer portal in the PCEHR. This and other projects such as the GP Shared Care Model, Health Identifier Project and Interoperability Project will all inform components of the PCEHR. Michael highlighted the importance of utilizing project management methodology, the need for well managed change management, and the need to have a visible project sponsor. In regards to dealing with the historical paper, Michael indicated that a business case for scanning has been developed.

Jacqueline Burford, Program Manager, Ambulance Service of NSW

eMR Case Study

Jacqui described the NSW Ambulance Service's approach to implementing an EMR which commenced in 2009 and thus exposed the audience to a side of the health system most of us hope never to experience! The aim was better patient care via better information to make decisions by replacing the current paper record being used to record patient care and then subsequently being data entered into a system for clinical reporting. The implementation has been a collaboration of Ambulance Services across Australia (excluding WA and NT) with agreement to use a standard clinical data set. Jacqui outlined the three key components (and challenges) of the implementation as being technology provision in mobile environment, fit outs for the ambulance fleet to house the technology, and people. The three pronged approach to training was described - computer based learning, face to face peer training and in the field support

for follow up on the job. Trainees were recruited from the workforce and returned to the workforce post roll out. Jacqui stressed the importance of open communication, a robust awareness and training program, and change management – if people are kept informed this minimises issues.

Margaret Mason, E-Learning Coordinator, Sydney Adventist Hospital

E-Learning at Sydney Adventist Hospital – A Case Study

Margaret outlined Sydney Adventist Hospital's response to overcoming the challenge of getting mandatory compliance training completed in face to face mode. E-Learning has been implemented using Moodle LMS (open source) with the benefits of flexibility (eliminated geographical and rostering boundaries), cost effectiveness (reduced training hours and costs of material) and ease of use (accessible to everyone). The implementation methodology included a clear implementation plan, executive support, clear expectations and consequences, identification of eLearning champions, engaging instructional design and availability of support. Benefits achieved include enhanced customer satisfaction, more efficient tracking and measurement of training completion, increased compliance with mandatory training, and a more competent workforce.

Eliza Kenny, Manager Clinical Applications and Kevin Koelmeyer, Manager Enabling Services, Macquarie University Hospital

Progressive Technological Developments – The Good, the Bad and the Ugly

The 200 bed tertiary Macquarie Hospital in northern Sydney opened in June 2010 and is Australia's first private hospital to be located on a university campus. Eliza and Kevin outlined the development of this progressive hospital and how technology was leveraged to achieve the goal of a paperless hospital. The new build provided a clean slate and thus the opportunity to build a culture rather than changing a culture. The aim was to implement a fully digital record to increase access to patient information at the bedside whilst maintaining security and privacy. IT was used as an enabler to improve coordination of care between providers by implementing a paperless health record also utilizing high tech medical devices/diagnostic equipment, telemedicine and enabling technologies were single sign on and context management,. A 'best of breed' approach was adopted with 5 main clinical systems (PAS, peri-operative information system, 2 x medication management systems, ward clinicals and dashboard, and angiography) being integrated. Lessons learnt included the need to carefully evaluate and plan IT outsourcing, don't underestimate the process of integrating applications via HL7, always look for a simple solution not necessarily an IT solution, don't underestimate the importance of change management, use of wireless and that thin client is the way to go. One year on, the next steps are to review their current clinical information systems, improve collaboration and training capacity, improve clinician's access to applications, and maintain the focus on information security.

Fabian Heaton, eMR Support – ISD, South Eastern Sydney Illawarra Area Health Service

A Successful Implementation of an Integrated Booking System within SESIH

Fabian outlined this health facility's implementation of an integrated scheduling management system (outpatient booking and OT scheduling) to 800 clinic areas across 15 hospitals as part of their Cerner EMR suite. Key advantages were clinician access to Cerner Powerchart (EMR) from the scheduling system, improved scheduling, decreased 'no shows', and autogenerated correspondence to patients. Keys to success were executive support, business process review, change and risk management, a clear implementation plan, maintenance of a benefits register to support the post implementation review, and communication and training. Lessons learnt were not to underestimate the time of load data for go-live and importance of mandatory training for all users.

Trevor McKinnon, Director – Learning/Innovation and Future Technology, Clinical Education and Training Institute (CETI), NSW Health

The Future of Business Intelligence (BI) in Health

Trevor provided a very visual and entertaining presentation on the concept of business intelligence, acknowledging that the definition of BI is subjective. The data visualization aspect of business intelligence is the tip of the iceberg – we also need metadata management, data quality, etc to provide information and knowledge to assist in making informed decisions. Using the four tenants of Simple, Seamless, Social and Strategic – Trevor explored the question 'How can we do things better by using information and technology?' *Simple* – information is useless unless we actually do something with it and technology is useless unless it is in the hands of someone that can use it. The number 1 barrier to deploying BI successfully is the complexity of BI tools and interfaces. *Seamless* – any data sources from technologies such as iPods, iPads, iPhones, Google Apps, etc need to be integrated to make BI look seamless. *Social* – about being social within the workplace, e.g. collaborative IT such as Sharepoint for collaborative decision making and change management. Mobile intelligence and new devices such as Blackberries, iPhones provides new opportunities. *Strategic* – BI needs to be pervasive across organisation, collaborative balanced scorecard approach - integrate data/text to make decisions – data analytics. Challenges are the digital native (new generation) and social media – requirement for 'right here right now!' Key message was that we need to integrate technology to look at differences in patients and use BI to make informed decisions.

Professor Marissa Lassere, Senior Staff Specialist, St George Hospital, Sydney

M-Health: Addressing Mobile Technologies – The Portable Health File (PHF) Project, RCT of a Personal Electronic Health Record

Professor Lassere highlighted the literature available on the use of mobile health applications and devices, utilising resources ranging from Wiki to peer reviewed literature databases such as Pubmed, Medline, Cochrane to forecast the role of mobile technologies in health. She followed with an outline of the evolution of the Portable Health File (PHF) Randomised Control Trial Project which enables information and communication to travel with the patient utilising a USB stick.

Lief Hanlen, Senior Researcher, National ICT Australia

Cloud Computing in Health - Health and Broadband: In the Clouds

Lief identified that the problem for any IT in health is the need for continuity of access. Cloud is rental resources – 'it's just the internet' and is at risk of hype – it's not a universal panacea. The drivers for cloud computing is the clear and urgent need for data-centric health, broadband availability and lack of capacity for major ICT expenditure. 'Cloud' is at the peak of the hype cycle however a stumbling block for data/information held in the 'Cloud' is that it is not immediately evident which part of the 'chain' is not working. In conclusion, cloud computing has limited application due to non-ICT issues, however, where it is applicable, its take up in health has been rapid and is growing.