

E-Health

E-BULLETIN

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Support for Imaging is Key to the Future Success of EHRs

Jonathon Batchelor of the US Radiology e-bulletin 'Aunty Minnie' recently interviewed PACS expert Dr. Paul Chang from the University of Chicago. Chang claimed that if electronic health records (EHRs) are to succeed, they must offer robust support for diagnostic-quality images.

In a talk at the recent Healthcare Information and Management Systems Society (HIMSS) conference in New Orleans, LA, Dr. Chang said EHRs need to deliver more than simple JPEGs or thumbnail images to achieve widespread adoption. Many medical decisions are being made by non radiologists looking at images, so any EHR working within the enterprise must have full image functionality, he believes.

Although the deployment of EHR products is still in its infancy, a comprehensive and full-featured enterprise image-distribution strategy is an absolute requirement for the success of these systems, according to Dr. Chang, a co-founder of the PACS firm Stentor (now part of Andover, MA-based Philips Medical Systems). "I strongly believe that the image-enabled EHR cannot be a toy, it has to be a completely acceptable proxy for whatever it is trying to replace," Chang said. "Image integration and presentation cannot be achieved by sacrificing functionality, fidelity, or accuracy. If you just show a thumbnail or a JPEG of an image, you cannot make a diagnostic decision based on that representation." "Many medical decisions are made by non radiologists looking at images," Chang noted. "They're taking the ultimate patient-management risk. So there is no way that I'm going to give them an integrated EHR where the images are crippled."

Chang's claims that, although physicians throughout an enterprise want access to a patient's dataset, not all physicians need -- or desire -- access to that data in a similar manner. "The presentation and functionality of images and information must be optimized for heterogeneous users and workflow." This means that an image-enabled EHR must support all multimedia objects, such as visible light (pathology, dermatology, ophthalmology, and so on), video, waveform, and other types of non-DICOM studies, according to Chang. This is because radiologists aren't the only clinicians who generate or need images, he said.

"Today's challenge is not to just have a PACS that works only in radiology," he said. "What we really should be talking about is that PACS is just one small tactical

component of a fully leveraged electronic-based workflow and practice management that supports more complex requirements, not only in radiology but throughout the enterprise that requires integration and interoperability with the EHR."

"Unfortunately, the majority of existing visible light image generation devices do not currently support DICOM, or do so incompletely and expensively," he said. One possible solution for these non-DICOM images is to house them in an independent archive and database. From this virtual space, the image data could then be cloaked in a DICOM wrapper, essentially creating a metadata element of the image when it was called by a user to the presentation state of an EHR.

As to the current crop of EHR products, he sees promise in the technology, but believes the market has some major challenges to resolve.

According to Chang, the limitation of current vendor EHR offerings is that there is suboptimal performance and scalability of thick clients; an inability to provide optimized or customized solutions for specific workflow domains; and a delay in responding to changing priorities and user-functional specifications.



The Kodak (Orex) point of care 120 / 140 / 260 digital radiology processor (as shown with mobile trolley at the 2006 AMMA conference) is an example of the desktop processors now being used in the military and rural and remote civilian settings to speed the capture, interpretation and storage of x-rays.

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Care Coordination Home Telehealth (CCHT) in Veteran's Affairs

"[United States] VA has established care coordination programs in all 21 Veterans' Integrated Service Networks (VISNs) as part of the Office for Care Coordination's (OCC's) CCHT strategy. These programs focus on veterans with diabetes, chronic heart failure, chronic obstructive pulmonary disease, PTSD, depression and spinal cord injury. Each VISN has a lead person for care coordination. The way in which care coordination is implemented in each VISN varies. Some VISNs have a dedicated VISN program structure whereas others embed CCHT within existing services e.g. home-based primary care, cardiology etc.

The shape of things to come: An Australian Army medic from 2/14 LHR simulates the use of a hand held device to capture clinical data on a casualty in the field. This information will be able to be transmitted to the soldier's electronic health record (EHR). Both the US and UK Defence medical departments have chosen the BMIST-J (Battlefield Medical Information System & Telemedicine – Joint) as their hand held software application which can be installed on most commercial ruggedised PDAs. See our next edition for more details.



Although the organizational support structure for CCHT varies VA is standardizing the associated clinical, technology and business processes. VA has constructed a national information technology infrastructure to support CCHT. This has meant establishing standards for data exchange and interoperability. OCC is also working to standardize the clinical and business processes associated with CCHT. OCC's intent is that veteran patients should be mobile to move around the country and not restricted by lack of interoperability of the technology or clinical processes associated with CCHT.

Supporting Rural Carers through Telehealth

In February 2007 the publication, 'Rural & Remote Health' – International Electronic Journal of Rural & Remote Health Research Education Practice & Policy published a paper by Ms Penny Van Ast & Dr Ann Larson titled 'Supporting rural carers through telehealth'.

The paper noted that videoconferencing is now a firmly established feature of rural health care in Australia. However, the health sector has not used videoconferencing extensively outside the provision of clinical care. The article described a program of education and support to rural carers via

To ensure interoperability and interface with VA's computerized patient record system (CPRS) VA has established national contracts with home telehealth vendors. The choice of technology to use for a particular patient is determined by an algorithm that matches the clinical needs of the patient to the appropriate technology.

Sustaining CCHT in VA depends upon having a care coordination competent workforce. VA has established a national CCHT training centre in Lake City, FL. The emphasis of this training is virtual, but does include face-to-face programs. OCC has 2 national conferences each year. A care coordination/telehealth leadership meeting in early summer and a caregiver meeting in the winter."

<http://www.va.gov/occ/CCHT.asp>

videoconferencing which demonstrates its potential in promoting health. Semi-structured interviews were held with six health providers, eight carers who participated in sessions and a facilitator. Attendance and financial records augmented the interview data.

The results showed that videoconferencing was well accepted by carers and the facilitator. Carers reported having a positive interaction with the facilitator and other participants despite being at a distance, and the facilitator found the technology offered her more ways to observe non-verbal cues discretely. Carers demonstrated that they had retained information provided and that they had made small behaviour changes. They credited the success to sharing experiences with peers. Local providers of aged care services stressed that the sessions offered a service that they, who were employed to be 'problem-solvers', were not able to perform but that as a result of the sessions they could target services more effectively. Video conferenced sessions were 16% and 47% of the cost of a face-to-face session.

This study demonstrated that videoconferencing can be used to provide psychosocial support and training to groups of isolated carers. The critical element of the program was that local services were augmented and enhanced through the use of a facilitator who brought skills that were not available locally.

This paper is one of a number of examples how synchronous telehealth can be an effective augmentation to scarce face to face healthcare over considerable distance with application to both the military and civilian health sectors.

Profile

Dr Reinecke, CEO NEHTA

Dr Ian Reinecke is the Chief Executive Officer of the National E-Health Transitional Authority. He has deep experience in the analysis of large and complex problems requiring the application of information and communications technology (ICT) in their solutions.

Ian was CIO of the Sydney 2000 Olympics and has consulted widely to industry, universities and governments in the strategic use of ICT. He has conducted major reviews of ICT in the public sector at federal and state level, in universities and in the private sector

Ian is a former Pro-Vice-Chancellor of the University of Queensland and Founding Director of the Centre for Information Technology Research at the University of Wollongong. He has chaired or been a member of government boards with responsibility for ICT strategic matters in Queensland, NSW and the Commonwealth. He is also a former chair of DSTC Pty Ltd, the ICT Cooperative Research Centre.

Ian has published widely, as the author of five books on the economic and social effects of technology, in academic journals and in magazines and newspapers.



Dr Reinecke, CEO NEHTA

These details are courtesy of the NEHTA website at www.nehta.gov.au

US Remote Monitoring Access Bill Gets a Push





US Senator Norm Coleman (R-MN) recently reintroduced the Remote Monitoring Access Act (S. 631), one of seven bills the Senator has included in his rural health legislative agenda for the 110th Congress. The Advanced Medical Technology Association (AdvaMed) was the principal author of the proposed legislation, which provides for Medicare coverage of remote patient management services for chronic health care conditions. The American Telemedicine Association (ATA) is part of a Remote Monitoring Coalition that reviewed the bill. In the ATA's opinion the bill, initially introduced last year, has good intentions, identifying four major areas in which (US) Medicare coverage of remote management technologies can be vitally important (CHF, diabetes, cardiac arrhythmia, and sleep apnoea) and providing for determinations by the US Secretary for Health regarding other chronic conditions. However, the ATA claims the bill language is physician-specific in provisions for the development of frequency of billing guidelines, standard of care and quality standards for remote patient management services, and in treatment of the services for payment. S. 631 also proposes a new benefit category for remote patient management services in the Medicare physician fee schedule, raising the possibility of differentiation in guidelines on frequency of billing, conversion factor or number of relative value units (RVUs) for a remote service as compared to an in person encounter-based monitoring service. Congressional staff have responded that the bill is currently under review and discussions about potential changes to S. 631 are underway.

US creates State Alliance for e-Health

The US National State Governors Association (NGA) Center(sic) for Best Practices has announced the creation of the 'State Alliance for e-Health', an initiative designed to improve the US's health care system through the formation of a collaborative body that enables states to increase the efficiency and effectiveness of the health information technology (HIT) initiatives they develop.

The State Alliance provides a nationwide forum through which stakeholders can work together to identify inter- and intrastate-based health information technology policies and best practices and explore solutions to programmatic and legal issues related to the exchange of health information.

The State Alliance for e-Health will:

-  From a state-specific perspective, address barriers to health information exchange and adoption of health IT, while preserving privacy, security, and consumer protections.
-  Build consensus in seeking the harmonization of the variations in state policies, regulations, and laws, where appropriate, and develop standards and/or guidance for modifying such policies, regulations, or laws.
-  Allow for dialog among states that will fuel creativity and partnerships among states and with the private sector in the health IT arena.
-  Allow for the appropriate input of experts and others working on health IT endeavours to inform state policymaking.

Editorial

Dear Reader,

Welcome to the inaugural edition of the Centre for Military & Veterans Health e-Bulletin for E-Health. The aim of publishing and disseminating this bulletin is to inform the CMVH stakeholders and wider CMVH friends of what e-health is (there are over 51 published definitions), where the development of e-health is nationally and internationally, who the main players in e-health are and the news, clinically, technically, legislatively and commercially in e-health. The E-Health e-Bulletin will be published quarterly.

The following is one of the most widely accepted definitions of e-health:

E-Health is an emerging field at the intersection of medical informatics, public health and business, referring to health services and information delivered or enhanced through the Internet and related technologies. In a broader sense, the term characterizes not only a technical development, but also a state-of-mind, a way of thinking, an attitude, and a commitment for networked, global thinking, to improve health care locally, regionally, and worldwide by using information and communication technology. (Eysenbach, 2001)

We hope that you enjoy this and subsequent editions of the E-Health e-Bulletin and trust that it will expand your appreciation of E-Health application and issues.

Bob Curtis
Lieutenant Commander, RAN
CMVH E-Health Pillar Head

Editor

Raison detre'

The E-Health Pillar is one of five pillars within the Centre for Military & Veterans Health (CMVH). CMVH was established in 2004 as a consortium of three universities, University of Queensland, University of Adelaide and Charles Darwin University to progress health research issues pertaining to current servicing Australian Defence Force (ADF) members and veterans. Our key stakeholders are the ADF and the Department of Veterans Affairs (DVA). Under the terms of the CMVH contract the E-Health Pillar is responsible for researching:



Health Knowledge Networks.



Clinical Decision Support Systems



(CDSS) Telehealth.



Health Surveillance System.



Operational Health Support Systems (OHSS).

as they pertain to the Defence and the Veterans environment

Conferences

A number of national and international conferences with an E-Health flavour will be conducted in 2007. The CMVH E-Health Bulletin will endeavour to keep our readership informed of when these important events occur and if possible report on key outcomes or presentations from those conferences, seminars or workshops. Conferences currently on the horizon are:

HIMSS

(Health Information Management
Systems Society) Asia-Pacific;
Singapore May 2007

ATA

(American Telemedicine Association);
Nashville, TN, USA; May 12-15 2007

SimTecT 2007

(Simulation & Training Technologies);
Brisbane, Australia; 4-7 June 2007

MEDinfo 2007

(12th World Congress on Health Informatics);
Brisbane, Australia, August 20-24 2007

7th International Successes & Failures in Telehealth;

Brisbane, Australia; August 27-28 2007

MICCAI 2007,

(International Medical Image Computing
and Computer Assisted Intervention);
Brisbane, Australia. 29 October - 2 November 2007