Queensland Clinical Senate
Connecting clinicians to improve care

The digital transformation of health

4-5 August 2016
Meeting report

Brisbane Convention Centre

Queensland Clinical Senate, Meeting Report

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Chair's report

There is no doubt that the future of healthcare is digital and if anyone needed convincing of that, the Senate's digital health conference on 4-5 August 2016 offered plenty of evidence.

We are very fortunate to be working in a state health system that is embracing digital health - we are leaders in the digital hospital space and already use so much advanced technology in our everyday work.

The Senate's digital health conference gave clinicians the opportunity to see what's ahead in the ever-changing digital health landscape and to explore why digital health is the future, why we must stay up to date or be left behind and how best to implement such a game changer.

A number of key factors became evident:

- Digital health is a people and not an IT project and therefore we must engage with our people and be thoughtful in the way technology is integrated – change management is a critical step in the process.
- An ongoing commitment to necessary investment in digital hospital infrastructure is essential.
- Digital hospital solutions for regional and rural Queensland is of utmost importance - we cannot afford a two-tiered health system.

The Senate will advocate strongly around these points.

Studies tell us that the majority of patients are ready and waiting for digital health – we as clinicians must continue to come on board – let's accept and embrace the inevitable. Digital health or digital disruption may be a sizeable change but it's a change that brings sizeable benefits to our patients and to us as clinicians – benefits that far outweigh any challenges in the implementation phase.

It's an exciting time to be in healthcare and if digital health delivers all that it promises, I look forward to working in a healthcare system that is not only more predictive and preventive, but more engaged with the people we are here to serve.

Dr David Rosengren
Chair, Queensland Clinical Senate

A digital hospital masterclass

Lessons learned from implementing the digital hospital in Queensland

Digital hospitals don't just involve the implementation of technology and equipment but provide an opportunity to transform how healthcare is delivered.

The digital hospital masterclass focused on clinical implementation and leadership and gave delegates an opportunity to share in the experiences of Queensland hospitals that have made the leap. Issues, opportunities and pitfalls were explored.

Presenters:
Saint Stephen's Hervey Bay – Australia's first fully integrated digital hospital
- Dr Monica Trujillo, Chief Medical Information Officer and Director of Medical Services
- Jodie Austin, Clinical Informatics Pharmacist

Princess Alexandra Hospital – Australia's first public digital hospital
- Dr Clair Sullivan, Director of Clinical Service Improvement and Endocrinologist
- Dr Michael Daly, Executive Director, Clinical Governance
- Joshua Simmons, Allied Health Workforce Development Officer – Digital Hospital, Princess Alexandra Hospital
- Don Baker, Nurse Unit Manager, Medical and Planning Unit
- Dr Andrew Staib, Deputy Director, Emergency Department, PAH, and Systems Physician, Healthcare Improvement Unit

Cairns Hospital - the first Australian hospital to use maternity digital records and the first Queensland Hospital to use paediatric and community digital records
- Dr Luke Vos, Staff Specialist Physician

Mackay Hospital – implementing the digital hospital
- Helen Chalmers, Chief Executive
- Lyn Rafel, eHealth Nursing Director

Presenters

Michael Walsh, Director-General
Queensland Health

- Queensland Health's 10-year vision: By 2026 Queenslanders will be among the healthiest people in the world. eHealth is a critical part of achieving that goal.

- The digital health era is in its infancy – eHealth Queensland has been established to ensure demands, expectations and requirements of the digital age can be met.

- eHealth needs to become a customer-focused organisation with the customer's digital experience as the driver for change. It is not enough to just put a device in a person's hand – the experience the person wants must be created.

- Digital data and information must meet the needs of both the system and of clinicians – it must interact with us to provide the experience we want and it has to be available anywhere and all the time.

- We need to drive this change, rather than have it drive us.

Paul Madden, Deputy Secretary & Special Adviser
Strategic Health, Systems & Information Management, Commonwealth Department of Health

- Four million people are registered for My Health Record – an online clinical documentation system. Adoption and acceptance is growing.

- In excess of 35,000 shared health summaries are being created on My Health Record each week and clinicians are accessing more than 3,000 of those weekly.

- Into the future we need more than static document sharing, we need interoperability and 'interactions'. For example:
  - Interactive medications chart for clinicians in hospital, pharmacy, aged-care residence and GP
  - Replace current health appointment system of referral letter/fax with patients booking health appointments online as we would book a hotel.

- The unique health identifier – introduced in 2010 - is setting the country up well to move into the future.

- Transparency and openness of patient records is key to where we go in the future. If records are created with the knowledge that others (including the patient/consumer) may access them, quality and accuracy will improve.

> *'The next frontier has to be moving towards interactive models where we are sharing real time information with each other on the fly.'*
>
> Paul Madden, Deputy Secretary and Special Advisor
> **Commonwealth Department of Health**

Peter Burow, Executive Chairman
NeuroPower Group

- The challenge for organisations generally isn't coming up with the technology or the strategy; it's the adoption (behaviour change) that is difficult.

- Change programs often fail because leaders primarily take a rational approach rather than accounting for emotions; the assumption that people will do what's good for them; underestimate the amount of effort, time and resources needed to get the required outcome; underestimate the role of internal politics; we assume that one size fits all; and we build strategies around the organisational structure rather than motivation or aligned interests (informal networks).

- The performance of a health service links to the strength and the management of the informal networks organised according to lines of performance. For example, clinical excellence and safety.

- The clinical leader's role in leading the digital change is to:
  - Understand and embrace technology trends and work with your team to anticipate technology that can help deliver improved patient outcomes
  - Identify the pain points, inefficiencies and frustrations that you and the patient experience and be an active voice in looking at how technology can resolve the issues
  - The technology needs to stay in the service of the patient. Your job is to keep funders, tech-people and clinicians focused on enabling patient-centered care.

  Presentation https://www.health.qld.gov.au/publications/clinical-practice/engagement/qcs-pp-1608-burrow.pdf

Richard Ashby, Chief Executive
Metro South Hospital and Health Service

- The future is digital - digital disruption is inevitable.

- Digital disruption 'refers to changes enabled by digital technologies that occur at a pace and magnitude that disrupt an established way of value creation, social interactions, doing business, and more generally our thinking". (https://byresearch.wordpress.com)

- The digital hospital is much more than paperless medical records: it is a hospital service facility with highly connected, interactive digital information systems, which support precise, informed treatment of individual patients/clients while enabling optimally efficient use of infrastructure.

- Technology will allow us to move from a break/fix model of healthcare to a predict/prevent model.

Presentation: https://www.health.qld.gov.au/publications/clinical-practice/engagement/qcs-pp-1608-ashby.pdf

'Healthcare may be changing – we have adaptability in our genome, and have nothing to fear from disruption, digital or otherwise.'

Dr Richard Ashby, Chief Executive
Metro South Hospital and Health Service

Richard Royle, A/Chief Executive Officer
Australian Digital Health Agency

Key learnings from digital hospitals:

- Digital health must be treated as a change management project and not an IT implementation

- Success requires:
  - Strong and extensive clinical engagement and training
  - Strong, high visibility executive and clinical leadership
  - High capability project management, and an empowered, agile implementation team
  - Close working relationship with the system vendors and early delivery of infrastructure
  - Strong board support.

Presentation: https://www.health.qld.gov.au/publications/clinical-practice/engagement/qcs-pp-1608-royle-1.pdf

Christine Slade
Healthcare consumer

- Diagnosed with a chronic illness in 2004.

- Initial care was all face-to-face but since 2010, Christine's care has been a combination of face-to-face consultations and virtual consultations and interactions.

- Christine's digital healthcare involves direct access to her specialist via email and mobile phone (calls and SMS), giving her a sense of contributing to care, partnership, safety net, sharing control, enhanced care.

- Wish list – a patient portal that enables the patient to access their medical record, interact with the clinical team, share stories with other patients, book appointments, provide feedback.

Presentation: https://www.health.qld.gov.au/publications/clinical-practice/engagement/qcs-pp-1608-slade.pdf

Len Gray, Director
University of Queensland's CRE Centre for Online Health

- Telehealth activity is accelerating in Queensland allowing more rural patients to receive the same service expected in the city.

- Telemedicine makes it feasible to offer a specialist geriatric service in each of the 110 small rural hospitals in Queensland.

- Once infrastructure is in place, it opens the door to every form of telehealth such as orthopaedic surgeons providing follow up.

- The telehealth studio gives physicians tremendous tools at their disposal even down to sharing screens and showing the patient their house using Google Street View to discuss the patients home, step numbers etc. The older patients engage within five to 10 seconds.
- A study of reliability of online assessments found that there was no difference between in-person and online diagnoses of dementia, delirium and depression; recommendation for long-term care and rehabilitation; and location at three months post diagnosis.

Presentation: https://www.health.qld.gov.au/publications/clinical-practice/engagement/qcs-pp-1608-gray.pdf

David Hansen, Chief Executive Officer
The Australian e-Health Research Centre (AEHRC)

- Mobile health and home monitoring is the way of the future
- AEHRC worked with West Moreton Hospital and Health Service to implement a mobile phone enabled cardiac rehab program allowing patients to complete rehab remotely.
- The world's first clinically validated smartphone based randomized-controlled trial of the rehab program found an increase of 29 per cent uptake, 38 per cent adherence, 70 per cent completion, and clinically equivalent or better health outcomes.
- An AEHRC home monitoring technology pilot trial used sensors around the house and medical devices (blood pressure cuff that was blue-tooth enabled) to provide a predictive picture of the patient
  o In-home monitoring is effective for determining activities of daily living
  o The algorithms are subtle enough to detect potential impending stroke.
- The prevention of such incidents will depend on coordinated action between the monitoring system, the response service and the medical health team.

Presentation: https://www.health.qld.gov.au/publications/clinical-practice/engagement/qcs-pp-1608-hansen.pdf

Jennie O'Hare, Assistant Director of Pharmacy
Gold Coast Hospital and Health Service

- Pharmacy robotics is part of the strategic plan to support the workforce into the future.
- Dispensing robots implemented at Gold Coast University Hospital and Robina Hospital store and retrieve whole packs of medicines for inpatients, discharge and outpatients, and help to fill ward packs for imprest resupply.
- Benefits include:
  o better medication management
  o workforce redesign – gives pharmacists more time with patients, medical and

nursing staff
- o decreased wait time for patients
- o reduced inventory holding and stock discrepancies.

Presentation: https://www.health.qld.gov.au/publications/clinical-practice/engagement/qcs-pp-1608-ohare.pdf

Peter Soyer, Head, South-West Clinical Cluster
Deputy Head, School of Medicine, The University of Queensland (UQ)

- Research program studying targeted early detection of melanoma using a 3D Teledermatology Network – UQ second organisation in the world to have the technology.
- The vision is for a melanoma diagnoses in one click (image created in a millisecond).
- Aim is to have program embedded in the health service and ieMR.
- Program will optimise patient care, create an unprecedented resource and database for melanoma research and innovation.
- Why now? We are at a timely junction regarding developments in genomics, imaging technology and artificial intelligence.

Presentation: https://www.health.qld.gov.au/publications/clinical-practice/engagement/qcs-pp-1608-soyer.pdf

Nicola Ward, Orthopaedic Surgeon
Princess Alexandra Hospital (PAH)

- The PAH orthopaedic department has been using 3D printing technology to print complex fracture models since early 2016.
- First 3D printer-based research proposal approved to look at printing a mirror image of patient's un-fractured acetabulum to allow pelvic reconstruction plates to be contoured prior to surgery.
- Hypothesis is that it will decrease operating time and with it the complications associated with long surgical procedures.
- 3D printing is supporting consultants to train registrars who are now able to hold the 3D fracture model and identify dangers and challenges associated with each fracture fragment. This results in decreased risk of occupational exposure.

Nick Bowditch
Entrepreneur & thought leader in social media
Consumer driven digital healthcare of the future

- Healthcare professionals are possibly the last to come on board with digital health and they need to embrace it and be part of the solution – patients need this.
- Digital Health will enable clinicians to legitimately add to prevention and this needs to be the focus of the future.
- Digital health levels the playing field – it empowers the patient to be in charge of their own health care and gives clinicians the opportunity to create empowered human patients.

Industry contributors

Health industry partners will be critical in enabling clinicians and consumers to lead the digital revolution. Three key industry stakeholders were invited to present their work in the digital heath space.

Adrian Perillo, General Manager
Consumer Channels, Telstra Health
https://www.health.qld.gov.au/publications/clinical-practice/engagement/qcs-pp-1608-perillo.pdf

- 'Consumer demand, increasing costs, technology driving amazing innovation, and access to My Health Record - all these things coming together mean that the consumer really is going to move to the centre of their healthcare.'

Stan Goldstein, Senior Medical Officer, Health & Benefits Management/Health Insurance
BUPA
https://www.health.qld.gov.au/publications/clinical-practice/engagement/qcs-pp-1608-goldstein.pdf

- 'In the context of a health system designed to deliver largely episodic care, and designed to prioritise the management of acute health problems primarily, this is where most of the larger private health insurers have seen opportunities and have been working on ways to fill perceived gaps – potential improvement points.'

Piraveen Pirakalathanan, Chief Medical Officer
Health&
https://healthand.com/au/

- 'Digital health is more than a tool to capture and store health information – it is a scalable solution for behavioural change. Approximately 30 to 40 per cent of people act upon the advice that these health apps and websites present to them.'

Trade display exhibitors

- CeGA ONLINE – geriatric assessment system
- Children's Health Queensland – Tobii EyeGaze Technology, Oncology Family App
- Clinician Connect – an app for clinicians to accept/request shifts/work in real time
- Health& - online health portal
- Objective 3D – 3D printed anatomical models
- Osler Technology – cloud-based governance tool for clinical managers
- QUT Healthcare Robotics – robot to assist surgeons in minimally invasive orthopaedic surgery
- Telstra Health – Care Plan Connect platform and app for chronic care patients
- The Australian e-Health Research Centre – Mobile phone based cardiac rehab
- The Brainary – NAO the humanoid robot