DIGITAL HEALTH: Entertaining and Informing the Technically Literate in 22 Minutes or Less ....

Professor Chris Bain
MBBS, Master Info.Tech., PhD (Info. Sys.), MACS, AFCHSM, FACHI
Professor of Practice – Digital Health – FIT
Professor (Adjunct) – FMNHS
Digital Health Lead – Monash University
Acting Director – Monash University Health Data Platform

ANZICS ASM 2018 - Thursday 11/10/2018
OVERVIEW

• Brief insight into Digital Health (DH) at Monash University

• Brief review of current state of “health records” and technology in Australia (outside of the ICU !!)

• A view of some current and future realities in the DH space
DIGITAL HEALTH (DH) AT MONASH UNIVERSITY

• Top 2 University in Australia by size; part of Gr8
• Digital Health is a major focus area of the University

• Excellent integration into the healthcare delivery systems in Victoria
• An unmatched breadth of skills, support capabilities to apply to DH
  • 8 + faculties (IT, MNHS, Eng, Arts, MADA, Bus Eco, Pharmacy, Law etc)
  • Monash e-Research Centre – HDP +++
  • MIME, BWA, The Generator, Sensilab, VHH, other institutes
FIT core areas of high relevance

- Data science, ML, AI (and Optimisation ....see below)
- Cybersecurity
- Data management / IoT
- Software Engineering
- OSI ... IS, BI, Decision Support Systems
- Immersive analytics ... AR, VR
- HCI ... multi-modal interfaces, dialogue systems, BCI
- Optimisation .... Prof Mark Wallace, Prof Maria Garcia de la Banda (internationally recognized.... also spun out Opturion ......)
This is for a nurse-scheduler at hospital X to help her fill in a schedule for nurses in ICU (200 nurses over 14 days). Produces a roster analysis with

- "Roster Summary" - An overall summary of the roster analysis.
- "Staff KPIs" - an analysis for each nurse.
- "Staff Roster" - the online feedback from the roster highlighting fatigue constraint warnings (orange) and violations (red).
- "CRC Violations" - an explanation of each violation.
HEALTH RECORDS IN AUSTRALIA 1


1970 !!!!!!
HEALTH RECORDS IN AUSTRALIA 3

• SO WHERE ARE WE AT IN AUSTRALIA?
• GP computerisation is above 90 %

• But overall - successful technology “penetration” into healthcare in Australia is WILDLY VARIABLE ..... in a range of ways ..... 
  ➢ Uptake of accepted / known technologies – eg – EMRs
  ➢ HIMSS EMRAM L6 (0-7) – Aus – 3 hospitals
  ➢ Vs US – Q3 2017- 32.7% of n=5,480 (1792 hospitals !!!!)
  ➢ Acceptance of new technologies
  ➢ Footprint size and profile (often a $ issue)
  ➢ Relative maturity of different types of technologies (eg – SMR vs AI) ..... 
  but this is not unique to healthcare
Everyone on the Same Page

OpenNotes is the international movement that’s making health care more transparent. It urges doctors, nurses, therapists, and others to invite patients to read the notes they write to describe a visit. We call these opennotes.
PATIENT AND FAMILY ENGAGEMENT ....2

27,316,000

patients have online access to their notes.
Visit our MAP to see who’s sharing.
Watch our FILM to learn about the movement.
Tackling Ambulatory Safety Risks Through Patient Engagement: What 10,000 Patients and Families Say About Safety-Related Knowledge, Behaviors, and Attitudes After Reading Visit Notes

Birk, Sigall K., MD a; Folcarelli, Patricia, RN, PhD a; Fosse, Alan, MPH b; Gerard, Macda, BSN b; Harper, Marvin, MD b; Leveille, Suzanne, PhD, RN b; Moore, Caroline, MPH b; Sands, Kenneth E., MD, MPH b; Sarnoff, Lee, Barbara, LICSW b; Walker, Jan, RN, MBA a; Bourgeois, Fabienne, MD b

Journal of Patient Safety; April 27, 2018 - Volume Publish Ahead of Print - Issue - p
doi: 10.1097/PTS.0000000000000494

Get Content & Permissions

Share this article on:
Cerner's John Glaser: How to finally fix the EHR usability problem

Electronic Health Records (EHR, EMR)
The veteran executive proposes a multi-pronged approach to ending the tyranny of wasted time and effort created by today's technologies.

By John Glaser | August 09, 2017 | 11:09 AM
Efficiently manage your in-basket to provide better, more timely patient care.

**EHR In-Basket**

**Restructuring for Improved Efficiency**

James Jerzak, MD  
Bellin Health

Christine Simsly, MD, FACP  
American Medical Association

**CME CREDITS: 0.5**

**How will this module help me more effectively manage my in-basket?**

1. Details six STEPS to creating an optimal and orderly in-basket
2. Answers commonly asked questions about in-basket management
3. Provides tools to guide you and your team through the process

Share

- Download module as PDF
- Download module PowerPoint
PERSONALLY CONNECTED HEALTHCARE
The REHEARSE-AF Study at the ESC congress

- 2 groups x 500 older adults
- 1 year
- Routine care vs 2 x ECGs per week
- **4 times better at picking up AF**
NOVEL END USER DEVICES 2

About the SmartWatch Inspyre™ by Smart Monitor

When the SmartWatch Inspyre™ by Smart Monitor detects repetitive shaking motions, it signals the user’s device (either an iPhone or Android phone) to send text and phone call alerts to whomever the SmartWatch Inspyre™ user designates, such as multiple family members and care providers.

Within seconds, family members receive these alerts which include the date, time, location, and duration of the event. SmartWatch Inspyre™ users can also summon help with the push of a button. Alerts can be sent to any phone, anywhere, and detailed reports of each event can be securely accessed for later review with physicians.

Propeller – Sensor / App
ARTIFICIAL INTELLIGENCE FOR DIAGNOSIS

Introducing IDx-DR, your new partner in diabetes care

The first and only FDA authorized AI system for the autonomous detection of diabetic retinopathy

Learn More

IDx-DR is intended for use to automatically detect more than mild diabetic retinopathy (mtmDR) in adults ages 22 years of age or older diagnosed with diabetes who have not been previously diagnosed with diabetic retinopathy. IDx-DR is indicated for use with the Topcon NW400.
IMPROVED EDUCATION VEHICLES – FOR ALL
CHANGING CARE PARADIGMS

“Monitoring of the central blood pressure waveform via a conformal ultrasonic device” – published in Nature Biomedical Engineering – 11/9/2018 by Wang et al ...
So an exciting future that we MUST cautiously explore ...

THANK –YOU. ANY QUESTIONS ? ..... 

chris.a.bain@monash.edu

@monashdigital