Changing Perspectives on Creating An Innovation Culture

August 2017

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Who wants change?

Who wants to change?

Who wants to lead the change?
Blood-borne Innovation
Transformation - itis
Our Innovation Challenge...What do we know?

- Australia is very good at research, producing 3% of the world’s published medical research, 6\textsuperscript{th} in the world in number of papers per capita\cite{1} and top 10 in most other categories\cite{2}.

- Australia lacks behind in turning research into innovations: according to CSIRO Australia ranks 72\textsuperscript{nd} globally (out of 141) and 30\textsuperscript{th} out of 34 OECD countries in innovation output\cite{3}.

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1. [https://redd.it/20k5dk](https://redd.it/20k5dk), Top 40 countries by the number of scientific papers published. 2014.
Factors obstructing innovation are well described

1. Lack of entrepreneurial awareness & culture
2. Insufficient education in the delivery and implementation of new technologies
3. Lack of established academic career advancement routes outside research.
4. IP Policies across health systems, hospitals, research institutes and academia are not aligned

(Ostrovsky and Barnett 2014).
2 billion people will be aged 60 or more by 2050.

Over the same period the number of people aged 80 or more will quadruple to 400 million.

Chronic diseases are representing 63% of all annual deaths.
The Empowered Individual

- 80% of people looking for health information online start at a search engine
- Health related Google searches are up 47% from last year
- 90% of 18 – 24 year olds said they would trust health information shared by others on their social networks
- 90% of consumers are willing to share sensitive personal health information to providers if done anonymously
- 19% of smartphone owners have at least one health app on their phone

Source: Brian Hodgkinson
“People pay me to put steps on their Fitbits.”
Healthcare costs for the least-engaged patients are 21% higher than those for the most-engaged patients.

- **Least Engaged**: $966
- **Most Engaged**: $799

**Higher Costs**
- Poorer outcomes
  - Higher rates of medical errors
  - Less likely to follow healthcare professional’s advice

**Lower Costs**
- Better outcomes
  - Lower readmission rates
  - Higher survival rates
Digital Health’s Global Evolution: 2003 - 2025 (And Beyond)

**The Age of Learning**
What is It & Why Should We Care? 2003 - 2010

**The Age of Interest**
How Can We Seed Innovation? 2010 - 2018

**The Age of Implementation**
How Can We Do Digital Health Well? 2015 - 2025

**The Age of Scale**
How Can We Maximize Our Impact? 2025 & Beyond

**Note:** This is a rough timescale. Different regions, organizations and countries will be further ahead or behind in the evolutionary process. Progress also depends on the technology/innovations under consideration.

**Source:** Enspektos, LLC, 2015
Rock Health Q1 report: 71 deals totaling over $1 billion

Source: Rock Health Funding Database
Note: Only includes U.S. deals >$5M; data through June 30, 2017
POPULAR INVESTMENT CATEGORIES
Q1 2017 Top Six Categories by Deal Volume

11 Deals, $197.5M
Largest deal: MIAA ($90M)
ANALYTICS/BIG DATA
Data aggregation and/or analysis to support a wide range of healthcare use cases

7 Deals, $41.5M
Largest deal: pulsara ($11.3M)
CARE COORDINATION
Coordination and management of care for a patient, across providers or other caregivers

4 Deals, $36.2M
Largest deal: NetGain ($25M)
HOSPITAL ADMINISTRATION
Management and administration tools for hospitals

4 Deals, $30.7M
Largest deal: Hubble ($16.5M)
HEALTHCARE CONSUMER ENGAGEMENT
Consumer tools for the purchasing of healthcare services, products, or health insurance

6 Deals, $50.7M
Largest deal: Avizia ($18.1M)
TELEMEDICINE
Delivery of healthcare services (synchronous or asynchronous) through non-physical means (e.g. telephone, digital imaging, video)

4 Deals, $63.1M
Largest deal: AliveCor ($30M)
WEARABLES AND BIOSENSING
Wearable or accessory devices that detect specific biometrics and are designated for consumers

Source: Rock Health Funding Database
Note: Only includes U.S. deals >$5M, data through March 31, 2017
For the Q1 report, we are showcasing categories by # of deals in order to avoid over-representing categories with a single, large deal.
I think the biggest innovations of the 21st century will be at the intersection of biology and technology. A new era is beginning.
Exciting area for entrepreneurs.
Walgreens Finally Walked. Here's Why That's So Bad For Theranos

Matthew Herper, FORBES STAFF
I cover science and medicine, and believe this is biology's century.

Why Theranos CEO Elizabeth Holmes Should Be Banned

blood-testing startup that once aimed to disrupt the labor now is fighting for its survival.

From $4.5 Billion To Nothing: Forbes Revises Estimated Net Worth Of Theranos Founder Elizabeth Holmes

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This story appears in the June 21, 2016 issue of Forbes. Subscribe
Achieving Medical Innovation

Fuse Science Creativity
Bring left brain and right brain people together

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Innovation
Moving an idea to an invention
Proving value

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Innovation

noun in·no·va·tion

• The process of translating an idea or invention into a good or service that creates value or for which customers will pay.

• To be called an innovation, an idea must be replicable at an economical cost and must satisfy a specific need.

• Innovation involves deliberate application of information, imagination and initiative in deriving greater or different values from resources, and includes all processes by which new ideas are generated and converted into useful products.
Mount Sinai Innovation Partners (New York City)

NewYork-Presbyterian Hospitals' NYP Innovation Center

NorthShore University Health System’s Grainger Center for Simulation and Innovation (Evanston, Ill)

Penn Medicine Center for Health Care Innovation (Philadelphia)
At The Royal Melbourne Hospital things are changing...

WE ARE...CHANGING PERSPECTIVES
MELBOURNE HEALTH ACCELERATOR

CHANGING PERSPECTIVES

Foundation Partners:
Values


Strong values. Commitment. Communication.
MELBOURNE’S BIOMEDICAL PRECINCT
Pop-up Healthtech Accelerator Pilot
SPRING 2016 Pilot Program
Oct-Dec
Supporters & Collaborators
SPRING 2016 Pilot Program
Oct-Dec
Startup Cohort
EMR OPPORTUNITIES FOR STARTUPS
SPRING 2016 Pilot Program
Outcomes

Spring 2016 Cohort
• 2 Research collaborations signed
• Research grant applications
• ~30% continued work with RMH
• 1 Hospital deployment
• 4 Post-Pitch day VC meetings
• 5 jobs created
• 2 startups ‘paused’

Royal Melbourne Hospital
• Over 100 clinicians/researchers through program
• 2 Senior clinicians engaged
• ‘Buzz’ of program throughout staff
• Increase in ‘innovation inquiries’ by staff
• International trade delegations

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so
what's
next?
• Hospital membership organisation of health services around Australia & New Zealand
• Provide opportunities for health executives to learn how to achieve Best Practice
• Collect, analyse and publish information to identify ways to improve Operational Practices
• Promote interstate and international collaboration and networking amongst health organisations executives
• Conduct Innovation events in hospitals across Australia & New Zealand
22 MAY 2017

News Category: Events

Today, Special Minister of State, Gavin Jennings, joined health professionals and researchers at the RMH to announce grant funding of $450,000 towards the Melbourne Health Accelerator (MHx) program.

An Australian first, the MHx works with clinicians and researchers as they develop new technologies to tackle some of the most pressing and emerging challenges facing our healthcare system today.

The Accelerator also cultivates commercially viable answers to complex healthcare challenges, by connecting health professionals and leading medical research experts with health technology start-ups.

“Australia produces world class medical research, but we need to do more to realise the commercial and social benefit that flows from it, including better healthcare and new jobs,” Special Minister of State Gavin Jennings said.

“MHx will help fill that gap by putting all the key players together to boost patient outcomes and create jobs.”

In 2016, the Royal Melbourne Hospital established a pilot MHx that involved around 40 hospital staff and 15 health technology startups.

Melbourne Health, Chief Executive, Professor Christine Kilpatrick said there were endless opportunities for innovation at the hospital.
Winter 2017 Program

Ministerial Launch
Winter 2017 Program
June-Aug

Startup Cohort
Clinician/Researcher Engagement
Rapid Prototyping Capabilities
Collaboration
Community
MHx SONARS

- Early – mid career clinicians & researchers
- Cross disciplinary group
- Education, Learning and communication forum
- New technology & clinical practice advocates
- ‘Listeners’ for innovation opportunities
What’s Next...
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THANK YOU

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