James talks to Professor Tim Shaw about eHealth, the challenges of implementing technologies into the health system and how junior doctors can get involved in technology and healthcare.

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About Tim Shaw

Tim Shaw is the inaugural Professor of eHealth and Director of Research in Implementation Science and eHealth Group (RISe) in the Faculty of Health Sciences at the University of Sydney. He is an internationally recognised leader in the impact of technology on healthcare and translation of evidence into practice and policy.

He leads implementation science across two Translational Cancer Research Centres, which combines the full spectrum of his translational research experience from basic research through to application of evidence into practice.

Tim began his career as a biomedical research scientist. He then took non-academic leadership roles in developing a number of substantial professional health education and quality improvement programs in Australia and internationally, ultimately setting up the successful Centre for Innovation in Professional Health Education and Research at the University of Sydney. He spent 12 months as an invited Visiting Professor at Harvard Medical School (2008–09), before becoming the Director, Workforce Education and Development Group, Sydney Medical School, University of Sydney (2009-2014).

Technology and Healthcare

With Professor Tim Shaw, Professor of eHealth at the University of Sydney, New South Wales, Australia

1. Tell us about your career and your current role as Professor of eHealth

- Professor Shaw was involved in the digitisation of the Wilson Museum of Anatomy as a PhD student and has also created online resources for the Royal Australasian College of Surgeons
- His current role is more substantive and aims to guide the University of Sydney in eHealth across research, education, and practice
- eHealth involves collaborating with colleagues in other departments, such as information technology and engineering
2. How do you define eHealth?

- Three main domains
  - Health enhancing consumers: the use of apps and devices
  - “Telehealth”: transforming the way healthcare providers and consumers interact and communicate
  - Data storage and management: how do we incorporate data into our practice?
- These three domains overlap and influence each other

3. What are your main research interests currently?

- Oncology: how do we develop better rehabilitation programs for oncology patients?
- Data: how do we make health data meaningful for clinicians?
  - We are at the beginning of a new Reformation – much of our data is inaccessible currently, and in the future, it will be much more accessible

4. Many other industries have embraced technological advances. What are some of the challenges to implementing technologies in the health system?

- As a result of real and perceived challenges, healthcare systems have been resistant to changes in technology compared to other industries
- Privacy is a concern: most organisations outside of healthcare are interested in sharing information, and in healthcare we are concerned with preventing the dissemination of private information
- Healthcare is complex: relationships between lots of different systems
- Devices: devices designed for health are often designed to get the best possible healthcare outcome, rather than maximum usability. As a result, many junior doctors complain the devices at work are less advanced than those they use at home

5. Does Australia have particular challenges in eHealth?
Complexity of our system: State and Federal Governments, primary care and hospital care with different government funding, lack of coordination between specialist services. New organisations are being created to address these issues, such as the Australian Digital Health Agency. This agency is responsible for MyHealthRecord: the challenge is to drive change in the way care is delivered, rather than creating “filing cabinet in the sky”.

6. How can junior doctors get involved in eHealth?

- It’s vital that junior doctors get involved in eHealth
- Consider how you can incorporate technology into your healthcare delivery
- Consider a Masters of Innovation in Health Technology
- Many doctors are looking for something different, and this is an area where you can really make a difference

7. Challenges with technology

- Healthcare is littered with poor implementations of technology
- It is easy to complain about technology. It’s important to give feedback and recognise ways to influence change

8. What is the “blue sky” of digital medicine?

- Fixing basic issues, such as the accessibility of information between hospitals: this will hopefully be fixed within five years
- Personalised health care
  - Using analytics to help prognosticate, for example in oncology
  - Genomics
- Enhancing collaboration and empowering patients with a shared care model: we still use faxes to communicate between acute care and primary care currently! Technology will enable patient empowerment
9. Should junior doctors be worried about technology making them redundant?

- Technology cannot replace healthcare workers, however, it may replace healthcare workers who do not engage with it
- It has the capacity to change people’s roles: ideally, technology will liberate doctors and allow them to use their time more efficiently

Take home messages

- Get involved, be active in this process
- If you see areas for change, give feedback
- Consider specialising in this area: we need young doctors in this field
- Consider how you will incorporate technology (apps, devices) into your care

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