Title:

PUBLIC FILE: AI in Healthcare Workshop – 11 April 2024

Author:

OPMCSA

AI in Healthcare Workshop – 11 April 2024

Chaired by Dr Ian Town (Chief Science Advisor), Ministry of Health

Background

The Office of the Prime Minister's Chief Science Advisor (OPMCSA) released the report *Capturing the benefits of AI in healthcare for Aotearoa New Zealand* on the 15th of December 2023.[*]

The report outlined a set of principles for the use of AI in healthcare and made 22 recommendations grouped into eight themes.

The OPMCSA, supported by the Ministry of Health, convened a workshop to present the report to interested stakeholders.

The workshop was grouped around five out of eight themes based on the recommendations in the report. The themes were governance, regulation, landscape, research, and industry. Experts in their field discussed each theme to identify next steps for the deployment of AI in healthcare in a New Zealand setting.

This document, drafted by participants from the Ministry of Health, provides a summary of the key points of discussion from each group.

Governance – key points

- A governance framework for AI in health is essential. The current informal governance framework for the use of AI in healthcare has not delivered equitable outcomes for some groups in society, including those identified as priority groups within the Pae Ora framework.
- Addressing opportunities for Māori will not only improve equity and be consistent with Treaty obligations, but it will also enable the development of specific equity strategies which can benefit multiple populations.
- The existing technology divide between different groups (for examples ethic groups), which is likely to increase in an environment in which AI technology is unregulated, may add to inequities.
- It is important to ensure that bias within models and within data is explicitly managed through governance structures. A robust system of data collection and sharing has been a continued deficiency in healthcare for some time and will become a significant barrier to the successful realisation of the opportunities of AI in Healthcare.
- Governance structures require coordination from multiple stakeholders and cannot be implemented through the Public Health Sector alone, as critical sections of the healthcare system (private healthcare, primary care, and medical devices) are not subject to regulation (by government organisations).

Summary
- The current governance of healthcare is poorly equipped to manage technologies using AI, from a Treaty, equity, data, and monitoring perspective.
- Governance must extend beyond the public health care system.
- Governance structures must be developed in conjunction with regulation (see *Regulation section*).

---

[*] https://www.pmcsa.ac.nz/artificial-intelligence-2/ai-in-healthcare/

Regulation – key points

- Technology cannot be effectively regulated per se. Technology-neutral regulation is likely to be more effective. The uses of technology, or the products in which the technology is used, can (and should) be regulated.
- The purpose of risk-based regulation is to ensure safety and equity and to maintain trust.
- Medical technology is poorly regulated with an emphasis on individual health practitioner responsibility rather than product regulation. This is in contrast to pharmaceutical regulation which is much more formal for registered health professionals.
- Regulation does not need to include statutory change, but a number of existing acts require review to assess their suitability to manage AI-enabled products to ensure that those products promote the values and principles of AI in healthcare:
  - The Privacy Act 2020.
  - Health Practitioners Competency Assurance Act 2003.
  - New Zealand Public health and Disability Act 2000.
  - Therapeutic Products Act.
  - Medicines Act 1981 to a limited extent.
- The amount/degree of regulation should reflect the context in which an AI-enabled product is used, with the highest risk applications being the most tightly regulated to ensure safety. However, currently public health organisations have been instructed not to use a wide range of AI-enabled technology at this time, even for some back office/administrative functions, on the basis that it is not clear that individuals' data is secure.
- Is the public Healthcare sector being too risk-averse regarding AI tools?
- The field of AI is changing very quickly and too uncertain to identify all potential risks. Therefore, effective monitoring, evaluation, and the willingness to be pragmatic and flexible is required.

Summary

- Regulation of AI products and services (like a Pharmac Model) is more applicable to AI-technologies than attempts to regulate technologies themselves.
- Ongoing monitoring and evaluation is necessary to ensure safety and must be built into a regulatory model.
- Identification of high and low risk applications requires ongoing analysis of the AI Landscape. Regulation proportionate to risk will not stifle innovation.

Landscape – key points

- The rapidly changing landscape of AI in healthcare requires the development of expertise and networks to manage the risks and opportunities. The National AI and Algorithm Expert Advisory Group (NAIAEAG) currently fills this role within Health New Zealand, but would need to become more integrated into the overall health system to fulfil this function more broadly across the health sector.
- Horizon Scanning functions have been established within the Ministry of Health and Health New Zealand.
- Adoption of some AI-driven products, especially those which improve efficiency of administrative tasks such as Nabla Copilot[†] have been extensively employed by some sectors

---

[†] https://www.nabla.com/

of healthcare. This does not include the Public Health System which has not authorised the use of Large Language Models for clinical consultations or the generations of reports.

- Why is the risk appetite for using AI-enabled technologies different in Private and Primary healthcare compared to public hospitals?
- Need for proactive public engagement to build trust.
- The primary clinical area in which AI technologies are being used currently is Radiology. Remote patient monitoring is coming online and robotics is increasingly being enhanced with other AI tools.

For AI technology to be widely adopted within the Healthcare sector, improved communications regarding the benefits and risks of AI services is required. This issue loops back to the first point regarding monitoring the landscape, which is a necessary first step before accurate and up to date comms can be developed.

Summary

- Maintaining oversight of the landscape is difficult due to the widespread application of AI and the rapidly changing landscape.
- Health New Zealand and the Ministry of health have some oversight and fore-sighting activities underway but they need to be better integrated across the health system.
- Greater adoption of AI across the system will involve building trust with patients and managers – particularly across the public health system.

Research – key points

- AI is being utilised in a wide range of contexts. These can be classified in many different ways including:
  – Location: GP, hospital, remote health, public health, or clinical research.
  – Patient facing or administrative.
  – By the type of system such as: classification system (diagnostics); prediction systems (either clinical or administrative), optimisation, or communications.
  – By specific use case, for example drug design, record keeping, knowledge capture, patient engagement (and others).
- AI researchers have a role in evaluation (which is a key element of implementation).
  – Classification and prediction systems can readily be evaluated. There are well-established evaluation protocols. But there are research questions about how these evaluations can best be disseminated, to medical professionals and to the public.
  – The question of how to evaluate generative AI systems is much more open, and is a research topic in its own right.
  – Evaluation should extend to constant monitoring in-use, rather than just pre-deployment.
  – Evaluation should cover quantitative performance, but also value-for-money, cost/benefit analyses.
  – Public evaluations should be carefully designed to inform, not to incite mistrust.
- An AI Centre of Excellence, which could be a virtual centre, would be an effective mechanism to manage AI in healthcare research by:
  – Developing a national research strategy.
  – Assembling data/datasets.
  – Concentrating compute power.
  – Coordinating expertise.

- Running large pilot projects.
- The centre could be an 'innovation hub' - a concentration of startups/incubator projects.
- The centre could operate on a 'bring us your problems and we'll fix them' model – (used quite effectively in the UK's Turing Institute).
- Adequate funding for AI research is an obvious enabler. The New Zealand research funding model is not agile and not clearly directed towards either key health goals or to commercial deployment.
- Data access and data quality is a current constraint, but could become an enabler to excellent research opportunities, especially with better collaboration between researchers, possibly mediated through a centre of excellence.

Summary

- High quality and accessible data is an absolute pre-requisite for realising the potential from AI-technologies
- Research funding models are currently not sufficiently agile or focussed for AI-technology research.
- An AI Centre of Excellence could provide a focus for research and could be developed as a virtual centre relatively quickly and inexpensively.

Industry – key points

- There is a huge array of applications being developed and marketed. Those that show promise have been introduced, for example Nabla Copilot[‡]. However, our understanding of the range of applications which can be improved using AI technologies remains limited and unfocussed, which is likely to result in haphazard technological development.
- The scope of new AI-enabled applications identified were similar to those reported in *Landscape section*.
- New applications are directed towards supporting healthcare professionals (primarily medical professionals) in their clinical and administrative tasks. There is no evidence yet of professionals being replaced by AI. The support could be in quality control, the identification of 'at risk subgroups' or administrative tasks such as reporting, summarising consultations, and providing information for patients/clients.
Both industry and Government need to play a role in the monitoring of AI technologies. It is not yet clear if the existing structures that educate or train the health workforce are sufficient for AI-enabled applications.

Summary

- AI applications in healthcare are being widely used in private and public sectors including both clinical and back office applications. Considering the number of new applications available, the uptake of AI-enabled applications and products is likely to rapidly increase.
- The AI-technology landscape requires incentives and opportunities for Industry to engage with Government in a positive and constructive manner.

[‡] https://www.nabla.com/

Workshop conclusions

The range of information and scope of advice from the five groups was substantial. A synthesis of the information combined from all five groups has identified three immediately implementable actions:

1. A cross agency work program, which is underway, should include a regulatory framework that enables the implementation of regulations based on the principles of healthcare in a New Zealand context.

2. Implementation of a joint work programme between Health New Zealand and the Ministry of Health will require substantial and ongoing collaboration between these organisations. Initially, existing work programmes such as the Precision Health Initiative and NAIAEAG established by Health New Zealand are well placed to undertake the development phase of a work program.

3. Discussions with the university sector on establishing of an AI Centre of Excellence as an inclusive virtual network.