



Office of the Prime Minister's Chief Science Advisor
Kaitohutohu Mātanga Pūtaiao Matua ki te Pirimia

Terms of Reference (ToR)

Artificial Intelligence – Challenges and Opportunities

Topic 1: healthcare delivery

“The benefits for human society are likely to be immense. AI doctors could provide far better and cheaper healthcare for billions of people, particularly for those who currently receive no healthcare at all. Thanks to learning algorithms and biometric sensors, a poor villager in an undeveloped country might come to enjoy far better healthcare via her smartphone than the richest person in the world gets today from the most advanced urban hospital”

Yuval Harari, 21 Lessons for the 21st Century, 2018

Background

Artificial Intelligence (AI) will have far-reaching and long fore-shadowed impacts on our lives which are starting to be realised at pace. This project will tackle the implications of this rapidly evolving technology with a focus on the opportunities it creates to satisfy unmet needs, in the context of the challenges it poses. We will do this in a series of projects focussing on specific domains, starting with healthcare. AI can assist humans to complete tasks or replace the need for human participation altogether by doing tasks far more efficiently and effectively. The impacts are unlikely to be felt evenly. For example, some have argued that more roles currently undertaken by doctors will be disrupted by AI than those undertaken by nurses.

The list of areas within healthcare that are likely to be enhanced or disrupted by AI include: data collection, use and management; individual access to and analysis of biometric data (e.g. from smart watches); imaging and diagnostics; visual and hearing aids; research, teaching and training; all of which raise complex ethical and legal issues. We propose to take an opportunities focus, mindful of the challenges in areas such as the workforce and medical ethics.

The report will consider the use of AI tools to support healthcare delivery in light of our unique Aotearoa New Zealand context. This will include developing an understanding of our current healthcare delivery context and obligations under Te Tiriti o Waitangi.

Proposed Scope

We will focus on the opportunities and challenges at the intersection of artificial intelligence and healthcare delivery, with two objectives:

1. Complete a scan of expertise in New Zealand, to include researchers, businesses, consumers and stakeholders with expertise across disciplines (e.g. computer science, pattern recognition, philosophy, psychology, medical imaging, healthcare innovation and IT, science and society, data oversight and data sovereignty issues, particularly for Māori, and ethics).

2. Do a deep dive into the opportunities afforded and challenges posed in the healthcare domain, delivering a short report ahead of the election which includes recommendations for government. Some consideration of how current systems and enablers may need to adapt to maximise the benefits of these new technologies will be included, in consultation with the Manatū Hauora|Ministry of Health (via CSA Dr Ian Town) and with additional input from MBIE. The demarcation between AI-assisted healthcare and “regular healthcare” is not clear cut and it will be important to understand where existing regulatory frameworks can and can’t operate, before complicating the landscape with new regulatory frameworks.

Out of scope

- Macroeconomic implications of AI
- Existential threats and civilisation level impacts of AI
- The intersection of Mātauranga Māori and AI

Process

- Expert panel and wider reference group assembled to guide the Office of the Prime Minister’s Chief Science Advisor in delivering the objectives.
- The membership of the panel and wider reference group will be public and processes open.
- Wide stakeholder engagement will be included with an open reference group process.
- The healthcare report will be delivered to the Prime Minister and later made public on the PMCSA website.

Draft timeline of activities

Panel established – *June 2023*

Draft Terms of Reference finalised with Panel members – *July 2023*

Research and engagement on AI in healthcare delivery, with monthly updates to PM – *June – August*

Delivery of short report to PM – *September 2023*

Research contacts

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