

A man in a white lab coat with a stethoscope around his neck is looking down at a laptop. He has a beard and is resting his chin on his hand. The background is a blurred office setting with large windows.

Algorithm Governance for the New Zealand Algorithm Hub

Kevin Ross
CEO

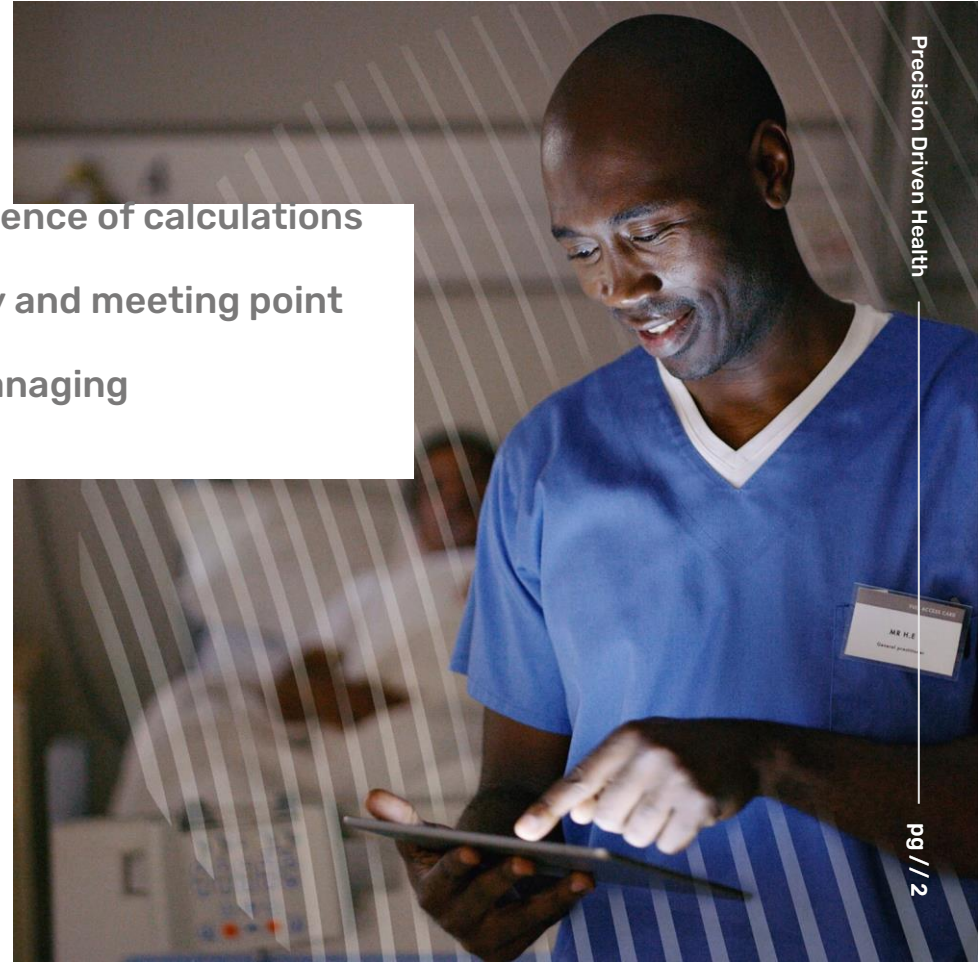
Today

1. Principles
2. Experiences
3. Resources

Algorithm = **sequence of calculations**

Hub = **repository and meeting point**

Governance = **Managing accountability**



The role of governance for algorithms

- Different questions required based on content
- We need different types of monitoring for algorithms in development or deployment

1

(how) Should an algorithm be developed?

2

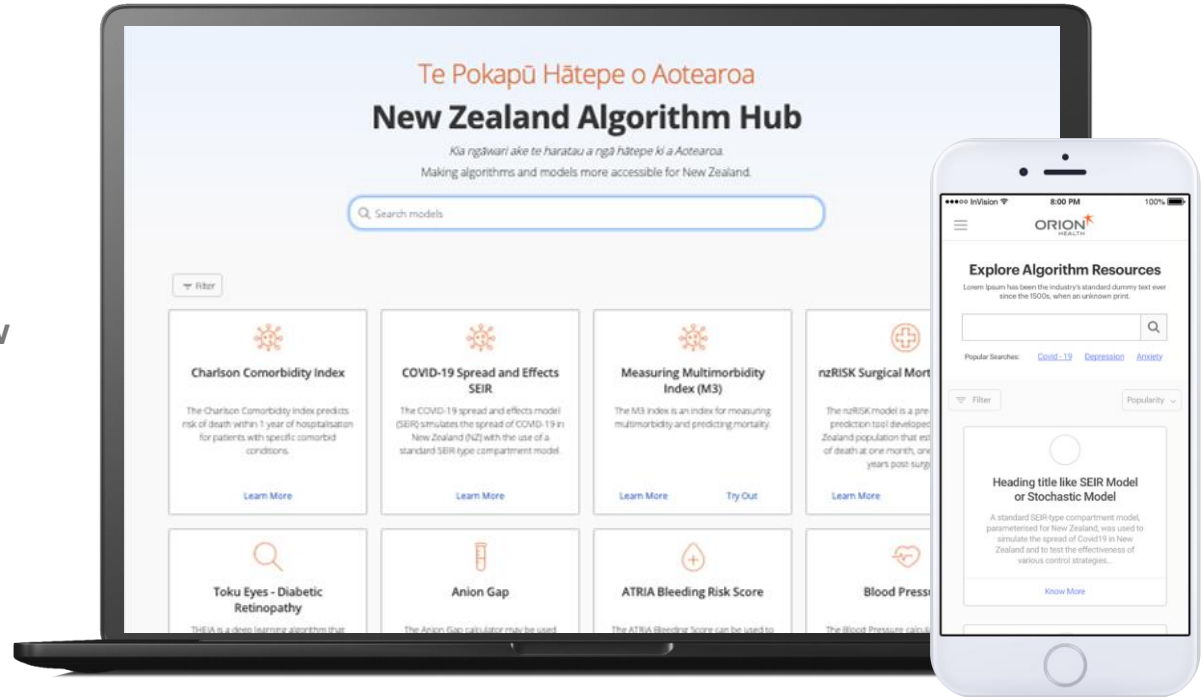
(how) Should an existing algorithm be tested?

3

(how) Should an existing algorithm be used?

New Zealand Algorithm Hub

- National algorithm management solution providing a central repository of models and algorithms.
- Originally launched for COVID-19, the Hub now has 30 tools deployed.
- Provides three interaction channels - website, REST API and SFTP.

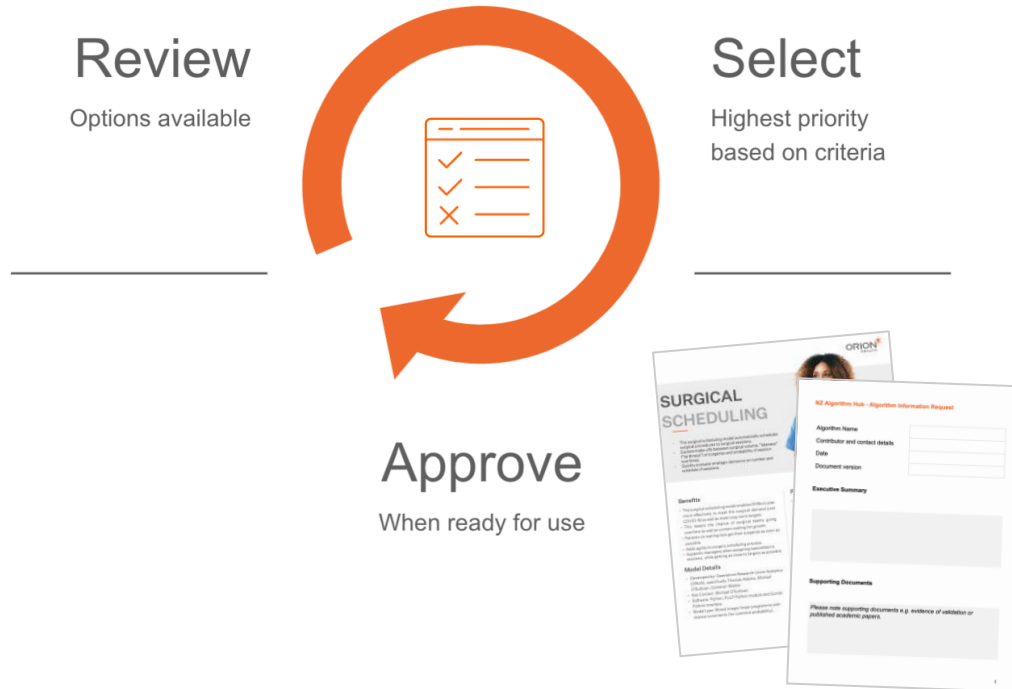




Why do we need algorithm governance?

- Health is high trust
- Decisions made in real time that aren't understood by humans
- Algorithms are part of a clinician's toolkit
- Benefits must outweigh risks

Algorithm Hub governance process



Algorithm Hub governance team



Kevin Ross
Chair



Frith Tweedie
Legal, Privacy



Tim Dare
Ethics



Gill Dobbie
Data Science



Daniel Wilson
Māori Interests



Juliet Rumball-Smith
Public Health



Alex Kazemi
Clinical Practice



Vince Galvin
All of Govt



Judy Blakey
Consumer



Algorithm information request

- Clarity on context/setting and expectations of users
- Timely provision of care vs. rationing of care
- Who is empowered by this algorithm?
- Should not be 'standalone' or replace decision-making processes
- Localisation to Aotearoa New Zealand, including Māori perspectives and impact
- Potential unintended impacts on equity
- How to communicate risk where it is poorly understood
- Comparing algorithm use with the status quo



Aotearoa New Zealand: A Māori perspective

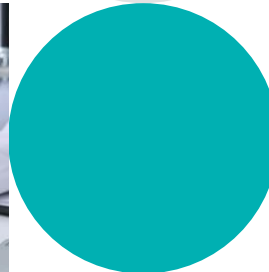
Specific consideration was given to the perspectives of Māori as tangata whenua

- Indigenising algorithms
- High degree of control by Māori
- Systems must perform well for Māori
- At least an equivalent capacity to benefit
- Māori data sovereignty
- Community engagement
- Differential accuracy
- Proportional benefit



Operational considerations

- Can/should clinicians validate outputs?
- Is consent required to use?
- Is the logic transparent?
- How could the algorithm be used for unintended purposes?
- Internal validity
- External validity (generalisability) proved more difficult to examine in a new location
- Derivation or training of models from datasets that exclude marginalised or socio-economically disadvantaged communities





**Who would be
empowered by the
use of this algorithm,
and how?**

Resources



Hub documentation

algorithmhub.co.nz



Publications

Forthcoming special
issue in **Journal of the
Royal Society Te
Apārangi of New
Zealand**



Broader

**Algorithm charter for
Aotearoa New Zealand**

