

## NZ Algorithm Hub - Algorithm Information Request

This document forms part of the information submission to the NZ Algorithm Hub Governance Group. Please include reference to supporting evidence throughout such as published academic papers, ethics approvals and relevant contracts. You'll note that some sections include italicised guidance notes for answering and our Hub team are available to help with completion of this document.

Algorithm Name

Contributor and contact details

Date

Document version

Template v1.3, July 2020

### Executive Summary

- *Describe the algorithm*
- *What is the status quo including current health inequities, inefficiencies, harm and risk?*
- *What are the benefits of using this algorithm?*
- *What is the COVID-19 impact this algorithm addresses and how does it support the response efforts?*

### Supporting Documents

- *Reference publications and supporting documents*

## 1. Model purpose, description and intended use

1.1. What is the rationale for this model?

1.2. What current practice does this model support or replace?

- *Quantify features of current practice where possible*

1.3. Who are the intended end users? Please name an example and describe how this adds value to their role.

1.4. What are the inputs and outputs of the model?

- *Clearly describe the inputs and outputs*
- *Where will data be sourced from?*
- *What do users have to supply to run the model?*

1.5. Who developed this model, where and when?

### Additional questions

1.6. Describe, and quantify where possible, the benefits of this model to New Zealand.

- *Improved care quality*
- *Health equity*
- *Safety*
- *Efficiency*

- *Improved patient experience*
- *Empowering patients/citizens*
- *Other benefits*

1.7. Is data pre-processing and post-processing required?

1.8. Will this still be relevant beyond the immediate COVID-19 crisis (or is a short term solution more appropriate)?

1.9. What version of the model is proposed to be used?

## 2. Model development

2.1. Describe the methodology used and provide evidence that it was appropriate

- *What is the method?*
- *Evidence this is appropriate?*
- *Reference publications etc.*

2.2. What data was used to develop and test this model and is this appropriate for the intended use?

- *Dates*
- *Sites*
- *Inclusion and exclusion criteria*

2.3. How are model accuracy and performance measured, and what has been achieved?

### Additional questions

2.4. What performance should be expected for the intended use of this model in New Zealand?

## 3. Model deployment and management

3.1. How do you anticipate the model being deployed and used?

- *Describe users and use-cases*

3.2. What is the proposed approach to monitoring, maintaining and updating the model?

3.3. Who is responsible for model performance, and making updates?

3.4. How should/will use of the model be monitored?

- *Algorithm Hub logs API calls*
- *Should individual users take responsibility for monitoring the use and impacts of the model within their organisation?*

### **Additional questions**

3.5. How will user feedback be incorporated?

3.6. How will the results, including accuracy, be explained to users?

3.7. What training and user documentation will be provided?

3.8. Are specific user groups to be provided with supplemental support?

## 4. Māori impact

- 4.1. What are the relevant Māori considerations for the development and use of this model, and how have/are these being addressed? Consider specifically how this work can uphold the principles of Te Tiriti o Waitangi with reference to *participation*, *protection* and *partnership*.

- 4.2. Describe how appropriate decision making and community engagement has taken place.

## 5. Equity

- 5.1. Does the model explore, or is it able to detect, differences in outcome by population subgroup e.g. ethnicity, gender, age? Please include a specific Maori lens in your response.

- 5.2. Has the algorithm been tested for differential accuracy or validity by population subgroups e.g. ethnicity? (Comment with respect to factors such as goodness of fit, performance metrics, treatment of missing data). Please include a specific Maori lens in your response.

- 5.3. Is there a potential for disproportionate benefit or disproportionate harm to one group or another in applying or interpreting the results? How do you propose to mitigate this? Please include a specific Maori lens in your response.

## 6. Legal and risk

- 6.1. What are the relevant IP rights in the algorithm and who owns them?  
Please provide any appropriate evidence (e.g. contracts)

- 6.2. Was the model/algorithm trained using any personal information, and was appropriate consent granted?

- 6.3. Will the algorithm collect and process any personal information (i.e. information that could identify an individual)?

- 6.4. Is there evidence of social license for this algorithm and the proposed use?

### Additional questions

- 6.5. What permissions, if any, are in place to permit publication and use by others of the algorithm? Please provide any appropriate evidence (e.g. licence terms)

6.6. If the algorithm contributor does not own the IP, do we have appropriate rights to use the algorithm?

6.7. Does the algorithm utilise open source software or code? If so, is that software subject to permissive or restrictive licence terms? Please provide details of relevant licence terms.

6.8. Are there any privacy risks related to use of this algorithm?



## 7. Ethical considerations

7.1. Please discuss ethical considerations (including the potential for harm) related to the development, use or mis-use of this algorithm. Please include reference to the potential for harm by using this algorithm vs. the status quo.

- *Describe factors such as harm, autonomy and informed consent, rationing of care, bias and fairness, opacity of decision systems,*

7.2. Describe the potential unintended consequences you have identified that could result from use of this model. How will these be mitigated?

- *Consider implementation realities, human-model interaction, risk of adversarial attack or manipulation, financial or other incentives*

### Additional questions

7.3. Where applicable, what consents have you obtained from individuals whose information might be used for model training and development? What form did those take? Please provide details.

## Appendix