

Precision Driven Health  
181 Grafton Road  
Auckland 1010

Future Pathways Policy Team  
Ministry of Business, Innovation & Employment PO Box 1473  
Wellington 6140

16 March 2022

Re: Response to Te Ara Paerangi Future Pathways Green Paper

Dear Ministry for Business, Innovation and Employment,

As a research partnership focused on data science in healthcare, Precision Driven Health (PDH) welcomes the opportunity to contribute to the discussion of Te Ara Paerangi Future Pathways Green Paper.

You state that your goal is to start a wide-ranging and open conversation about how to achieve the vision of a modern, future-focussed research system for Aotearoa New Zealand. We also note the following:

*We are not planning changes to business-facing RSI programmes as part of this work (such as the R&D Tax Incentive) so they can be considered as out of scope. However, we are interested in improving connectivity between businesses and other users of knowledge generated by our public research institutions, and the channels of knowledge exchange and transfer between research institutions, businesses and others to achieve greater impact.*

PDH is a partnership formed between the University of Auckland, Waitematā DHB, and Orion Health, and involving a wide range of other organisations. Having received funding through the (now-closed) MBIE Partnership programme, we will focus our discussion here on the improved connectivity and knowledge exchange that you describe above. In some ways we are a microcosm of the New Zealand research landscape, aiming to produce advances in research that lead to health practice changes and commercialisation.

We note that one of the weaknesses in the New Zealand technology sector is a clear pathway between research and practice, so it is extremely important that these are addressed. In general, our country lacks industry-funded research activities and has a very limited number of globally-successful companies who derive their competitive advantage from our research capabilities. Closing the partnership programme and providing such a limited scope for RDTI are likely to make this situation worse.

We experience the limitation of the research-to-practice pathway in the health sector, where there is opportunity to advance clinical technology and practice, as well as commercialisation potential. Both appear to be hampered by a lack of clearly-defined priorities and little advantage given to New Zealand innovators. It is often observed that New Zealand companies have to go offshore to prove their value before they can implement their innovative products and ideas in New Zealand.

A stronger link between entities such as the Health Research Council, Te Tītiki Mataora MedTech Research Translator, the Healthtech Activator, Pharmac, Precision Driven Health, NZ Health IT, Health Informatics New Zealand and the reforms in the Health System could create a truly leading ecosystem with equitable health outcomes at the centre. COVID-19 has led to examples of a successful relationship between science and health practice, which could be world-leading in future years. These examples include the disease spread modelling work led by Te Pūnaha Matatini, the testing and surveillance work by ESR.

We respond briefly to some of the relevant questions in the remainder of this submission.

## **NGA WHAKAAROTAU RANGAHAU RESEARCH PRIORITIES**

- 1. What principles could be used to determine the scope and focus of research priorities?**
- 2. What principles should guide a national research priority-setting process and how can the process best give effect to Te Tiriti?**

### **3. How should the strategy for each research priority be set and how do we operationalise them?**

New Zealand is small and geographically remote, and we need to acknowledge this in priority setting. It would appear advantageous to focus more specifically on a problem or technology, rather than on an entire field. Some principles that guide the selection of priorities would include (1) building upon our strengths, (2) areas where we have a natural or sustained advantage and (3) areas where we have a specific societal need. Some examples that come to mind are environmental and agricultural sustainability, Māori and indigenous knowledge, health/bio technology, and digital technologies.

## **TE TIRITI, MATAURANGA MA'ORI ME NGA WAWATA O TE MA'ORI TE TIRITI, MATAURANGA MA'ORI, AND SUPPORTING MA'ORI ASPIRATIONS**

- 4. How would you like to be engaged throughout the Future Pathways programme?**
- 5. What are your thoughts on how to enable and protect mātauranga Māori in the research system?**
- 6. What are your thoughts on regionally based Māori knowledge hubs**

Māori leadership is critical to successful science models. In the health sector, the formation of the Māori Health Authority presents an excellent opportunity to reset the relationship between different parts of the sector. Regional Māori knowledge hubs appear to be a worthwhile model, as long as we don't end up with small groups of people being asked to provide for all. This happens today, where excellent individuals or groups are constantly asked to contribute to every discussion. We must provide sustainable support for Māori as well as following the leadership provided by Māori.

## **TE TUKU PUTEA FUNDING**

- 7. How should we determine what constitutes a core function and how do we fund them?**
- 8. Do you think a base grant funding model will improve stability and resilience for organisations? How should we go about designing and implementing such a funding model?**

The current overhead-based system creates a major barrier to engagement between research institutions (Universities or CRIs) and the commercial sector. It is frequently more cost-effective to try to attract researchers away from their institution than it is to engage them where they are. Someone might easily offer a postdoc a 50% pay increase to join a company rather than pay 115% in overhead. This dynamic does not incentivize research excellence, good relationships or long-term resilience.

New Zealand cannot afford to have multiple competing centres in the same fields, so some stability to the funding model for institutions and individuals would seem to be critical to sustaining excellence. With a limited pool and capacity, the risk of losing key capability will always exist so we must ensure that the environment remains attractive.

## **NGA HINONGA INSTITUTIONS**

- 9. How do we design collaborative, adaptive and agile research institutions that will serve our current and future needs?**
- 10. How can institutions be designed to better support capability, skills and workforce development?**
- 11. How should we make decisions on large property and capital investments under a more coordinated approach?**
- 12. How do we design Te Tiriti enabled institutions?**

**13. How do we better support knowledge exchange and impact generation? What should be the role of research institutions in transferring knowledge into operational environments and technologies?**

We appreciate that the Green Paper seeks input on all aspects of the New Zealand research environment including questions around how large property and capital investments may be made. These are outside the scope of our partnership experience.

Future NZ research institutions must work together with industry more closely to see the benefits of research come to light. Co-location and alignment of priorities would appear to be important enablers of a more successful research system. The discussion of Medtech-iQ, a medtech innovation hub near the University of Auckland and Auckland City Hospital is one proposal with high potential. This is a national initiative to collect and showcase New Zealand's activities in research, training and commercialisation, with opportunities to co-locate.

**TE HUNGA MAHI RANGAHAU  
WORKFORCE**

**14. How should we include workforce considerations in the design of research Priorities?**

**15. What impact would a base grant have on the research workforce?**

**16. How do we design new funding mechanisms that strongly focus on workforce outcomes?**

The workforce development efforts in New Zealand seem rather ad hoc and opportunistic. We have supported internships throughout our program, and these have been fruitful for all involved. However, a more targeted and sustained program may be required to develop new workforce capacity, particular where this applies to diversity.

As one example, we would like to see multiple-year cohorts, particularly of Māori and Pasifika students, in fields where there is underrepresentation. A coordinated effort which is supporting both a broad range (possibly co-located) of students and a longer (multiple years) would be required to truly build the critical number of future workforce leaders.

**TE HANGANGA RANGAHAU  
RESEARCH INFRASTRUCTURE**

**17. How do we support sustainable, efficient and enabling investment in research infrastructure?**

Data infrastructure is an important enabler for research in New Zealand. We have a global advantage in the coverage and quality of some of our data assets, as well as leadership from Māori in valuing data as taonga. An investment in robust data systems and technology for researching that data would pay great dividends over time.

Providing data governance leadership for New Zealand needs to be provided across research institutions, but also in industry and government. A clear framework for this, and related areas such as ethics and privacy management, data sovereignty would provide an advantage compared with other countries.

We hope that these insights help in your review, and would be glad to discuss any of these comments further.

Ngā mihi nui,

Kind regards,





Dr Kevin Ross

CEO, Precision Driven Health