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Mātai Medical Research Institute – Future Pathways Response

About Us:

Mātai means 'to investigate or examine'. Our whakatauākī, Te Mata Mātai Hura, means 'the investigative revealing eye'. In 2020 Mātai Medical Research Institute opened its doors for the first time as a non-profit entity based in regional Aotearoa, Tairāwhiti-Gisborne. Embedded within our community, we operate with a collaborative multi-disciplinary outlook, drawing on a network of leading expertise nationally and internationally.

Our vision is *'Empowering people through world-leading medical research'*. A strong focus is on channelling our people, facilities, technology, and expertise to uplift our local community health needs, especially those which translate to positive health outcomes. This includes our tauira (students) and future generations in high value jobs and where they can remain connected with their local community and whānau.

Mātai is an organisation that supports research led by people from all walks of life. With the advantage of hosting state of the art technology and world-leading western science knowledge systems, our commitment to supporting mātauranga Māori knowledge systems is key to enable greater understanding of te Ao Māori (the Māori world view) and the interconnectedness of all things living. At the heart of our organisation we empower people and the collective aspirations of vitality with a goal of improving health and social outcomes.

Our team is led by Associate Professor Dr Samantha Holdsworth, a leading academic in the field of human brain imaging. Dr Holdsworth made important breakthroughs in new MRI technologies as a senior research scientist at Stanford University. Working alongside Dr Holdsworth is Leigh Potter, (Ngāti Porou, Ngāti Kahungunu, Rongomaiwahine me Rongowhakaata), as Chief Operations Officer and one of the co-founders of Mātai. Leigh is particularly passionate about up-lifting health and well-being for Māori and has demonstrated this in senior clinical roles over her 20 years' experience in health.

Mātai has established Ngā Māngai Māori (Māori Advisory Board) who are connected to the community, Iwi and non-Iwi Health Providers; has Māori and Pasifika representation on the Board of Trustees, Leadership Team and the Mātai Whanau (workforce).

Mātai has an expert and diverse team including collaborative national and global networks of 32 affiliate faculty advisors and 37 medical research, scientific, and engineering advisors. These include world leaders in their respective fields across several disciplines, and who are committed to collaborating across a range of medical research projects.

Our response to Te Ara Paerangi is with a regional lens and in the field of medical research to improve health and well-being, and to open new education, training, and job opportunities. We are grateful for the opportunity to provide both a regional and Māori voice in response to this science sector review. We value the inclusion of Willy-John Martyn at MBIE as a partner, leader and voice for Māori for the future of New Zealand's research system.

RESEARCH PRIORITIES:

1.2.2
1a. What principles could be used to determine the scope and focus of research Priorities?

When determining the research priorities, we suggest you are working alongside your regional research organisations. We believe good engagement is working alongside whānau, hapu, iwi, and communities to ensure the research priorities and outcomes are meaningful and up-lifting. Being in the heart of the community, we are strengthened by Māori partnership at the workforce, governance, and leadership level. We have established key relationships with our community which is required to understand the health and well-being needs i.e. what are the health and well-being issues whanau are experiencing at home. This is what helps to drive relevant research and innovation that can be translated to benefit the community.

1.3.2
1a. What principles should guide a national research Priority-setting process?
1b. How can this process best give effect to Te Tiriti?

As above. Include the voices of regional organisations who are embedded in their rural communities. A fair representation of Māori and Pasifika voices which includes regional Aotearoa can give this process best effect to Te Tiriti.

Article 2 of Te Tiriti promotes the principle of self-determination and self-governance. This principle reaffirms that research organisations based and operating in the regions be authorised and supported to conduct research initiatives that are meaningful and beneficial for their unique respective communities.

1.4.2
3. How should the strategy for each research Priority be set and how do we operationalise and implement them?

Engagement with all research organisations including urban and rural, Māori and Pasifika, and our communities who want to see specific outcomes following consultation.

TE TIRITI, MĀTAURANGA MĀORI ME NGA WAWATA O TE MĀORI

4. How would you like to be engaged?

There should be partnership at all levels of the science system. Mātai would appreciate being part of the conversation that ensures Mātauranga Māori is underpinned by growing a Māori workforce (including non-academic); mentoring and supporting Māori tauira; and where Māori communities are supported, valued, and included in the system. A level playing field where regional voices are valued as much as urban voices, and where small research organisations are valued as much as the larger organisations.

5. What are your thoughts on how to enable and protect mātauranga Māori in the research system?

The system needs to make space for different ways of seeing science to make science approachable for all. It should be inclusive and support projects which are more holistic from a Te Ao Māori perspective and an acknowledgement that there can be separate systems working alongside each other.

Mātai has governance and processes in place to protect research data as taonga and MBIE should ensure the same when supporting projects with mātauranga Māori. An acknowledgement that mātauranga Māori cannot be owned, but that the research being carried out is for the benefit of Māori.

Increasing the profile of and the alignment of research projects to the principles of Kaupapa Māori Theory and the aspirations of the Hongoeka declaration would also enhance the credibility of research conducted with Māori communities.

6. What are your thoughts on regionally based Māori knowledge hubs?

Mātai is an example of a regional research hub working with whānau, hapu, iwi in both contexts i.e Mātai western sciences working alongside Mātauranga Māori and Mātai as a platform for Māori led projects to be for Māori by Māori. We recommend a system which supports both.

Encourage and incentivise collaboration to work both ways, and where it can benefit and sustain both organisations. Mātai is working alongside universities and other larger institutes, enabling community access and outreach for various health-related research activities. Currently Mātai receives no or minimal overheads when collaborating with universities. We recommend thinking about how this can be supported and done well. Perhaps by helping these regional hubs like Mātai, with infrastructure and operational costs, to support existing and growing collaborations with NZ universities and CRI, research and innovation will be more effectively translated to benefit the people.

Make science approachable by allowing it to reach our rural communities, ensuring science is no longer intimidating and a priority for these communities from the beginning. Mātai is in a region where 50% of the population is Māori, yet science, technology, engineering & mathematics STEM is still unreachable in our region and Māori will likely take up roles in primary industry such as forestry, trades, and agriculture. We need a diverse group to drive thinking and make changes for the future.

Our recent internship programme was hugely successful in joining both world views for our tauira. They collaborated with mātauranga Māori holders, western science knowledge holders, Iwi health providers, non-Iwi health providers, Iwi, and whānau and could relate to the communities they originated from. We recommend more funding to reach regional communities and improve equity by driving research, self-discovery, and the translation of research for people most in need.

FUNDING

7. How should we determine what constitutes a core function and how should core functions be funded?

- Mātai advocates a proportion of core funding is reserved for regional research organisations, without disadvantage to accessing national funding for larger research initiatives.

Commitment, support, and equitable funding for regional research and its communities. Mātai is an example of a small regional research institute located in the heart of its community but has struggled to secure significant research grant funding for Mātai led projects.

- We agree there should be core funds to invest in infrastructure which supports research organisations regardless of location or size – e.g. access to ultra-fast fiber connections for large data transfer and data centers where data can be stored securely, backed-up, and easily retrievable.

8. Do you think base grant funding model will improve stability and resilience for research organisations, and how should we go about designing and implementing such a funding model?

- Yes. We recommend a level playing field for base funding (i.e. to keep the lights on) and one that is separate from research funding. We ask that regional research organisations be included and valued as part of the whole science system and not solely for funding CRIs or large organisations which is our experience.

- Base funding, which supports core people for supporting and performing research, will work towards ensuring translation of research outcomes, job stability, and will attract and retain a research workforce.

- We ask for equitable funding when considering science investment reaching our Māori communities in regional Aotearoa. Mātai has seen minimal funding for its research programmes which benefit Māori, noting Mātai is embedded in a region with a high population of Māori and where we are investing into growing our future generations.

Other funding comments:

- We agree a proportion of funding should be available for the blue sky, innovative projects, but that a percentage of this funding is reserved for regional organisations and Māori led projects.

- Funding that supports outcomes over research outputs and positively impacts and benefits our communities.

- Funding diversity and job security for the research workforce. We need to promote research as a career, where there is job security for the early career researchers, non-academic roles (such as Māori knowledge holders), through to IT, and Post-Doctoral fellows for 2 years to accelerate research outcomes. Active recruitment pathways should extend to areas where there is a high proportion of Māori.

- Reciprocity where our Mātauranga Māori holders, Te Reo me ngā Tikanga experts, Māori governance, and Māori communities are included, valued, and remunerated in the science system. Engagement with our experts and communities should be meaningful and supported early and throughout the life of the research.

- Funding which enables better and more effective science and research communication that are not just through international journals and conferences. We encourage more funding for

dissemination of research through rural shows (i.e. Agricultural & Pastoral show), Marae, community forums, and media outlets such as TV, newspapers, and social media.

- A more transparent funding application and review process. Our researchers perceive the funding process simply as a lottery and are disheartened by the process and lack of relevant feedback from the reviewers. There is wastage in the current system with the time and resources required to prepare and write grant proposals with little chance of getting funded.

- As noted by Independent Research Association New Zealand (IRANZ), Te Ara Paerangi should cover all Aotearoa's R,S&I investment not just that funded by MBIE programmes. It should cover TEC especially PBRF, HRC programmes and research strategies and programmes for government departments, regional government, community, and industry groups.

INSTITUTIONS

9. How do we design collaborative, adaptive and agile research institutions that will serve our current and future needs?

- Ensure regional research organisations are retained and valued. Since Mātai is close to its community; has a flat, coordinated, flexible, and inclusive structure; and extensive national & international collaborations, it can pivot and adapt quickly to situations.

- Support institutions which ensure inclusivity and diversity in leadership at governance and operational levels and value their employees.

- Support institutions that have inspirational vision and priorities; values around outcomes; a 'safe' culture; which conduct their research with scientific integrity & excellence; and inspires problem-solving, collective learning and skill development within the organisation.

- Support institutions with strong multi-disciplinary expertise and links with national and international academic and industry links.

- Support organisations who cultivate a willingness to take risks, and explore untested new ideas, which have built a learning culture and one of collaboration internally and externally.

- Incentivise the typically funded large organisations to collaborate with rural organisations and vice versa. This will ensure a true reflection of Aotearoa and one that incorporates regional, Māori and Pasifika voices.

10. How can institutions be designed or incentivised to better support capability, skills and workforce development?

- A number of researchers want to bring their skills home and others are looking for a better life in regional Aotearoa. Mātai has enabled this and with ongoing funding to ensure sustainability we will continue to provide high value jobs in regional Aotearoa, especially for our Māori workforce.

- Collaborations with Universities for example has allowed Mātai to bring experts such as bioengineering into a community to either benefit the community with their research, to act as mentors to our tauira coming through or to provide jobs locally.

- Mātai has enabled Universities to interact with a rural community, including Māori. Mātai ensures the research coming in is up-lifting and is beneficial to the community.

- Mātai can identify and work with talent coming through the schools and offer scholarships, internships and high value jobs back in their community.

11. How should we make decision on large property and capital investments under a more coordinated approach?

- Encourage collaboration between all organisations to reduce duplication in the system e.g. CoRE funding is a good model to help reduce duplication and improve collaboration across universities. However, we recommend equitable representation in CoRE or other joint funding proposals by ensuring there is a rural/regional voice.

- Look for collaborative opportunities. Mātai has technology and expertise in regional Aotearoa that others like to access.

- Consider opportunities for national facilities with high tech infrastructure to be regionally based. As an example, Mātai could become a National Medical Imaging facility which attracts talent and expertise to the region, help to provide better more equitable access to communities, and inspire and train local people in jobs previously thought unattainable.

12. How do we design Tiriti-enabled institutions?

- Partnership and engagement with Māori at all levels.

- Support and nurture Māori into leadership roles, particularly starting at a young age.

- Ensure co-design and recognition of science and mātauranga Maori systems working alongside each other.

- Commitment from all institutions who receive funding from MBIE to be culturally competent through training and to ensure cultural safety for their Māori workforce.

- Any new job or position requires training and orientation. Employees joining/working with a public organisation require learning avenues for mātauranga Māori. But employers are stretched in time and resources. Currently the pinch point is that employers or public research organisations have to go extra mile beyond normal business to help achieve/embedding of mātauranga Māori. This is even more complex to achieve for a research organisation. Hence efforts are often far below what is needed for delivery. It is recommended extra time invested for trainers to be compensated.

- Need extra resources for organisations in the form of funding/training materials/workshops/seminars to help organisations weave mātauranga Māori and cultural training into their work/projects/operations etc. This step should ideally happen before start of a project as phase 1 before the actual project begins.

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

- Support research in both rural and national settings. We should be taking science to Māori and regional Aotearoa.

- Encourage meaningful collaboration with communities.

- State-of-art infrastructure in regional and Māori settings will attract expertise and programmes. This will support knowledge exchange and inspire our tauira and future generations.

RESEARCH WORKFORCE

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

- Value and support the workforce opportunities that lie within regional Aotearoa and provide base funding to assist with recruitment, retention, and educational opportunities for our tauira and rangatahi. Mātai has tauira based at New Zealand's Universities who want to return home to Mātai for early career opportunities.

- Mātai has been influencing a rural community, in particular Māori rangatahi. We have partnered with Tonui Collab (formerly MindLab) to bring STEM to our high schools where the rangatahi will be creating 3D models of the brain. We have just completed a successful internship programme which ensured the tauira had a well-rounded experience by connecting with their communities, Iwi leaders, and where they embraced mātauranga Māori and te reo Māori me ngā tikanga.

- We need to ensure there is funding to support research positions for both academic and non-academic roles. Mātauranga Māori is often found within our non-academic workforce, and our kaumatua, Iwi, Mātauranga Māori holders are relied upon by our researchers. This should be acknowledged.

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

- This would ensure job security and attract more talent to research, science and innovation (R,S&I), including jobs in regional Aotearoa where the cost of living is lower.

- The benefit of attracting more jobs and talent to regional Aotearoa, as they become mentors for our tauira and future generations.

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

- Design a model that reduces the waste in the system e.g. researchers' time to write proposals for little return; allowing researchers to concentrate on R&D and innovation which lead to commercialisation and subsequent job creation.

- Fund major pieces of cutting-edge equipment and support operational costs for organisations that benefit multiple research groups and projects across Aotearoa (Manaakitanga).

- More post-doctoral funding (job security) to assist with training postgraduate students and interns.

- Provide funding that specifically targets the recruitment of Māori. Early job careers and internships.

INFRASTRUCTURE

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

- As discussed previously, we agree there should be core funds to invest in infrastructure which supports research organisations regardless of location or size – e.g. access to ultra-fast fiber connections for large data transfer and data centers where data can be stored securely, backed-up and easily retrievable. Examples include REANZ and NESI.

- National facilities in the regions: consider opportunities for national facilities with high tech infrastructure to be regionally based, to attract talent and expertise to the regions; help to provide better more equitable access to communities; and inspire and train local people in new 'unheard of' jobs.

Again, we would like to thank you for the opportunity to be part of the conversation. Should you require any further information, please don't hesitate to contact us at Privacy - 9(2)(a) .

Ngā manaakitanga,

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