Te Niwha

INFECTIOUS DISEASES AND PANDEMIC PREPAREDNESS RESEARCH PLATFORM

Review of Te Niwha Science Excellence Part 1

REPORT

12 June 2025

Review team:

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Introductory remarks

Background and context
Te Niwha as Aotearoa New Zealand's Infectious Diseases Research Platform was tasked with building and coordinating domestic research capability in infectious diseases, addressing critical infectious diseases in Aotearoa, and improving preparedness for future pandemics and other infectious diseases threats.

After setting of Priority Areas Agendas in early 2023, research was proposed by research leaders in the form of Concept Notes. They were reviewed and endorsed for development by Te Kete Mātauranga – Te Niwha's Technical Advisory Group and Whakamana Māori (Te Niwha's Māori advisory group) in June 2023. In the months following, the research projects were further developed into Statements of Work.

Purpose of the Review
Te Niwha is required to undertake annual Science Reviews in line with the platform's SSIF investment objectives and Key Performance Indicators.
This review is retrospective on the timeframe of 1 July 2023 – 30 June 2024. The review team evaluated and documented whether the research that Te Niwha funded met the criteria of Science Excellence according to the MBIE definition of Science Excellence.

MBIE summarises Science Excellence as:
- The Best People
- A Rigorous Approach and,
- Optimum Results

Scope of the Review
The review team evaluated the commissioning documents (Concept Notes and Statements of Work) for 23 research projects on their intent of Science Excellence to be delivered.

Te Niwha asked for comments across excellence and potential impact.
This review (part 1) did not review the allocation of funds to projects, and the progress of projects beyond what was recorded within the reviewed documents, i.e. implementation of the research.

Membership and expertise
Membership of the review panel consisted of 4 invited people with the required skills, experience and expertise to contribute to the review of Science Excellence.

Required skills included:
- Expertise in infectious diseases research across disciplines such as epidemiology, public health, biotechnology, social sciences, data science, and predictive modelling for disease outbreaks.
- A deep understanding of clinical considerations, treatment strategies, and healthcare systems.
- Insight into public health policy, regulatory frameworks, and health equity.
- Knowledge of the core capabilities and infrastructure for effective pandemic preparedness and response.

Approach

After provision of documentation by the Te Niwha team, the chair supported by the Te Niwha team convened a kick-off meeting. Each reviewer then conducted their review of each project.

A lead reviewer was assigned to each project and was able to nominate projects where they thought further discussion in an online meeting was required.

Following the online meeting , Te Niwha provided support to compile the feedback into this report which was reviewed by the reviewers and the final report endorsed by the chair of the review committee.

The following questions were used in the evaluation forms to guide the evaluation:

Best People
Leadership: Does the track record of the lead person give you confidence the project will be well led?
Vision: Is there a clear vision of what the team intends to achieve in this project?
Expertise: At the level of information provided, does the team have a mix of complementary skills, knowledge and resources to deliver the research?
Diversity: Does the team provide diverse perspectives to the project?
Network: Are the domestic and international partnerships and collaborations well suited for this project?
Capability development: Are there growth opportunities for the team, especially emerging researchers within this project?
Rigorous Approach
Research question: Does the description of the scientific approach demonstrate a deep understanding of the topic?
Design and methods: Did the team chose well suited design and methods to address the question?
Scientific rigor: Are the research approaches designed for reproducibility and robustness?
Feasibility: Are the aims achievable within the specified timeframe?
Innovation/novelty: Is the project designed to deliver an innovative approach or develop techniques?
Ethics: Are ethical considerations identified and addressed?
Optimum Results
Significance: Does the research address an infectious disease-related issue that is important and worthwhile for health and/or society? Will the results be generalisable to other scientific problems or populations?
Strategic impact: In what ways is this project likely to delivery long-term impact?
Pathway to impact: Is there a clear pathway for outcomes to have long-term impact?
Potential for innovation: Does this project have potential to lead to significant breakthroughs, disruptive technology or incremental improvements?
Dissemination: Does the dissemination plan include all relevant avenues of dissemination?

Overall Conclusions

Summary

This review evaluated Te Niwha' Science Excellence by reviewing 23 research projects, focusing on their alignment with MBIE's description of Science Excellence: the best people, a rigorous approach, and optimum results. The projects span a broad range of topics critical to infectious disease preparedness, surveillance, and response — many of which integrate community-led and culturally grounded approaches.

The majority of projects were of an excellent standard and mission-aligned, with potential to strengthen infectious disease preparedness in Aotearoa. The panel found strong leadership and vision across most projects, with several considered world-leading in terms of innovation, strategic relevance, or potential global impact. Where concerns were noted, this was mostly due to short and early descriptions of the projects being available to read for review.

Conclusions

Best People

Strong leadership and relevant multidisciplinary expertise were evident in most projects, often complemented by Māori and Pacific perspectives. Some proposals lacked sufficient detail to assess leadership or diversity.

Rigorous Approach

The most compelling projects demonstrated clear research questions, robust design, innovative methodologies and appropriate ethics. Others were more were found to be preliminary or lacking in methodological clarity, making it difficult to judge scientific rigor. Some projects were very targeted and single issue, whilst other projects had a huge scope.

Optimum Results

Projects addressing long-standing systemic gaps in infectious disease surveillance, diagnostic access, and health equity were considered highly significant. Several projects showed strong alignment with national priorities, potential for health system impact, and innovation. Others had promising ideas but need more structured implementation and dissemination planning to translate findings into practice or policy.

Recommendations

1. Provide clearer guidance and templates to strengthen design, feasibility, and impact planning for consistent project development.
2. Offer targeted support for researchers and projects with less defined plans – to grow capability for project planning and improve readiness for implementation and future funding opportunities.
3. Encourage international collaboration and elevate international visibility by facilitating and supporting connections with global experts and comparable programmes.
4. Require and support practical, well-defined dissemination strategies including community and policy engagement, to strengthen pathways to impact.
5. Ensure equity and partnership are demonstrated in all projects with supported engagement with Māori, Pacific, and priority communities.
6. To improve reviewer consistency and cultural confidence in the review, develop a glossary for Māori and Pacific terms, especially for reviewers unfamiliar with local contexts.

Acknowledgement

Te Niwha wish to acknowledge the International Review Team for their leadership in reviewing our Strategic Science Investment commitment to research excellence.