Te Niwha

INFECTIOUS DISEASES AND PANDEMIC PREPAREDNESS RESEARCH PLATFORM

Review of Te Niwha Science Excellence Part 2

REPORT

July - August 2025

Review team:
Dr Katherine Gottlieb (Chair)
Dr Michelle Linterman
Professor Paul Kelly
Professor Jason Trubiano

Index

EXECUTIVE SUMMARY

An in-country independent scientific excellence review of commissioned research funded by Te Niwha was undertaken between 24 July and 1 August 2025. The review team was provided with progress reports and visited a subset of 14 of 29 Te Niwha funded research projects in four cities.

The review concluded that the funded projects were substantially strengthening infectious disease research capability and enhancing pandemic preparedness in Aotearoa/New Zealand. All projects demonstrated solid evidence of scientific excellence, defined as the best people, a rigorous approach and optimum results. Across the funded projects, improvements in the infrastructure which underpins such capability uplift including people, surveillance systems, data systems and research platforms.

In addition, Te Niwha was clearly driving ongoing innovation in these fields in ways which are unique domestically and in many ways world leading. Te Niwha connects people, data, and expertise to drive ongoing innovation in this vital field by funding applied research and community consultation, engagement, participation and dissemination of results, particularly with and for Māori and Pasifika communities. Whilst Te Niwha was highly valued by the research teams, several practical improvements were suggested for any future funding rounds, particularly in relation to funding timelines and reporting requirements.

The review team made several recommendations to consider in future funding for infectious disease capability and pandemic preparedness, should such funding become available. These included moving to a more strategic, larger and longer-term program of work by building on the main findings of the current projects. This could include continuing to enhance human and research infrastructure and capacity building. expanding on the concept of “be always ready” to initiate research in a crisis and by further developing community engagement with research, particularly in the Pasifika community. Economic analysis could be more prominent in any future program of work to assist clearer return on investment calculations. Finally, enhanced international connections and visibility is encouraged.

BACKGROUND

Te Niwha is New Zealand's national Infectious Diseases Research Platform, funded through the Ministry of Business, Innovation and Employment's (MBIE) Strategic Science Investment Fund to support mission-led research with national benefit. It is tasked with strengthening infectious diseases research capability, while addressing critical infectious disease challenges in New Zealand, and enhancing pandemic preparedness.

Te Niwha has funded 20 Priority Theme and 9 Strategic research projects and is required to undertake annual Science Reviews on the commissioned research component.

This review evaluates and documents whether the research that Te Niwha funded is meeting the MBIE criteria of Science Excellence as defined as research conducted by the best people, with a rigorous approach to achieve optimum results. (see appendix 2)

Current Te Niwha funding will conclude on 28 Feb 2026. The review team was informed that MBIE was actively considering the next stage which will in turn be informed by the outcomes of the current funding round.

The purpose of the review was therefore twofold:

1. To fulfil an obligation of the Ministry for Business, Innovation and Employment (MBIE) contract for Te Niwha by undertaking an independent scientific excellence assessment of projects against the stated criteria
2. To inform considerations for the next phase of Te Niwha if funding were to be continued past the current contract period.

METHOD

The review team had previously concluded a desktop review of all projects commissioned and contracted between July 2023 and June 2024 (N=23). The site visits were an opportunity to meet the research teams and to gather more detail on the projects, progress to date, likelihood of completion and ideas on next steps. With a visit to all projects not feasible within the review timeframe, and the reviewer's indication that they were keen to visit flagship projects, the selection factored in project progress, as well as a breadth in topics and logistical considerations.

The review team were provided with short, updated reports for each of the selected projects prior to the review period. Due to competing commitments, it was not possible for all reviewers to review all projects, but there were at least two reviewers for each site visit apart from one project visit which was conducted by the chair of the panel only. (see appendix 3) After each site visit, the reviewers conducted a short debrief to ensure that key findings were captured. The review team invited feedback from the project team at the end of each meeting. In addition to the formal meetings with the project teams, the reviewers also had several opportunities to speak informally with Te Niwha operations team members, co-host representatives and scientific advisors. It should be noted that, to allow for open discussion, Te Niwha team members were not present for at least part of each of the meetings between the review team and project teams.

Rather than providing reports on specific projects, this report represents a summary of the main themes which emerged from the site visits with a strong emphasis on being forward-looking. All reviewers have read and reflected on this report and had the opportunity to contribute to the final version. The main audience for this report is the Te Niwha team including their Science Leadership and guider groups. In addition, it is envisaged that a presentation will be given by members of the review team at the Summit in November.

Results

RESULTS

During the period 24 July to 1 August 2025, 14 projects were formally reviewed in Auckland, Wellington, Dunedin and Christchurch.

Each meeting was attended by at least one of the research leads and usually with several other members of their team including strong representation of Te Niwha funded students. Following introductions, project presentations of varying length and complexity were delivered. The review team had plenty of opportunity to ask questions of the project teams.

General impressions

All of the reviewed projects demonstrated excellent progress against their research plans and have fulfilled all of the Te Niwha criteria. Almost all elements of all funded projects are on track despite ambitious plans and some delays in funding and ethics clearance. Many projects have already exceeded their original aims. Several projects are highly innovative in their fields and are achieving globally significant conclusions.

Reflections on the Te Niwha approach

There was unanimous support amongst the project teams for Te Niwha filling a vital role in improving pandemic preparedness and infectious disease research in Aotearoa New Zealand and the wider Pacific region. Specifically, it was noted that Te Niwha is:

1. Funding the gaps – notably in applied research and community consultation, engagement, participation and dissemination of results
2. Fostering linkages with Māori and Pasifika communities
3. Recognising the cross-border nature of infectious disease risk by providing funding for inclusion of Pacific Island Countries and Territories (PICTs) study sites
4. Supporting students and early career researchers, thus significantly increasing research capacity in infectious diseases
5. Providing a “goldilocks” quantum of research funds compared to small grants (for example from universities) and larger Health Research Council (HRC) grants
6. Delivering more responsive timelines for announcement of grant success (compared with HRC)
7. Innovating a partnership approach whereby Te Niwha is willing to assist more actively in the research (such as #2 above)

Several improvements were suggested for any future Te Niwha funding rounds:

1. Improve on the slow and unclear start of the process
2. Lengthen timelines for funding proposals
3. Consider a larger quantum of funds and longer research horizons
4. Improve clarity and usability of reporting requirements and forms. The lack of the ability to save work on the report template and come back to it later was a frequent complaint.
5. Decrease the frequency of reporting as the quarterly report timing didn't match with the timelines of most projects
6. Consider a more direct flow of funding rather than through Environmental Science and Research (ESR), now the New Zealand Institute for Public Health and Forensic Science (PHF)
7. As soon as possible, provide certainty of ongoing funding (quantum and aim).

Key themes

Across the research teams visited by the reviewers, there was a wide diversity of research topics, expertise, methods and approach. Some of the projects represented wide programs of work whilst others were narrower and discrete projects. However, some common themes did emerge.

The most prominent themes were:

1. Pandemic preparedness and infectious disease capability

All the reviewed projects demonstrated progress in improving domestic capability in research. Many also demonstrated substantial improvements in the infrastructure which underpins such capability uplift. Some key areas include:

a) People

No research can be done without researchers. Te Niwha has provided funds to project teams to engage students at various stages of their research training, as well as some post-doctoral staff. All reviewed projects also had early and mid-career researchers, some of them from other fields, being mentored by more senior infectious disease researchers which has already led to increased capacity and capability in the sector.

b) Data platforms

Many previously unavailable rich sources of data are now well developed. Examples include a national audit of potable water supplies, surveillance systems for infectious diseases in humans and animals (with zoonotic pandemic potential) and antibiotic use. However, these gains are now at risk without secure funding in the future to maintain and to build upon the utility of these systems.

c) Research platforms

The review team were provided with several examples. Specifically, in clinical trials in children, the ARROW Study have developed a network which offers a unique opportunity for co-designed, regionally integrated child health studies that can address unmet clinical needs across the trans-Tasman region.

d) Research methods

Several innovative techniques have been developed and/or adapted to the Aotearoa New Zealand setting including advanced genomic analysis for antibiotic resistant organisms, tuberculosis and environmental sampling, modelling and forecasting.

e) Systems to support research and surveillance for emerging pathogens

The expansion of pharmacies as research and surveillance sites is highly innovative and provides opportunities for future expanded community access. Wastewater testing from aircraft, specific buildings and from wider community catchments is a vital early warning system for pandemics which has been developed well beyond its initial use with COVID-19 with the assistance of Te Niwha funding.

2. Community building

The review team viewed this element to be one in which Te Niwha excelled well beyond expectations. Community was further sub-divided into:

a) Engagement with and dissemination of results to Māori and Pasifika communities in Aotearoa New Zealand & also PICTs for several projects.

This was a highly impressive component of the projects reviewed. In the experience of the review team, this was a world-leading component of the Te Niwha platform. The active engagement of the Te Niwha team to facilitate bridges between project teams and the community is an otherwise missing feature of the research ecosystem. Positive aspects included the ability to rapidly engage hard to reach populations in research such as the PRISM project on infectious disease knowledge amongst youth and the role in which research findings were readily translatable for community advocacy in regard to potable water supplies on marae.

b) Fostering collaborations and communities of practice

Te Niwha funding has facilitated the creation of multi-disciplinary teams including laboratory-based scientists, pharmacists, paediatricians, primary care practitioners, nurses, infectious disease specialists, veterinary practitioners, public health and epidemiology, mathematicians, computer programmers, engineers and social scientists. The wider community has also been engaged, for example the “citizen science” approach for collecting environmental samples for avian influenza and other potential pathogens.

c) Linkages to other infectious disease experts (domestic, less commonly international)

Several reviewed projects demonstrated the benefit of Te Niwha's encouragement for infectious disease research teams across Aotearoa New Zealand to collaborate on complementary projects. There were several instances where the review team was informed that the Te Niwha Summit and other meetings across the network have been beneficial in this regard. Several projects had strong international collaborations which pre-dated the Te Niwha funding but had been enhanced by it. The review team offered several suggestions for further strengthening of international linkages directly to research teams during the review.

d) Funding and facilitating pandemic preparedness and infectious disease research in ways that are different to other funding mechanisms

Te Niwha was highly valued by all the projects visited during this review. The platform was variously described as a "gap filler" in terms of the quantum of funding as well as the activities which were funded and the approach which was taken. For example, in contrast to other research funding mechanisms, community linkages, infrastructure and communication as well as applied research were valued and therefore funded. Te Niwha funding was a clear catalyst for collaboration and there were several examples of a magnifying effect of a relatively small amount of funding. The antibiotic guidelines project was a prominent example of this, with the wide collaborative network leading to substantially larger gains than would otherwise have been reasonably expected.

3. Highly practical outcomes

The review team noted many examples of highly practical outcomes from the reviewed projects. Many of these deserve to be further developed, sustained or implemented in the future. Whilst not explicitly measured in most cases, it is highly likely that health service utilisation and costs would be averted as well as other wider societal and economic benefits would be realised in Aotearoa/New Zealand as a result of Te Niwha funding.

Examples include:

a. Preliminary studies in novel therapeutics such as OM-85 to treat childhood wheeze which has the potential for commercialisation
b. Introduction of rapid diagnostic methods such as genomic analysis in Antimicrobial Resistant (AMR) organisms, leading to more rapid identification and appropriate management of nosocomial outbreaks
c. Oral antibiotic use in lieu of prolonged intravenous administration for severe systemic infections which are less costly and complex and generate substantial waste reduction, with a climate change mitigation effect
d. Clinical guidelines and standard setting which will likely lead to the more efficient and effective use of resources such as antibiotics, thus leading to better clinical outcomes, hospital avoidance and likely health service cost-savings.

Opportunities for the future

There were many examples of concrete outputs from each of the reviewed projects. Due to time constraints, these were not formally captured by the review team and therefore are not included in this report. It is highly likely that the wider set of funded projects which were not reviewed would have a similar suite of outputs.

The review team suggest that Te Niwha capture and report on several key achievements across the funded projects to date, in addition to project specific outcomes. These highlight the success of Te Niwha in achieving one of its key aims, that is, to develop an Infectious Diseases Research Platform in Aotearoa/New Zealand.

These include:

1. Document community building activities to date. The review team suggests that the term "community" be considered broadly

    a. Specific communities with a high burden of infectious diseases (Māori and Pasifika communities),

    b. The wider community,

    c. Scientists and clinicians engaged with infectious disease research and care, including innovative methods to allow exchange and collaboration across academia, government, agencies and non-government organisations

    d. Existing and newly developed international linkages

2. Create a compendium of academic outputs, of which there are already many, to demonstrate the scientific rigour and international significance of the work to date

3. Gather a list of other dissemination activities, including traditional and social media, community forums and other methods of community outreach

The review team understands that future funding for pandemic preparedness has been identified as a priority for the New Zealand Government. Without wishing to pre-empt government decision making processes, here are some broad suggestions for future directions for Te Niwha based on this review and on our understanding of the international landscape:

1. Move from a researcher-led mostly discrete and short-term group of largely disconnected projects to a more strategic, larger and longer-term program of work

2. To achieve this, build on the main findings of the current projects including:

    a. Enhance infrastructure and capacity building both human and research facilities. There were specific calls for continued access to a PC3 laboratory for human and the establishment of one for animal studies, which may be beyond the scope of Te Niwha but is an important gap in domestic research capacity

    b. Explore and expand the concept of “be always ready”, for example expanding on the infrastructure and capability which we have described in this report, to develop always warm clinical trial sites and surge capacity plans in advance of the next pandemic

    c. Enlarge community engagement with research, particularly in the Pasifika community

    d. Further develop some of the innovative mechanisms for interaction between academia, government and agencies, industry, civil society to both guide and to assist to implement the findings of research

3. Strengthen international connections and visibility (see conclusion for some specific suggestions).

4. As suggested above, there are likely substantial wider socio-economic benefits which have accrued from the research to date. However, these are largely implicit and have not been formally evaluated. The review team suggests that economic analysis could be more prominent and needs to be considered in future funding considerations, to assist clearer return on investment calculations.

Conclusion

CONCLUSION

The review team was very impressed with the progress so far. Te Niwha has successfully established a robust consortium of scientists, promoting networking and collaboration through shared connections and resources. The first phase of Te Niwha funding has initiated several research projects and provided a platform for cross-disciplinary interactions across the infectious disease research network in Aotearoa New Zealand. This consortium should be encouraged to grow further. There is a particular opportunity to consolidate the work that has been done, and to leverage this into larger programmes that can deliver health and economic impact for Aotearoa New Zealand. As well as building and supporting cross-disciplinary teams with expertise on pandemic preparedness that ensures adequate domestic capability to respond quickly to new and re-emerging infectious disease threats.

The Te Niwha concept is world leading regarding the engagement of First Nations Peoples in research, including research leadership. A greater international dissemination focus is encouraged. One potential mechanism for this conference should be submitted to prominent scientific and health conferences in the US, Europe, and internationally. The Te Niwha Science Excellence Review would be an excellent choice for a plenary session or workshop, as it serves as a comprehensive platform showcasing an organizational process that has proven successful. These project processes include fund allocation, the formation of a diverse review team with specialized expertise, the development of written evaluations, as well as onsite reviews, responsibilities, and timelines. Additionally, the project processes foster transparent discussions on challenges and provide recommendations for improvement.

Furthermore, significant attention has been devoted to the mission and vision outlined in the project application, reflecting the collective commitment of researchers and scientists to the overarching goals of the Te Niwha initiative. The dedication of the scientific community to advancing research within the project's framework has been integral to its success.

Appendices

APPENDIX 1

Reviewer's background

Dr Katherine Gottlieb (chair)

Katherine Gottlieb served Southcentral Foundation (Nuka System of Care), an Alaska Native Regional Healthcare System, as President/Chief Executive Officer for 30 years, departing in 2020. She is a Senior Fellow of Murdock Charitable Trust, Faculty, Harvard Medical School since 2015, awarded 2015 Harry S, Hertz Leadership Award by Malcolm Baldrige National Quality, 2004 MacArthur Genius fellow, honorary doctorates from Alaska Pacific University and the University of Alaska, author of His Hand Upon Me and Psalms of the Heart and Soul and holds a private pilot license.

She is a tribal council member of Seldovia Village Tribe, council member of the Seldovia Native Association. Previous Board member of Alaska Native Heritage Center, Alaska Native Tribal Health Consortium, Alaska Federation of Natives, Alaska Pacific University, National Library of Medicine, Cook Inlet Headstart and Storyknife Women's Retreat. Owner of Katherine Gottlieb Strategies, LLC. Current Board member and Chief Executive of Edgenuity.

Most recent recognition – Citizen of the Year, Alaska Federation of Natives 2020, several other awards not mentioned may be found on her website.

She is married to Dr. Kevin Gottlieb, a mother of six and grandmother of 33, with seven great-grandchildren. She is Alutiiq, Sugpiaq and Filipino, shareholder of Old Harbor Village Tribe and honorary tribal member of the Eklutna Tribe of Alaska. More information may be found on website, Katherinegottlieb.com.

Professor Paul Kelly, MBBS, PhD, FAFPHM.

Professor Paul Kelly is a public health advisor and the former Australian Government Chief Medical Officer and Head of Interim Australian Centre for Disease Control at the Australian Government Department of Health and Aged Care and an Adjunct Professor at the Australian National University. A public health physician and epidemiologist by training, Professor Kelly first joined the Department in March 2019 as the Chief Medical Adviser, Health Products Regulation Group. Professor Kelly was the key medical advisor to the Australian Government during the COVID-19 pandemic and has since advised the Irish Government and the Gulf Centre for Disease Control on health protection and pandemic preparedness.

Professor Kelly has previously worked in research, health systems development, post-graduate teaching and as a health service executive at local, state and national levels in Australia, Malawi, Indonesia, East Timor and the UK.

Professor Kelly has over 35 years research experience and has published over 200 journal articles, book chapters and public health guidelines. He has supervised or mentored many trainees and post-graduate students and delivered lectures, workshops, seminars and conference talks in Australia and internationally.

Dr Michelle Linterman

Dr Linterman is a New Zealand immunologist. Since April 2024, Dr Linterman is a Programme Leader at the Malaghan Institute of Medical Research in Wellington, New Zealand. She continues to oversee her lab at the Babraham Institute, Cambridge, UK, as an Associate Group Leader where her principle research focus is on how the immune system responds to vaccination.

As an expert on the ageing immune system and vaccination, Dr Linterman is a member of several wider networks. Dr Linterman is a committee member of the Cambridge Immunology Network and she also works regularly with policy fellows at the Cambridge Centre for Science and Policy. In 2023, Michelle joined the GSK Immunology Network. Made up of internationally recognised scientists, the programme bolsters connections between academic researchers and the pharmaceutical industry by embedding academics in GSK laboratories. Dr Linterman is a member of the BBSRC/MRC-CAtalyst Reducing ImmuNe Ageing (CARINA) network, part of the wider UK Ageing Network which brings researchers together across disciplines to advance our understanding of the biological mechanisms of ageing. She is also a co-leader of part of the UKRI-funded IMMPROVE project to unite global expertise to understand the body's response to COVID-19 vaccines, improve vaccine development and support future pandemic preparedness. Dr Linterman is part of the MRC National Mouse Genetics Ageing Cluster who seek to understand the mechanisms of how biological systems change across the lifespan. She is a Deputy Editor of Immunology and Cell Biology, the flagship journal of the Australia and New Zealand Society for immunology.

Dr Linterman's research focus is on how different cell types collaborate in the germinal centre to generate a robust antibody response following vaccination and infection. Her team's work combines research in mice, with human studies to enable us to deliver mechanistic insight into the germinal centre response that is of direct relevance to human health.

Professor Jason Trubiano

Professor Jason Trubiano is an Infectious Diseases Physician and Director of Infectious Diseases. He is an NHMRC Emerging Leadership Fellow at Department of Infectious Diseases, The University of Melbourne and Cross Cutting Discipline Clinical Research Co-Lead at the Doherty Institute. He is the head for the Centre for Antibiotic Allergy and Research at Austin Health. The collaborative health services and translational research program focuses on drug hypersensitivity and antibiotic allergy. The Centre also hosts the National Antibiotic Allergy Network (NAAN) and Australasian Registry for Severe Cutaneous Adverse Reactions (AUS-SCAR). NAAN is delivering a national Inpatient Penicillin Allergy Database, clinical and consumer protocols and antibiotic allergy advocacy and policy.

Prof Trubiano's research explores health services programs for antibiotic allergy and novel diagnostics and pharmacogenomic predictors for severe T-cell mediated drug reactions. He leads clinical and translational studies at Austin Health and Peter MacCallum Cancer Centre investigating drug allergy and infections in the immunocompromised host. One of his current key projects is implementing point-of-care tools and precision medicine approaches for antibiotic allergy to improve prescribing and medication safety in health services.

APPENDIX 2

Terms of Reference – Review of Te Niwha Science Excellence Part 2

21 Jul 2025

Purpose
This document describes the purpose, terms and conditions of the review of the Te Niwha Science Excellence for the timeframe of 1 July 2024 – 30 June 2025.

Background and context
Te Niwha is New Zealand's national Infectious Diseases Research Platform, funded through the Ministry of Business, Innovation and Employment's (MBIE) Strategic Science Investment Fund to support mission-led research with national benefit. It is tasked with strengthening infectious diseases research capability, while addressing critical infectious disease challenges in New Zealand, and enhancing pandemic preparedness. Te Niwha connects people, data, and expertise to drive ongoing innovation in this vital field.

Part 1 of Te Niwha's Science Review assessed the intended level of Science Excellence in research projects commissioned between 1 July 2023 and 30 June 2024, drawing on Concept Notes and Statements of Work. Research activities began following the signing of these contracts and were subject to regular reporting to Te Niwha during the review period. Part 2 of the Review now focuses on evaluating how Science Excellence is being realised through the ongoing progress of the research, with the focus on the review period.

Purpose of the Review
Te Niwha is required to undertake annual Science Reviews on the commissioned research, in line with the platform's SSIF investment objectives and Key Performance Indicators.

This review (Part 2) is on the timeframe of 1 July 2024 – 30 June 2025. The review will evaluate and document whether the research that Te Niwha funded is meeting 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

Therefore, the purpose of this exercise is to review and evaluate information from progress reports and information gained from in-person interviews with research leaders and project personnel in respect to:

THE BEST PEOPLE	A RIGOROUS APPROACH	OPTIMUM RESULTS
Individuals, teams and institutions well placed and sufficiently skilled to do the research, who are sought after practitioners in their field, with reputations for high-quality work, and linked internationally and domestically.	Well-defined, repeatable methodologies and careful implementation. Transparency and stringent peer review. Best-practice approaches. Builds on existing approaches. Risks identified and managed.	Expansion and application of knowledge, wide knowledge dissemination, high reliability and repeatability, strong application. International reputation enhanced.

Scope of the Review

The review team will visit and interview at least 6 research projects and evaluate their progress on delivering excellence science.

- **Project selection** is proposed by the Te Niwha team and confirmed by the review team.
- **Impact case studies and summaries based on the progress reports** prepared by the research teams during the review period provide information in preparation of the in-person interviews.
- **Interviews** that the review team will conduct with the project leads and personnel will constitute the main part of the review.
- The review team will compile a **report** commenting on excellence and pathway to impact, with administrative support from the Te Niwha operations team.

Membership and expertise

Membership of the review panel will consist of 3-5 invited people with the required skills, experience and expertise to contribute to the review of Science Excellence.

This includes members with:

- 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.

The ideal-case scenario is that the 4 reviewers from Part 1 also conduct Part 2, however membership may change for parts 2 and 3 of the review pending availability of reviewers.

The chair of the group is Dr. Katherine Gottlieb, Alaska, USA.

The group is appointed by and reports to the Directorate of Te Niwha.

Meetings and approach

Te Niwha will coordinate travel and meetings/interviews with research teams.

The review team will receive **impact case studies and summaries based on the progress reports** prepared by the research teams during the review period ahead of meetings.

Te Niwha will prepare and supply the review team with proposed points to address during the meetings.

Alongside the meetings the Te Niwha operations team will provide opportunities for discussion amongst the review team and facilitate the exchange and documentation of insights.

After completion of the meetings with the project teams, Te Niwha will provide support to compile the insights into a report which will be reviewed and revised by the reviewers.

On endorsement by the reviewers, this review will be submitted to the Te Niwha Steering Group for their endorsement and submission to Te Niwha's funder, the Ministry of Business, Innovation and Employment.

Timeframe

The in-person meetings will be conducted between 24 and 31 July 2025. The report is expected to be completed in time for presentation to the Te Niwha Steering Group on 19 Aug 2025.

Conflict of interest

Members of the review panel should perform their functions in good faith, honestly and impartially and avoid situations that might compromise their integrity or otherwise lead to conflicts of interest.

Te Niwha will maintain an interests register, listing reviewers' interests relevant to this review.

When members believe they have a conflict of interest on one of the project teams they meet with, then they must declare a conflict of interest and Te Niwha will advise on the management of the conflict. This must be done at the earliest possible opportunity.

Remuneration and expenses

Te Niwha values the time of each reviewer. Reviewers were offered payment for participating in part 2 of the review, and Te Niwha will provide travel and accommodation for required travel associated to the review (including return airfares, accommodation, meals and transfers).

Amendment, modification or variation

These Terms of Reference may be amended, modified or varied in writing after consultation and agreement of the Te Niwha Directorate and the members of the review panel

APPENDIX 3

Site visit schedule

Date	Review Team	Projects visited (short title and research lead)	Location	Notes
Thursday 24 July 2025	Dr Michelle Linterman Prof Jason Trubiano	• ARROW trial, Prof Cameron Grant • Broadspectrum antivirals project, Dr Natalie Netzler • Māori Surveillance Review, Hector Kaiwai	Auckland	1
Friday 25 July 2025	Dr Michelle Linterman Prof Jason Trubiano Prof Paul Kelly	• PRISM study, Prof Sir Collin Tukuitonga • Antimicrobial stewardship project, A/Prof Steve Ritchie	Auckland	2
Sunday 27 July 2025	Dr Katherine Gottlieb Prof Paul Kelly		Wellington	3
Monday 28 July 2025	Dr Katherine Gottlieb Prof Paul Kelly	• PRO-S-NAP trial, Dr Max Bloomfield • ILI Community Pharmacy Surveillance, Kyley Kerse • Needle length study, Dr Gabby Shortt	Wellington	4
Tuesday 29 July 2025	Dr Katherine Gottlieb Prof Paul Kelly	• Mahi Tahi TB, A/Prof Jo Kirman • Avian Influenza project, Prof Jemma Geoghegan	Dunedin	5
Wednesday 30 July 2025	Dr Katherine Gottlieb Prof Paul Kelly Dr Michelle Linterman	• Modelling project, Prof Michael Plank • Wastewater study, Dr Brent Gilpin • Drinking water study, A/Prof Tim Chambers	Christchurch	6
Thursday 31 July 2025	Dr Katherine Gottlieb	• REMAP-CAP trial, Dr Colin McArthur	Auckland	7

Te Niwha support & guider/adviser meetings

1 Te Niwha support: Te Pora Thompson

2 Te Niwha support: Te Pora Thompson, Wini Wilson

3 Dinner meeting with Sir Ashley Bloomfield (PHF Science Co-Host)

4 Te Niwha support: Te Pora Thompson, Lucia Schweitzer

5 Te Niwha support: Lucia Schweitzer

Lunch meeting with Prof Nigel French (Te Niwha Science Leadership) and Dr Martin Gagnon (University of Otago Co-Host)

6 Te Niwha support: Michelle Williamson, Te Pora Thompson

Lunch meeting with Prof David Murdoch (Te Niwha Science Leadership)

7 Te Niwha support: Te Pora Thompson

Acknowledgement

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