

# Maurice Wilkins Centre Flexible Research Programme

## Call for applications for 'MWC Flexible Research Project Support'

**Closing date 12:00 pm, 10 March 2026 (Tuesday)**

The **Maurice Wilkins Centre (MWC)** invites principal, associate, clinical associate and affiliate investigators (research active and at a post-doctoral level or above) to submit applications to the MWC Flexible Research Programme for '**MWC Flexible Research Project Support**'.

The intention is to provide funding for research expenses for innovative, interdisciplinary projects that will also promote progress in scientific areas of importance to the MWC (Note that this category combines the previous categories 2 and 3 of the programme).

Detailed information on the '**MWC Flexible Research Project Support**' eligibility, criteria and how to apply appears on the following pages of this document. Queries can be sent to [maurice-wilkins-centre@auckland.ac.nz](mailto:maurice-wilkins-centre@auckland.ac.nz).

### Background

The **Flexible Research Programme** enables MWC investigators to take advantage of exciting new ideas as they evolve, while simultaneously building links across the Centre's network, especially between institutions. The MWC provides support for new research opportunities involving its named investigators, which are allocated through a competitive process.

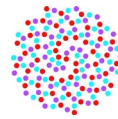
The MWC brings together the best research talent across New Zealand to focus on understanding and managing the major diseases affecting New Zealanders, particularly metabolic health, infectious diseases and cancer.

The 2025-2028 MWC impact statement and a description of the core themes of the MWC are outlined in Appendix 1 (pages 7-19) and are based on the 2025-2028 MWC Plan agreed upon with the Tertiary Education Commission.

Proposed Programme timelines (see Guidance and Notes, page 6, for a graphic representation of the timeline):

Categories	2026	2027	2028
MWC Flexible Research Project Support	February July	February July	n/a
Access to specialised international and national training and international facilities	March June September	March June September	March
Collaborative post-graduate training *	n/a	n/a	n/a

\* Collaborative post-graduate training: All funds were allocated in 2025.



## Guidance on Māori and Pacific Health Advancement

A major area of focus for MWC is improved long-term health for Māori and Pacific communities. The Centre has a Māori Engagement Strategy to guide both the Centre and its investigators in supporting Māori aspirations and advancing the impacts of health research within Māori communities. The full strategy document can be accessed at <https://www.mauricewilkinscentre.org/welcome/mwc-m%C4%81ori-engagement-strategy/>

In this flexible funding round, we ask you to indicate how you think your research plan (1) fits the categorisation of research according to the definitions provided in the MWC Māori Engagement Strategy, and (2) how it aligns with the goals outlined in the MWC's Māori Engagement Strategy. You can describe any additional ways you are conducting your research that contributes to the advancement of Māori and/or Pacific Peoples.

### **It is important that you make a genuine attempt to answer these sections.**

We understand that research at the MWC encompasses a wide range, from basic science to clinical research, and responses in this area can take many forms depending on the type of work you are involved in.

- Guidance on the 'Application of Tiriti Principles in the Maurice Wilkins Centre' is included in Appendix 3 on pages 21-30, with some additional guidance about what could be covered in Appendix 4 on page 31.
- We would also encourage applicants to read the Māori Health Advancement sections of each of the research themes – Cancer, Metabolic Health and Infectious Diseases, which can be accessed through the MWC Research theme information in the member's pages of the MWC website, <https://www.mauricewilkinscentre.org/welcome/mwc-research-themes/>
- You can also refer to the New Zealand Health Research Strategy 2017-2027, specifically Strategic priorities and supporting actions – Action 3, and the Pacific Health Research Guidelines 2014.

Responses to these sections will be reviewed by the MWC Kaiārahi and the Project Review Committee members and considered as part of the assessment of the strategic value of the research.

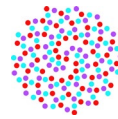
The responses will also be recorded as either appropriate or 'needs revision' with respect to the proposed project. Proposed projects will require an appropriate response before being given final approval for funding. If a proposed project is selected for funding but is judged to have a response to this section that needs revision, it will be treated as provisional until the response is revised and judged to be appropriate. The MWC Research Operations Manager will inform lead investigators about how guidance will be provided to help them revise their response.

The information provided in these sections will enable the Centre to continue understanding how its portfolio of projects addresses issues such as Māori and Pacific health inequities, engagement with Māori and Pacific communities, and development opportunities for Māori and Pacific researchers in our work.

## **MWC's Commitment to Māori Data Sovereignty**

Central to MWC's mission is a commitment to improving long-term health outcomes, particularly for Māori, while building capability and awareness of the cultural, economic, and community dimensions of biomedical research.

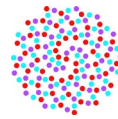
As part of this commitment, the MWC upholds Te Tiriti o Waitangi by releasing a public Māori Data Sovereignty commitment statement. This statement recognises that much of MWC's research



involves the use of Māori data and therefore outlines its responsibility to uphold Māori rights to control and govern their own data. It draws on principles from Te Mana Raraunga, providing a framework for culturally and ethically appropriate data practices that reflect self-determination.

The statement serves as both a declaration and a guide for the MWC, its staff, and stakeholders—ensuring accountability, alignment with Māori values, and an evolving policy foundation that protects Māori interests in research.

The full Māori Data Sovereignty commitment statement can be found in the member's pages of the MWC website, <https://www.mauricewilkinscentre.org/welcome/mwc-māori-data-sovereignty-commitment-statement/>



## MWC Flexible Research Project Support

### Purpose:

- To provide funding for research expenses for innovative, interdisciplinary projects that will also promote progress in scientific areas of importance to the MWC.
- Applicants can apply for working expenses and/or costs for equipment/facilities as detailed in the budget guidelines as 'eligible costs.'

### Eligibility and criteria:

#### Project leader and Personnel:

- The project leader must be a MWC principal investigator, associate investigator, clinical associate or research-active affiliate investigator at the post-doctoral level and must be responsible for the project.
- Project leaders are only to submit one project in this category in a funding round.
- The project leader should be able to hold research funds at a research organisation that is a signatory to the MWC Collaborative Agreement (see list of institutions on page 20).
- If the project leader is a fixed-term researcher, they must state that they have a contract for the duration of the project and/or include a letter from their line manager confirming support for the duration of the project.
- All research staff associated with a project should be named. The roles of all named personnel should be clearly stated, and their relevant expertise summarised. If a student is included as part of the project team, the level of their study should be stated.
- Multiple applications involving the same personnel can be submitted, provided each application describes clearly distinct projects with no significant scientific or budgetary overlap. If the committee determines that there is insufficient distinction between two or more applications, it may detract from all proposals.

#### Research Project:

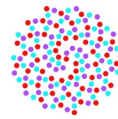
- Projects should be of no more than two years' duration and must be completed by the 30<sup>th</sup> June 2028. Exceptions may be considered for expenses associated with a PhD student project.
- Projects should contribute to the themes of the MWC in the areas of Cancer, Infectious Disease and Metabolic Health. Projects that extend across these themes are encouraged. Priority will be given to collaborative projects that connect expertise from across the MWC network.
- If you are unsure of how your project fits within these themes, you are welcome to send a query to the leadership team via [maurice-wilkins-centre@auckland.ac.nz](mailto:maurice-wilkins-centre@auckland.ac.nz)

#### Budgeting:

- There is no specific limit on the budget that can be requested, although requests over \$50,000 will be closely scrutinised and will require more justification.
- Partial funding may be offered in cases where the assessment team considers it appropriate.
- The Project Review Committee will not fund any costs that it considers are not directly required for the project to take place.

#### Eligible costs that will be considered for funding

- Direct research costs associated with the project.
- Costs for the utilisation of specific facilities or equipment across New Zealand that are listed in the 'Equipment, facilities, and services register' in the members section of the MWC website\* (including training costs limited to less than 25% of the total budget).  
These costs must be fully justified and can cover facility or equipment charges, including charges for dedicated operators for a maximum of two years (A dedicated operator is a person who is employed by the facility to run the equipment as a service and is paid by the facility).



Quotations or estimates of costs from the facility or service provider should be submitted with your application.

- Costs for the utilisation of international facilities where these services are either not currently available in New Zealand and/or where a compelling justification can be made for accessing the services from an international facility. If utilising international facilities for data collection, please state if the access fees are at an academic or a commercial rate.
- Costs to utilise facilities or equipment based within an investigator's own lab if these facilities meet the MWC eligibility criteria and are listed in the 'Equipment, facilities, and services register' in the members section of the MWC website\*.
- Modest requests for domestic or trans-Tasman travel essential for collaborations or to use facilities or equipment. These should be specifically justified in the budget summary.
- Publication costs may be funded on the basis that the manuscripts are published in alignment with the [MWC publication guidelines](#).
- Any additional costs should be specifically justified in the budget summary.

Ineligible costs that **will not** be funded from 'Flexible Research Project Support':

- Research staff salary and overhead costs
- Scholarship costs
- Conference travel

#### **Funds available:**

- Approximately \$700,000 available in this round from the Flexible Research Programme budget (for all MWC investigators).
- Any unallocated funding from this round will be made available to investigators for future applications.

#### **Assessment of applications:**

Applications will be assessed by the Project Review Committee<sup>†</sup> who will score each application under two equally weighted areas;

- 1) Science excellence (50%), including the rationale and plan for the work.
- 2) Alignment with the MWC research strategy (50%), including development of new initiatives within or across the research themes, contributions to the Māori engagement strategy and/or Pacific research, interdisciplinary collaborative reach and expected impact and outcomes.

Proposed projects will also need to have an appropriate response to the 'Māori and Pacific Health Advancement sections' before being given approval for funding.

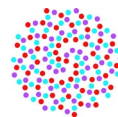
#### **Application process**

To apply for 'MWC Flexible Research Project support' fill in the application form provided with the call document (also available in the members section of the MWC website) and send by email along with any supporting documents to [maurice-wilkins-centre@auckland.ac.nz](mailto:maurice-wilkins-centre@auckland.ac.nz) by **12pm, 10 March 2026**.

Multiple applications involving the same personnel team can be submitted, provided each application describes clearly distinct projects with no significant scientific or budgetary overlap.

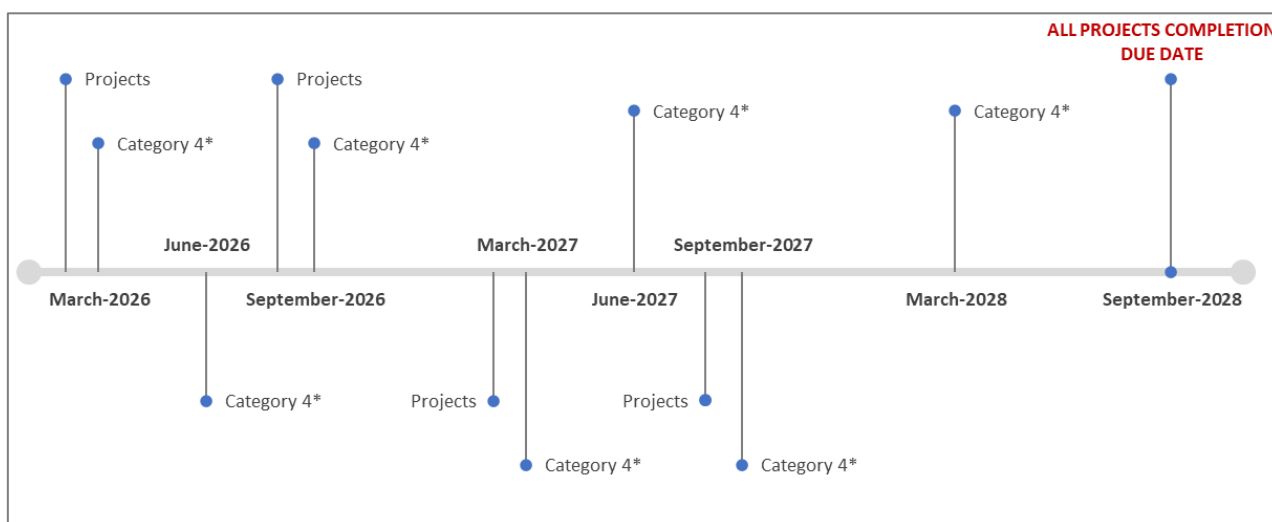
When filling in the application form, please note:

- The font used should be either Times New Roman 12 point or a font of an equivalent size.
- If a page/paragraph limit is noted for any section, please do not exceed this limit. Page limits include any figures or diagrams. However, reference lists can be included in addition to the page limit and should include full referencing, including all authors. Applications that exceed the limits are likely to be penalised for this.



## Guidance and notes

### MWC Flexible Research Programme Schedule



\* Category 4: Access to specialised international and national training and international facilities

### Guidance on the use of Artificial Intelligence

The MWC encourages you to follow your institution's policies on the use of artificial intelligence in your work. You may also find it helpful to refer to the [Royal Society Te Apārangī best-practice guidelines for using generative artificial intelligence \(GenAI\) in research in Aotearoa New Zealand](#).

#### \* Note on MWC 'Equipment, facilities and services register'

The MWC 'Equipment, facilities and services register' can be found at <https://www.mauricewilkinscentre.org/welcome/list-of-equipment-facilities-and-services/>.

Please contact the MWC Ops team if there is an item of equipment, a facility or a service that you would like us to consider adding, or if you notice some out-of-date information: [maurice-wilkins-centre@auckland.ac.nz](mailto:maurice-wilkins-centre@auckland.ac.nz)

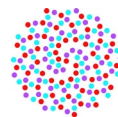
#### † Note on the Project Review Committee

The Director will establish a Project Review Committee of at least seven members, which will include representation from the Directorate, the Research Leadership Forum, the Associate Investigator group, and the Early Career Researcher group.

This committee will meet following the closing of each Flexible Research Programme round and will be responsible for:

- Review and evaluation of contestable proposals for emerging areas of research and for career development schemes
- Making funding recommendations to the Directorate and the MWC Board

Conflicts of interest will be declared at each committee meeting, and appropriate actions will be taken to mitigate these conflicts during the meeting, based on an established MWC process.



## Appendix 1

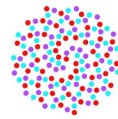
### Maurice Wilkins Centre 2021-2028 Executive summary

The Maurice Wilkins Centre (MWC) is a vibrant organisation that brings together the best research talent across New Zealand to focus on understanding and managing the major diseases affecting New Zealanders today. Centre of Research Excellence (CoRE) funding has enabled the Centre to grow into a dynamic, highly productive, large-scale collaborative network of researchers across New Zealand, since its establishment in 2002. A major achievement of the MWC is that it has broken down traditional barriers between institutions and disciplines and developed high-functioning, collaborative teams across different institutions. These teams encompass a wide range of capabilities in biomedicine, chemistry, and clinical research, and are further boosted by collaborative links to major research institutions globally. This is an interactive model unique to New Zealand and one that creates excellent synergies that maximise the productivity of the country's researchers. This includes building upon our established relationships with Māori organisations, and the subsequent development of a formal Māori engagement strategy in consultation with those groups. During 2025-2028, we anticipate further activities expanding our development of Māori researchers and outreach to communities, and providing greater opportunities for Māori leadership in our research.

The MWC effectively performs ambitious research that spans from basic discovery through to translational outcomes. The Centre has developed a balance of internationally-competitive research programmes combined with a series of innovative, cutting edge, pilot projects to foster new research directions. A key feature of these research programmes is to engage a collaborative, interdisciplinary network of researchers, aiming for larger scale programmes than would be possible in individual laboratory groups. MWC also leads the development of important new resources and data sets that will be of ongoing use to researchers and patients.

The Centre's goals are to (i) build on the current network of researchers to use multi-disciplinary approaches and teams to expedite the development of new knowledge about mechanisms driving a range of diseases of importance to this country and, (ii) empower its extensive collective expertise in the development of therapeutic advances by linking with its rapidly developing networks of clinical researchers to translate these into new patient-centric approaches to prevent, diagnose or treat the target diseases and, (iii) using these approaches to advance fundamental knowledge to inform tomorrow's precision medicine, particularly making sure Māori and Pacific Peoples are not left out of the precision medicine revolution.

The MWC is an instigator of new research directions and aims to maximise the effectiveness of its collaborative research teams and to potentiate the outputs of its research by synergising with and leveraging other funding mechanisms. The MWC will also use its position as a national research network to support and develop the future research workforce from school outreach through postgraduate studentships and supporting the career development of early career researchers (ECRs). Specifically, the MWC is conducting activities that will enable diversity in this future workforce in terms of gender balance and in terms of Māori and Pacific engagement in biomedical research. Going forward the MWC will focus on further boosting its ability to have impact on the health of New Zealanders by greatly expanding and strengthening the interactions of its researchers with clinicians and with communities, particularly Māori and Pacific communities.



## Strategic impacts

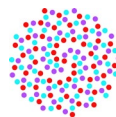
### **MWC impacts:**

- Improved long term health outcomes and well-being of New Zealanders, particularly for Māori and Pacific Peoples
- Diverse range of young scientists with advanced capability and a greater awareness of cultural, economic, and community aspects of biomedical research
- Economic benefits for the country including growth in the investment and performance of the therapeutics industry in New Zealand
- Improved science education for school children, particularly in Māori and Pacific communities
- New Zealand scientists as good global citizens in contributing to global health outcomes
- Increased capability in Māori researchers and in our research community to engage with and undertake culturally appropriate research in a range of medical conditions

## Outcomes

### **MWC outcomes:**

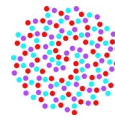
- Development of better ways of treating disease using inter-disciplinary and inter-institutional collaborations, biomedical and translational research, and facilitating clinical trials supported by relevant diagnostic biomarkers
- Advancing fundamental knowledge to inform precision medicine of the future, in particular to ensure that Māori and Pacific Peoples are not excluded from the benefits of the precision medicine revolution
- Development of young scientists who have skills in a broader range of experience and mentorship than would traditionally have been available
- A new generation of Māori and Pacific researchers in biomedical sciences to lead future activities with these communities who can collaborate safely with culturally aware tauīwi researchers
- Validation of new drug targets, development of new drugs or strategies for using drugs, development of diagnostics and vaccines and the development of clinical trials to test efficacy of such strategies
- Promotion of a greater understanding of biomedical science in the New Zealand community, particularly in schools and Māori and Pacific communities
- Enhancement of the scientific partnership between New Zealand and other nations that leads to increased opportunities for New Zealand researchers



## Research plan

Understanding the processes causing disease and developing new treatments for them is a major challenge requiring the application of a wide range of specialist skills at the appropriate time in the process. This is hard to achieve using traditional, academic, investigator-led research structures as these tend to make it very difficult to achieve sufficient scale and continuity to tackle the wide range of scientific questions that need to be addressed in such a process. The MWC provides a unique model that brings together the best researchers available in New Zealand to overcome these issues, promoting national-level collaborations. This includes over 600 research scientists and clinicians based at six Universities and four other research institutes, thus encompassing a large proportion of New Zealand's capabilities in these areas and allowing the country to make the most of the resources it invests. Many scientific skills and technologies are agnostic to the particular disease area to which they are applied, so having access to such a wide range of skills provides a flexible capability to respond rapidly and effectively to challenges posed by a wide range of diseases. A notable feature of the MWC structure is that it also provides investment and expertise to develop large scale resources and datasets that will enable significant amounts of future research.

In 2025-2028, the MWC will continue its successful programmes in the three theme areas of metabolic health, infectious diseases and cancer immunology, and introduce a new "cross-theme" focus on how genomics and other big data-sets can inform understanding of these conditions. A major reason for this focus is that these are diseases that contribute most to health disparities and inequities facing Māori and Pacific Peoples. The Centre's investigators have extensive expertise and experience in all of the scientific disciplines needed to underpin these disease-focused research programmes. Firstly, it will fund large-scale nationally-collaborative research programmes based on existing skills in the Centre. These will be supported by allocation of postdoctoral fellows, studentships and funding for research working expenses. These are designed to generate important new knowledge that will provide a platform for further research that can align with and leverage other funding mechanisms to expand the scope of the research. At the same time as enabling targeted research programmes at national scale, we will support innovative multi-disciplinary collaborative projects. These smaller scale collaborations will provide a springboard for the kinds of advances in biomedical science that are difficult to anticipate. These new projects will be integrated into appropriate themes to capture the strategic focus of the MWC. We will continue to support other new areas of research as they arise to generate a pipeline of new research strands on which to develop major programmes in the future. The MWC will act as a conduit for groups of our researchers to build, support and sustain substantial international collaborations. The Centre will implement funding mechanisms to support the development of careers of the next generation of research leaders and to equip them with the wide range of skills required to undertake globally competitive multi-disciplinary and translational science. These programmes will have a particular focus on Māori and Pacific Peoples. MWC's growing capabilities in clinical research and clinical trials will be employed to ensure research findings can be translated into health benefits for New Zealand patients. The MWC also has significant expertise in commercialisation and will use this to ensure capture of any economic benefit to New Zealand from its research and also to assist with the translation of the research to the clinic.



## Theme 1 - Metabolic Health

### Overview

The disproportionately high rates of the spectrum of related metabolic diseases including type-2 diabetes, obesity, cardiovascular disease and kidney disease in Māori and Pacific Peoples are a major contributor to health disparities in Aotearoa / New Zealand. As genetic factors contribute up to half of the risk of developing metabolic diseases, understanding how genetic factors contribute to this for Māori and Pacific Peoples will allow for development of precision medicine approaches adapted to an individual rather than using current “one size fits all” treatments. However, Māori and Pacific Peoples are poorly represented in current global genetic studies needed to inform precision medicine and the limited research conducted to date has identified genetic factors that are unique to Polynesian Peoples. This highlights the need to do this research in New Zealand where these Peoples are concentrated. Already, studies by MWC researchers has built on this evidence of unique genetic factors contributing to metabolic diseases in Māori and Pacific Peoples. To extend this research requires a large-scale multidisciplinary approach, including significant clinical involvement that can only be delivered by an organisation such as the MWC. This will involve supporting and building metabolic disease research capabilities and collaborations across the Centre through the various funding mechanisms that the Centre has available. In addition the MWC will bring together a wide range of expertise from across NZ to develop a large scale interlinked programme to study how genetic factors unique to Māori and Pacific Peoples could impact on the risk of developing metabolic diseases or on the efficacy of preventative strategies or of therapeutic interventions for these diseases.

### Research Programme 1: Understanding genetic drivers of metabolic disease in Māori and Pacific women.

(i) Deep Metabolic Phenotyping: Work will continue to complete the in depth metabolic phenotyping studies in 1000 Māori and Pacific women and men started in 2021-2024. This includes body composition analysis, energy expenditure measurements and assays of key parameters in blood samples. The aim is to understand how genetic variants contribute to factors involved in the development of metabolic diseases with the main focus being on type-2 diabetes, kidney disease, cardiovascular disease and gout. Final sample collection should be completed within the next year, and then final analysis of data is expected to be completed by 2026.

#### Annual plan milestones

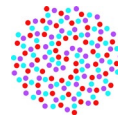
2025:

- Complete phenotyping of 500 women (to complement the 500 samples from men already collected) and begin assays on samples

2026:

- Complete assays and perform analysis of the data for entire phenotyping study
- Use expertise of MWC metabolic research experts to interpret the findings and identify future research directions

(ii) Use of genomic, transcriptomic and metabolomic data to identify new gene variants associated with trait clusters. We have initiated a new quantitative genetics project to identify key molecular drivers of metabolic disease, with a particular focus on genetic factors that are unique to Māori and Pacific populations. Importantly, for this work we will establish appropriate Māori governance over



some legacy datasets (such as GoGDK) and hold and analyse the datasets in a Māori-governed environment consistent with the principles of indigenous data sovereignty and tikanga Māori, as well as existing ethics consents. These research methods and capabilities will be expanded in a new cross-theme programme to be developed (see below). However, the immediate objectives will feed directly into the Metabolic Health theme.

### Annual plan milestones

2025:

- Complete acquisition and storage of multi-omic data and legacy clinical data from the GoGDK cohort, in an appropriately Māori governed environment, including transfer of existing ethics consents

2026:

- Complete genetic parameter (heritability and inter-trait correlations) and genome wide genetic risk/resilience estimation (i.e., GBLUP and PRS) in an appropriately Māori governed analytical platform (i.e., the recently developed the Rakeiora platform)
- Identify novel genetic variants (with associated trait information) relevant for metabolic health that could feed into functional studies

(iii) Understanding Impacts of Genetic Variants on Metabolic Disease: Studies have been undertaken to further validate the impact of gene variants initially found to be associated with metabolic disease risk in the MWC association studies and to define those likely to have the most impact on development of metabolic disease or on treatments for these diseases. For example, in depth studies have been performed to investigate the function of variants in CALCRL, SLC22A3, G6PC2, JAZF1, HK2, INSL5, CREBRF, CoQ6 and MTC variants (and 2 knock-in mouse models have been created to establish animal models for variants in CREBRF and SLC22A3). The aim of these studies has been to inform preventative or therapeutic strategies for metabolic disease that may have specific relevance to Māori and Pacific Peoples and has involved multidisciplinary biomedical approaches to study key processes regulating metabolism. To maximise efficiency of this process the MWC has supported the development of a pipeline approach that harnesses key capabilities found within the Centre including molecular biology, biochemistry, cell biology, cell models, physiology, animal models and other relevant approaches. The key next step is to review progress on the different variants to date and identify those that are the most important to progress. The best strategy will be to focus on a few variants and try to take these studies through to a level of understanding that will provide clinically actionable endpoints.

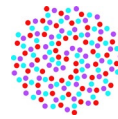
### Annual plan milestones

2025:

- Have reviewed the outcomes of the previously funded studies and identified a limited number for further support based on having high potential to inform precision medicine strategies

2026:

- Develop further functional studies on the selected variants for the initial cohort of work
- Use final analysis of data from phenotyping identify new variants that have strong potential to inform precision medicine and begin functional studies of these.
- Determine whether additional new variants have been identified from new multi-omic studies that would be informed by additional functional studies



2027:

- Continue functional studies of gene variants selected for study

2028:

- Complete functional studies of genetic variants selected for study

## Research Programme 2: Developing targeted clinical studies to apply knowledge from genetic and functional studies to improve health outcomes for Māori and Pacific Peoples.

We have been conducting pharmacogenomic studies involving evaluation of clinical records and other relevant approaches to understand the clinical efficacy in Māori and Pacific Peoples of modern medicines used to treat metabolic disease, with a specific focus on understanding how unique genetic factors might modulate this efficacy. We will continue to evaluate the new genetic variants that are identified as part of programme 1 and develop clinical studies to determine how this novel genetic and functional information could be translated into better or more targeted treatment options. This program builds on the idea that advancing our fundamental understanding of biology will inform precision medicine strategies, and for Māori and Pacific peoples to gain benefits from these strategies, we need to build on understanding of the unique genetic architecture of these peoples.

### Annual plan milestones

2025:

- Complete initial pharmacogenomic studies started in 2021-2024

2026:

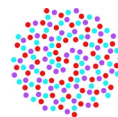
- Use final analysis of data from phenotyping, genomic studies and from previous functional studies to identify new variants that have strong potential to inform precision medicine and to develop a clinical study to investigate the impact of these on diagnosis or treatment of metabolic disease

2027:

- Continue clinical precision medicine study started in year 2

2028

- Complete clinical precision medicine study started in year 2



## Theme 2 - Infectious Diseases

### Overview

Infectious diseases are the main cause of acute hospitalisations in New Zealand. These diseases are also associated with significant health inequities for Māori and Pacific Peoples. Most recently we have observed the huge global impact of SARS-CoV2, starkly illustrating the importance of our need to be continually developing therapeutics and prevention mechanisms to combat infectious disease threats. Our risks are also compounded by antimicrobial resistance (AMR), which is seen as a global emergency threatening many of the achievements of modern medicine. The MWC's extensive network of researchers and international collaborators will develop novel strategies to combat infectious diseases through prevention (vaccine development), detection (molecular and serological diagnostics), and treatment (small molecule compounds and antimicrobial peptides). We will target microbial and viral pathogens leveraging the expertise of our multidisciplinary team. The outcomes of this work will be the delivery of new fundamental knowledge of the causes and new methods of combating infectious diseases of great importance to NZ, including acute rheumatic fever, respiratory infections, skin and soft tissue infections, tuberculosis, enteric pathogens, and viral diseases.

### Research programme 1: Prevention of infectious diseases

In this programme, collaborative MWC projects will exploit novel antigens, adjuvants and chemistry to develop new vaccines for viruses and bacteria to improve disease prevention. We have evaluated libraries of novel antigens from key pathogens such as Group A Streptococcus and Neisseria gonorrhoeae and are now in a position to capitalise on this resource to guide the production of new vaccines by combining these antigens with innovative adjuvant technology. Additionally, we have developed novel multiplex serological assays which will enable us to better understand the dynamics of infection in the New Zealand population, which will inform the development of these vaccines in a systems immunology approach.

#### Annual plan milestones

##### 2025

- Review the antimicrobial and viral targets for vaccine development from 2021-2024 and select targets to be carried over for continued development.
- Initiate work to characterise antigens from new targets for vaccine development.

##### 2026

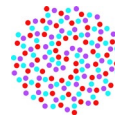
- Progress assay development for the evaluation of new antimicrobial and viral vaccine targets.
- Initiate work to characterise novel antigens.

##### 2027

- Progress promising vaccine antigen characterisation and vaccine assays.
- Explore and optimise adjuvants for vaccine development.
- Evaluate new antimicrobial and antiviral antigens in vaccine assays.
- Advance systems immunology platform approaches as appropriate.

##### 2028

- Progress promising vaccine assays into preclinical testing.



## Research programme 2: Detection of infectious diseases

In this programme projects will develop new diagnostic methods for priority bacterial and viral pathogens. We have assessed new targets and methods for the improved diagnosis of key infectious diseases such as Group A Streptococcus and Mycobacterium tuberculosis, and are expanding that work into respiratory viruses. A significant body of planned work on the sero-surveillance of priority pathogens has been adopted and selected for further funding by the NZ Ministry of Health. We will continue developing new diagnostic methodologies for a wide range of current and potential infectious disease threats.

### Annual plan milestones

#### 2025

- Review antimicrobial and viral targets for diagnostic development from 2021-2024 and select targets for continued development.
- Initiate work to identify best approach for the development for new targets for diagnostic development.

#### 2026

- Assess feasibility and clinical need for serosurveillance surveys of new diagnostic targets.
- Initiate work to characterise new antimicrobial and viral targets for diagnostic development.

#### 2027

- Progress continued development and assessment of diagnostic targets.

#### 2028

- Characterise initial diagnostic performance for new targets.
- Progress the most promising diagnostic tests from original targets into advanced preclinical testing, as appropriate.

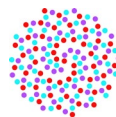
## Research programme 3: Treatment of infectious diseases

Projects in this programme will harness novel small molecule and peptide chemistry as well as synthetic biology-driven natural product approaches to develop new drugs for prioritized viral and bacterial diseases. We have selected and validated targets for new drugs in both bacterial (e.g. *M. tuberculosis*, *N. gonorrhoeae*) and viral (e.g. SARS-CoV2 and norovirus) diseases. We are synthesising potent new small molecules against these targets and are testing their efficacy against both their molecular targets and the identified priority pathogens. Informed by genomic mining of microbiome data, we have synthesised novel and potent antimicrobial peptides that are effective against incipient bacterial disease threats such as *Acinetobacter baumannii*, and have verified their lack of host toxicity using cutting-edge technology such as organoid screening. The most promising new candidate compounds are being taken forward for IP protection and testing in animal and pre-clinical models of the priority diseases.

### Annual plan milestones

#### 2025

- Review molecular targets from pathogenic bacteria and viruses from 2021-2024 and select targets for continued development.



- Progress biochemical and structural characterization of molecular targets of priority microbial and viral pathogens.
- Initiate and progress synthetic preparation of lead compounds.
- Initiate natural product discovery to identify new antimicrobial leads.

#### 2026

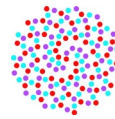
- Continue molecular target validation and characterization.
- Develop synthesis and evaluation of putative small molecule inhibitors and antimicrobial peptides.
- Continue natural product discovery to identify new antimicrobial leads.

#### 2027

- Continue molecular target validation and characterization Continue synthesis and evaluation of putative small molecule inhibitors, antimicrobials and antivirals against prioritized pathogens.
- Continue synthesis and evaluation of putative small molecule inhibitors and antimicrobial peptides.
- Progress natural product discovery to identify new antimicrobial leads.

#### 2028

- Complete molecular target validation and characterization.
- Evaluate strategies for the development of antimicrobial peptides or natural products discovered from genome mining.
- Elaborate small molecule design for improved activity against viral or microbial targets.
- As appropriate initiate pre-clinical studies and plan for a move for animal studies.



## Theme 3 - Cancer Immunology

### Overview

The development of new therapeutic approaches that either target specific molecular pathways in tumours (targeted therapies) or stimulate each patient's own immune system to reject tumours (immunotherapies), have revolutionised the treatment of cancer. To address the most urgent and clinically-relevant scientific questions at that time, the MWC Cancer Theme 2021-2024 strategy focussed specifically on cancer immunology - the science behind immunotherapy. This work has generated valuable scientific advances and new capability in New Zealand, including new capabilities for Māori, Pacific and Clinical investigators within the MWC.

In parallel, international gold-standard precision medicine for cancer patients has continued to advance and now increasingly uses deep molecular analysis of each patient's tumour(s) to direct a combination of immunotherapies and other treatment types. The NZ government is getting organised to provide central leadership and support for this approach, as evidenced by the precision health long-term insights briefing presented to the House of Representatives in early 2024. Reflecting this progress, the Cancer Theme 2025-2028 strategy will layer a set of additional research priorities onto our 2021-2024 cancer immunology focus, while continuing to advance the most promising of its current cancer immunology research projects. These additional priorities will focus on research that involves other forms of targeted treatments and advances in precision medicine for cancer patients in NZ (both diagnosis and treatment) and are unique to NZ. Projects that are likely to stand up strongly to international peer review and competition will be prioritised, as will projects that draw on current MWC interdisciplinary strengths across NZ and build capability of Māori and Pacific scientists and clinicians. Where possible selection will include projects in collaboration with the MWC Infectious Disease and Metabolic Health themes. As part of its natural evolution, over 2025-2028 the Cancer Theme will provide larger levels of support to a smaller number of programs than over 2021-2024 to achieve impacts in improving cancer diagnosis, treatment and clinical outcomes. It will also continue to support a range of research, from novel research by early- and mid-career investigators mentored by senior scientists, through to well established programs with substantial additional support beyond the MWC. Three broad Research Programmes will be supported:

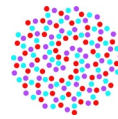
### Research programme 1: Targeted delivery of immune stimulants

Program 1 builds on a programme from the Cancer Theme's 2021-2024 plan. It supports continuation of a subset of immunomodulatory therapy projects already underway that have proved especially successful, while providing support for a small number of new targeted treatments, drug delivery systems, and immunomodulatory therapy projects and clinical trials. It may include immunomodulatory agents that work in synergy with targeted therapies, agents that can overcome resistance to immune checkpoint inhibitors, or novel immunotherapy approaches including personalised cancer vaccines and cell-based therapies.

#### Annual plan milestones

2025:

- Have reviewed process from 2021-2024 and initiated support for new projects that investigate therapeutic agents and their relevant companion biomarkers, which have evidence of anti tumour properties (including, but not limited to immune modulatory properties) in cancers relevant to Māori and Pacific Peoples.
-



2026:

- Have initiated proof of principle studies for the development of therapeutic agents for use in cancers preferentially relevant to Māori and Pacific Peoples.

2027:

- Have completed proof of principle studies for therapeutic agents and their relevant companion biomarkers in cancers relevant to Māori and Pacific Peoples

2028:

- Have generated outputs including publications, clinical trial results or Patent Cooperation Treaty filings for therapeutic strategies and their relevant companion biomarkers

## Research programme 2: Advancing scientific understanding to underpin future precision medicine for cancer patients

Programme 2 will extend current MWC research into the molecular aspects of cancer, including research funded as part of the MWC Cancer Theme's 2021-2024 Precision Immuno-Oncology programme. Building on the success of that programme, it will broaden support to high impact research projects in the basic molecular mechanisms of cancer, such as research into oncogenes and tumour suppressor genes, new drivers of cancer progression (such as epi-drivers), cancer immunology research and research into the tumour stroma. This programme will identify especially promising research in these areas, prioritising research in cancers relevant to Māori and Pacific Peoples. This program may provide particular opportunities for research in collaboration with the Infectious Disease and Metabolic Health MWC themes, where understanding biological mechanisms, genes, biomarkers and drugs may have clinically important implications across a range of pathologies.

### Annual plan milestones

2025:

- Have reviewed 2021-2024 outcomes, and initiated support for up to 5 projects that investigate molecular mechanisms or targets in cancers preferentially relevant to Māori and Pacific Peoples.

2026:

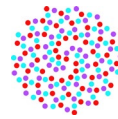
- Have tested in vitro proof of principle for the development of clinically relevant molecular mechanisms or targets in cancers relevant to Māori and Pacific Peoples.

2027:

- Have initiated and demonstrated in vivo proof of principle for the development of clinically relevant molecular mechanisms or targets in cancers relevant to Māori and Pacific Peoples.

2028:

- Have produced outputs such as publications, IP, and reports to stakeholders including Māori and Pacific communities
- Have analyzed and demonstrated relationships between companion biomarkers and clinical opportunities or outcomes



## Research programme 3: The delivery and implementation of precision medicine for cancer patients in Aotearoa New Zealand

Programme 3 focusses on the delivery and implementation of precision medicine to cancer patients in NZ, prioritising the translation and clinical implementation of MWC research, including research from programmes 1 and 2 above. It positions the MWC to take advantage of the growing support of precision medicine by the NZ government, including international trials. For instance the program will provide a platform for identification and initial trials of novel biomarkers including blood plasma biomarkers as well as clinically relevant biomarkers of immune responses generated in our 2021-2024 research. It will facilitate fail-fast retrospective trials of companion diagnostic biomarkers for therapies developed by the 2025-2028 MWC Programme 1. It will support MWC scientists to apply their capabilities in bioinformatics and CRISPR technologies to determine the clinical relevance of DNA variants of unknown significance in the tumours of NZ patients. It will also facilitate MWC scientists with expertise in particular molecular classes to play a role in multi-disciplinary clinical meetings, where their expertise is clinically relevant (as several MWC biologists already do). The program will leverage MWC-supported capabilities such as its Clinical Associate Investigators, biobanking and clinical registers, commercialisation mentors and technology mentors, early and mid-career researchers, as well as MWC members who are Māori and Pacific leaders in oncology.

### Annual plan milestones

2025:

- Have established capability networks, clinical implementation protocols and regulatory approvals to advance development of clinically relevant interventions and tests in cancers relevant to Māori and Pacific Peoples.
- Have initiated support of up to 3 projects that advance translation and implementation of clinically relevant therapies and biomarker tests in cancers relevant to Māori and Pacific Peoples.

2026:

- Have initiated testing of clinically relevant therapies and tests in pre-clinical cancer models and clinically relevant tests in cancer patients.

2027:

- Have reviewed outcomes of pre-clinical testing and initiated testing a limited number of most promising clinical interventions and tests for clinical implementation.

2028:

- Have completed evaluation of translation and implementation of clinically relevant therapies and tests in cancers relevant to Māori and Pacific Peoples.  
Have implemented some outcomes into the clinic or diagnostic sector with focus on reducing inequity in cancer outcomes of Māori and Pacific Peoples.



## Theme 4 – Integration across the themes

### Overview

Work during 2021-2024 has focused on the three themes described above, but it has become clear (and was particularly emphasised in the report from our international Science Advisory Board) that there would be benefits from further integration and interdisciplinary collaboration that bridges across the current themes, building on the expertise and technical developments across the breadth of the MWC network. To this end, during 2025-2028, significant effort will be placed into development of additional projects or programmes that use experience from researchers within more than one theme. At this stage, this is still under development, but some examples that have been identified for further discussion:

1) A programme focused on extending the population-specific precision medicine approach, currently being developed within the metabolic theme, to wider aspects of our research. This also includes extending the underpinning quantitative genetics and data science techniques. For example, this approach could be used to determine how genetic factors that are unique to Māori and Pacific populations may be informative in identifying risk and/or treatment options in cancer, and potentially in understanding the individual host response to infectious disease.

2) A project evaluating how a genetic variant in SLC22A3 might impact on use of platinum-based drugs in cancer treatment. This variant was identified in the screening studies completed within the metabolic health theme, and is currently under evaluation within that theme as it seems to alter rates of transport of the diabetes medication, metformin. However, other international studies have shown that this same transporter is also important for the transport of a class of platinum-based chemotherapy drugs. This means that Māori and Pacific individuals who carry this variant (up to 20% of individuals) may respond differently to these toxic compounds. Such knowledge could mean a simple genetic test could markedly alter selected modes of cancer treatments.

### Annual plan milestones

2025:

- Identify opportunities for development of “cross-theme” programmes or projects

2026:

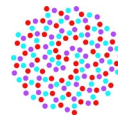
- Initiate programme or project that integrates fundamental biology across research themes

2027:

- Continue integrated cross-theme research started in 2026

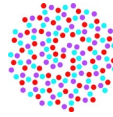
2028

- Complete integrated cross-theme research started in 2026



## **Appendix 2 – NZ Research Organisations that are signatories to the MWC Collaboration Agreement**

- The University of Auckland
- The University of Otago
- The University of Canterbury
- Victoria University of Wellington
- Malaghan Institute of Medical Research
- Massey University
- The University of Waikato
- The New Zealand Institute of Plant and Food Research Limited
- Institute of Environmental Science and Research Limited
- AgResearch Limited
- Auckland University of Technology
- The Moko Foundation
- Ngāti Porou Oranga
- Cawthron Institute



## **Appendix 3 – Application of Tiriti Principles in the Maurice Wilkins Centre (excerpt from MWC’s Māori Engagement Strategy)**

As a Crown-funded CORE, the Maurice Wilkins Centre (MWC) is committed to uphold te Tiriti o Waitangi (Tiriti). This document is developed to assist with fulfilling its commitment.

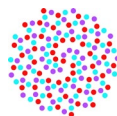
There are three tables in this document. The first of these has been drawn from the government's Vision Mātauranga statement. In this table, research is divided into three categories that were adapted from those on the National Science Challenge, Biological Heritage website hosted by Manaaki Whenua Landcare Research. Please note that there may be overlap between categories A, B, and C in terms of the nature and degree of relevance to Māori.

The second table sets out four mana used in the health system to express te Tiriti and suggests how mana whakahaere, mana motuhake, mana tangata and mana Māori can be expressed in relation to the three categories of research.

The third table expresses five Tiriti principles in relation to the provision of health research services and also suggests how these can be interpreted in relation to the each of the five research categories.

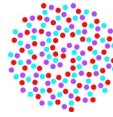
The application of Tiriti principles will be used to influence strategy, structures, procedures, personnel and operations in the work of the MWC, as they were in the latest research funding round where researchers were required to identify how their research will engage with Māori.

It is understood that the MWC research programme comprises a wide range of projects ranging from very small in size to larger projects and comprises a wide range of scientific techniques and approaches, so it is difficult to apply every aspect of the principles below to every individual project but the goal for the centre is to achieve this balance at the overall level of its research programme.



**Table One: Research Categories Drawn from Vision Mātauranga:**

Research Category	This category includes research where:
<b>A. Research of relevance to all peoples</b>	<ul style="list-style-type: none"> <li>• No mātauranga Māori (Māori knowledge, see Appendix 2) is used.</li> <li>• Māori are not associated with the research process (e.g. not on any research management / advisory / governance panels, it is not inclusive of Māori land or institutions, nor the subject of any component of the research).</li> <li>• Includes research towards health outcomes in which Māori may be overrepresented but the solution will benefit all people suffering from the disease.</li> <li>• It could include work that contributes to Māori aspirations and outcomes, but not only relevant to Māori.</li> <li>• Examples of work in this category could be new chemistry methodologies or development of new techniques in molecular or cell biology that are applicable to wide areas of science.</li> </ul>
<b>B Research specifically relevant to Māori and research involving Māori</b>	<ul style="list-style-type: none"> <li>• The research relates to conditions that are more prevalent in Māori populations, and/or conditions which Māori are more susceptible to than the general population (e.g. gout, stomach cancers and kidney failure).</li> <li>• Mātauranga Māori may be incorporated in the research but is not central to the research.</li> <li>• Research is specifically and directly relevant to Māori and Māori are involved in the design and/or undertaking of the research.</li> <li>• The work typically contributes to Māori (e.g. iwi / hapū / organisations) aspirations and outcomes.</li> <li>• This could also include diseases that are predominantly relevant to Māori.</li> <li>• Examples of this could include studies where Māori participants are involved in clinical studies or in precision medicine studies.</li> </ul>
<b>C Māori-centred research and kaupapa Māori research</b>	<ul style="list-style-type: none"> <li>• The research is Māori led, and where mātauranga Māori is either a central focus of the research or is used alongside other knowledges (e.g. through frameworks, models, methods, tools, etc.).</li> <li>• Kaupapa Māori research may be a key focus of the research, in which case mātauranga Māori is incorporated and 22ea o Māori and Māori philosophies and principles ground the work. This type of work would be expected to be led by Māori researchers with cultural fluency and knowledge.</li> </ul>



	<ul style="list-style-type: none"><li>• Māori-centred research may be collaborative or consultative, with direct input from Māori groups, commonly including Māori researchers or a collaboration with Māori researchers or researchers under the guidance/mentoring of Māori.</li><li>• There is alignment with and contribution to Māori (e.g., iwi / hapū, organisations) aspirations, that is appropriate for the research being undertaken.</li><li>• The work contributes to Māori (e.g. iwi/hapū organisations) aspirations and outcomes and is likely to be mana enhancing.</li><li>• Examples could include specific Māori genome studies, whakapapa links, the relationship between genetic adaptation and Māori traditional environments.</li></ul>
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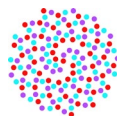
As seen in the Tiriti principles tables below, where research is not seen to have any specific Māori component, Māori involvement is around high-level decision-making, rather than on-the-ground implementation. On the other hand, research that is more specific to Māori requires more formal engagement with Māori.



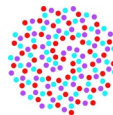
**Table Two:** The application of **Tiriti mana principles** can be viewed in accordance with the table below. An explanation of numbers 1.1- 3.1 can be found below the table. The following colours indicate the requirement level in each instance:

Considered
  Action required
  Mandatory requirement

Tiriti Expression	Interpretation in Health Research Space	Examples of Implementation Actions	A. Research of relevance to all peoples	B Research specifically relevant to Māori and research involving Māori	C Māori-centred research and Kaupapa Māori research
<b>Mana Whakahaere</b> (Article I)	Effective and appropriate kaitiakitanga and stewardship. Mana whakahaere is the exercise of control in accordance with mātauranga Māori. This goes beyond the management of assets and resources and towards enabling Māori aspirations for health and independence.	Māori voices are equally heard in governance and leadership decision-making roles.	1.1	2.1	
		Māori voices are equally heard in priority setting.	1.1	2.1	3.1
		Māori aspirations are included in the objectives for each research area.		2.2	3.1
		A definition of research that will be delivered in a manner inclusive of mana whakahaere.		2.2	3.1
		Kaupapa Māori research is implemented by Māori researchers and by those under the guidance of Māori researchers.			3.1
<b>Mana Motuhake</b>	The right for Māori to be Māori (Māori self-determination); to exercise their authority over their lives and to live on Māori	Leadership, research policy, processes and protocols are implemented that reflect mana 24ea o24ke and continually give effect to Māori cultural development.		2.2	3.1



(Article II)	terms and according to Māori philosophies, values and practices, including tikanga Māori.	Māori are engaged about the programme.		2.2	3.1
		There is continued Māori involvement in every area of the programme.			3.1
		Research will be delivered in a manner consistent with mātauranga Māori.		2.2	3.1
		Research activities are carried out in a manner and by personnel as determined by Māori.			3.1
<b>Mana Tangata</b> (Article III)	Achieving equity in health research outcomes for Māori, enhancing the mana of people across their life course, and contributing to the overall health and wellbeing of Māori.	Enabling capability to be developed within Māori communities and researchers through involvement and research processes.	1.2	2.3	
		Ensuring capability is developed within Māori communities and researchers through involvement in research processes at all levels.			3.1
		Ensuring the proportion of health research funding and delivery is consistent with equitable outcomes.	1.1	2.3	3.1
<b>Mana Māori</b> (Declaration)	Enabling ritenga Māori (Māori customary rituals), which are framed by 25ea o Māori (the Māori world), enacted through tikanga Māori (Māori philosophy and customary practices) and encapsulated within mātauranga Māori (Māori knowledge).	Articulation and requirements for ritenga Māori, tikanga Māori, and mātauranga Māori are within contracts and research engagement practices.		2.2	3.1
		How mana atua will be expressed by Māori is articulated within the overall framework.		2.2	3.1



1.1 There are Māori voices involved in research proposal assessment and priority setting; in most cases this will be sufficient to fulfil this requirement.

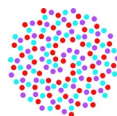
1.2 Lead researchers are encouraged, where possible, to consider employing Māori researchers or developing Māori capability. There is no obligation to meet this requirement.

2.1 The Kaiārahi position will advise on (a) the necessary considerations in the research proposal (these considerations can be the subject of consultation with research leads); and (b) a pathway to ensure that Māori voices are equally heard in governance and decision-making settings. To some extent, this is covered by having Māori voices in research assessment.

2.2 Engaging both parties can bring to light the protocols and kawa needed.

2.3 Specific groups or individuals who can work with researchers need to be identified. Consideration for remuneration for involvement should be given.

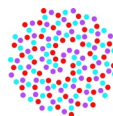
3.1 Refer to diagram 'End to End Research Process' in Appendix 3 for guidance.



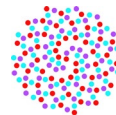
**Table Three:** The five **Tiriti principles** can be further interpreted. An explanation of numbers 1.1- 3.1 can be found below Table 2. The following colours indicate the requirement level in each instance:

Considered
  Action required
  Mandatory requirement

Principles	Interpretation in Health Research Space	Enabler	A. Research of relevance to all peoples	B Research specifically relevant to Māori or Research involving Māori	C Māori-centred research or Kaupapa Māori research
<b>Tino Rangatiratanga</b>	Māori exercise leadership/authority over their own research, including intergenerational planning to develop Māori researchers and support for Māori self-determination and mana motuhake.	Pathways and research are co-designed in collaboration with Māori research providers and consumers.		2.1	
		Pathways and research are led by Māori researchers and Māori research organisations.			3.1
		Attention is given to research to developing capability within te ao Māori by Māori.		2.1	3.1
	Ensuring that Māori lead decision-making about Māori information/data that is collected and how it is used.	Ensuring all research pathways and the processes within have been developed and/or reviewed with a Tiriti lens.	1.1	2.2	3.1
	Achieving equity of health outcomes for Māori is an essential component of research.	Māori leadership in the definition of work programmes and priorities to assist in achieving equity of Māori health outcomes.		2.2	3.1
		Disparity areas identified will be prioritised in the research agenda.	1.1	2.2	3.1



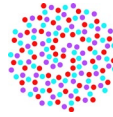
<p><b>Equity</b></p>	<p>Information and research data will be used to highlight any disparities between the Māori and non-Māori populations and highlight areas to address.</p> <p>Equity through Māori leadership in research oversight.</p>	<p>Development of Māori capability to achieve equity.</p>	<p>1.1</p>	<p>2.2</p>	<p>3.1</p>
<p><b>Active Protection</b></p>	<p>The work programme priorities are determined by conditions that have the greatest impact on improving health outcomes for Māori.</p>	<p>Consideration and prioritisation of programmes that will lead to the active protection of Māori health and well-being.</p>		<p>2.2</p>	<p>3.1</p>
	<p>Quality research supports the provision of services (that achieves better health and wellbeing for Māori and the population as a whole.</p>	<p>Māori are involved in decision-making around ownership, collection and use of mātauranga Māori, information and data.</p>	<p>1.1</p>	<p>2.3</p>	<p>3.1</p>
	<p>Data sovereignty and Mātauranga Māori are recognised and protected.</p>	<p>Māori leadership is involved in decision-making around ownership, collection and use of mātauranga Māori, information and data.</p>		<p>2.3</p>	<p>3.1</p>
	<p>An inclusive and enabling environment is established for tangata Māori.</p>	<p>Personnel, protocols and policies reflect aspirations and contributions of Māori.</p>	<p>1.1</p>	<p>1.1</p>	<p>3.1</p>
	<p>Research pathways meet key quality criteria.</p>	<p>The MWC enables research options that provide localised, specific programmes and</p>		<p>1.1</p>	<p>3.1</p>



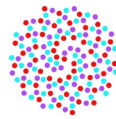
<p><b>Options</b></p>	<p>Kaupapa Māori and other differences such as geography are accommodated.</p> <p>Research programmes contribute to greater access to health and wellbeing services for Māori.</p>	<p>research which incorporates diverse communities, including Māori communities.</p>			
<p><b>Partnership</b></p>	<p>Evidence informs us that only when we work in partnership in the governance, design, delivery and monitoring of health research services, can we improve health outcomes and wellbeing for Māori. By doing so, we should also be able to achieve whole of population equity and wellbeing.</p>	<p>Collaborative relationships grounded in trust and reciprocity define participation by all parties.</p>	<p>1.2</p>	<p>2.3</p>	<p>3.1</p>
		<p>Research pathways and proposed research must be co-designed with Māori to ensure they meet the needs of the Māori population and are guided by Māori health research experts to areas that may provide the greatest positive impacts.</p>		<p>2.3</p>	<p>3.1</p>
		<p>Māori leadership will be provided to determine the stewardship, use, control and safety of data and other information.</p>			<p>3.1</p>
		<p>The partnership must be grounded in a Tiriti framework that is consistent with a Māori worldview and one that enhances the mana of all.</p>		<p>2.3</p>	<p>3.1</p>

1.1 There are Māori voices involved in research proposal assessment and priority setting; in most cases this will be sufficient to fulfil this requirement.

1.2 Lead researchers are encouraged, where possible, to consider employing Māori researchers or developing Māori capability. There is no obligation to meet this requirement.



- 2.1 The Kaiārahi position will advise on (a) the necessary considerations in the research proposal (these considerations can be the subject of consultation with research leads); and (b) a pathway to ensure that Māori voices are equally heard in governance and decision-making settings. To some extent, this is covered by having Māori voices in research assessment.
- 2.2 Engaging both parties can bring to light the protocols and kawa needed.
- 2.3 Specific groups or individuals who can work with researchers need to be identified. Consideration for remuneration for involvement should be given.
- 3.1 Refer to diagram 'End to End Research Process' in Appendix 2 for guidance.



## Appendix 4 - Guidelines for Māori and Pacific Health Advancement

We understand that there are many types of science in the MWC and that some of the factors below might be relevant for your project:

- Does the research *involve* Māori? Involve could mean that Māori, whether individually or collectively, participate in the research's design or undertaking; That the research utilises mātauranga Māori, usually in a minor way, in its design and undertaking; or That the research contributes to or is expected to contribute to Māori (iwi/hapū/whānau/etc) aspirations and outcomes.
- If you have a direct line of sight to a beneficial outcome, assuming your research is successful, how and where might it impact Māori? What might the long-term benefits be? Will or could Māori be impacted? What is the potential for benefits and what might be needed outside of your research to ensure such benefits? While this sits outside the scope of your research it provides Māori evaluators a broader contextualisation regarding how the research might increase benefits and risks to Māori communities.
- If you do not have a direct line of sight to a beneficial outcome (for example, if you are conducting research that builds, rather than applies knowledge), how does this research add to body of knowledge that might *then* lead to future applications? We understand that this is speculative but consider thinking broadly about why building this knowledge or understanding is important to humanity, including Te Ao Māori.
- Whether or not there is a direct line of sight to outcomes, alternative relevance to Māori can be considered – for example how are Māori involved in the research? How will the research empower Māori and Pacific people – including workforce and communities. Applicants should give some consideration to if/how opportunities will be generated.
- If none at all (including no participation of Māori researchers...), then clearly state that up front. Other questions may be relevant - is there a need for members of the research team to be proficient in te reo? How has this aspect been addressed? If a gap exists, the researcher may pursue some form of self-development in Te Ao Maori. This could entail doing a Te Reo Maori foundation course, enrolling in a cultural training course. These projects will not be held up for lack of engagement, and the information will provide MWC Board and Directors with data regarding Māori engagement across the breadth of MWC4.0. It will also help you to consider how your work enables the career development and aspirations of others, including Māori and Pacific Peoples.
- In terms of benefits arising from research, any such benefits can be classified as follows. Basic science initiatives typically fall into the category of 'incidental/indirect benefit' and thus generally weak potential to specifically benefit Māori. Nonetheless Māori can and often do benefit from such research, thus developing relationships with Māori can directly influence the possibility of beneficial outcomes. Such relationships can be internal to the research team – e.g., the training of Māori researchers. How might this research build new, or enhance existing, relationships with Māori? (for the MWC or individual researchers), To what extent have you discussed the research with Māori partners and agreed on the methodology you will use? (this could be existing partners in the MWC (Ngāti Porou Oranga, The Moko Foundation) or partners that they have established for the purpose of their specific research project.)
- Partnerships with Pacific communities in NZ and/or with others in the region and internationally, and ways in which the research will help to attract and nurture the next generation of Pacific scientists.
- Possibility of infusing the research with diverse Pacific knowledge systems, and grounded in core principles of ethical research practice.
- Accountability mechanisms within the research to protect the safety and career development of Pacific researchers e.g. including sponsors or mentor or community advisory representative.
- New standard of research excellence in Pacific health knowledge.
- Prioritise unmet Pacific health needs and need for precision medicine and precision treatments e.g. in response to COVID-19 pandemic and new variants, genetics of chronic disease in ethnic-specific Pacific population groups.