

## Recommendations for Pacific-led research within Theme 2:

# Culturally centred health interventions for Pacific peoples



## Report on fono to scope and prioritise research

Wednesday, 12 February 2020 – Massey University,  
Wellington

## Acknowledgements

Thank you to all fono participants who generously shared their time, wisdom, expertise and research ideas, to Riz Firestone and her team for hosting the fono at Massey University, and to Lisa Te Morenga for facilitating the day.

Appendix 1 contains details about fono participants.

Fono welcome prayer: Tevita Funaki (The Fono)

Fono facilitation: Lisa Te Morenga (Te Herenga Waka – Victoria University of Wellington)

Fono organisation and planning: Riz Firestone and team (Massey University), Jim Mann, Jean Cockram, Fleur Templeton and Claire Ashford (Healthier Lives)

Report preparation and writing: Danielle Prapavessis (Massey University) and Fleur Templeton.

## Contents

Acknowledgements .....	1
Introduction .....	2
Purpose of the fono .....	2
Participants .....	2
Structure of the fono .....	2
Overview of Healthier Lives .....	3
Phase 2 of Healthier Lives .....	4
Shaping future research.....	5
Strengths of Pacific peoples.....	5
Community perspectives .....	5
Gaps and opportunities .....	7
Group one .....	7
Group two .....	8
Conclusion.....	9
Appendix 1: List of fono participants.....	10
Appendix 2: Soap-box activity .....	11
Appendix 3: Research projects relevant to Pacific communities .....	14

## Introduction

### Purpose of the fono

This was the first time that NZ Pacific health researchers and community representatives, working in areas related to the mission of the Healthier Lives *He Oranga Hauora* National Science Challenge, met in a formal setting to discuss specifically Pacific issues, perspectives, and visions for health research.

The purpose of the fono was four-fold:

- to facilitate an open exchange of knowledge, views, and ideas from Pacific peoples;
- to provide all attendees with an opportunity to speak and be heard;
- to develop and prioritise research areas and topics for culturally-centred interventions to improve health outcomes for Pacific peoples;
- to clarify and help determine the direction of Pacific-led research in Theme 2 (culturally-centred health interventions) of Phase 2 of Healthier Lives.

### Participants

The fono participants were Pacific researchers and community partners, including some who had already been involved with Healthier Lives in its first funding phase and others who have not. A full list is found in Appendix 1. The representatives from community groups were asked to share the voices of their peoples.

### Structure of the fono

- Welcome and blessing
- Overview of Healthier Lives
- Hearing the voices of NZ Pacific communities and researchers
- Identifying gaps and opportunities to improve health outcomes of Pacific peoples
- Creating a shared vision for future Pacific-led research



## Overview of Healthier Lives

Healthier Lives *He Oranga Hauora* is one of 11 National Science Challenges (NSCs) funded by the Government via the Ministry of Business, Innovation and Employment.

Healthier Lives undertakes innovative, mission-led research to reduce the burden of New Zealand's major non-communicable diseases (NCDs) and the health inequities associated with them. It has a mandate to focus on four target diseases: obesity, type 2 diabetes, cardiovascular disease, and cancer.

NSCs have been funded in 2 five-year phases (2015-2019; 2019-2024), and this fono took place early in the second phase. Healthier Lives research within this second phase will be focussed within three themes, recognising the need to work at multiple levels to improve health outcomes:

- Healthy food and physical activity environments (population-level)
- Culturally centred interventions for Māori and Pacific peoples (whānau ora and community approaches)
- Precision medicine and personalised prevention (individually targeted).



Healthier Lives has undertaken a number of research projects which are relevant to Pacific Peoples.

In Phase 1, 23% of Healthier Lives' research investment specifically targeted the health needs of Pacific peoples living in New Zealand. Two of the 10 research projects funded in Phase 1 were led (or co-led) by a Pacific Principal Investigator (Pasifika Prediabetes Youth Empowerment Project; OL@-OR@). There were 10 Pacific Associate Investigators across three projects (PPYEP; Equitable CVD risk prediction; ctDNA for better cancer management). One Māori-led project (Mana Tū) also had a strong focus on the Pacific population in South Auckland.

This research included: co-design of a culturally-tailored mHealth programme to support healthy lifestyles for Māori and Pasifika; development of new blood tests to monitor treatment for colorectal cancer and melanoma; a whānau ora approach to prevention and management of diabetes and related conditions; development of a new CVD risk prediction tool based on data specific to New Zealand's unique populations; and youth-led, co-designed interventions to target prediabetes.

## Phase 2 of Healthier Lives



Figure 1: **Healthier Lives Phase 2 Strategy Framework** (Source: Healthier Lives–He Oranga Hauora, 2018. Research Strategy 2019-2024)

Commissioning new research for Phase 2 (2019-2024) is currently underway. It is expected that a number of Phase 2 research projects will be highly relevant to Pacific peoples. Some of these are already approved for funding while others are still in the planning stages.

(See a full list of Healthier Lives research projects relevant to Pacific communities in Appendix 3).

## Shaping future research

### Strengths of Pacific peoples

To counter *deficit-based* thinking, the process of shaping future research priorities started by thinking about the strengths of Pacific peoples. Each person shared one aspect of Pacific culture, community, and people they value (see Figure 2 below).

Coconut wireless was a term used (and understood) to describe the ability of Pacific peoples/ to share news and information and band together as communities.



Figure 2: Strengths of Pacific peoples as perceived by fono participants

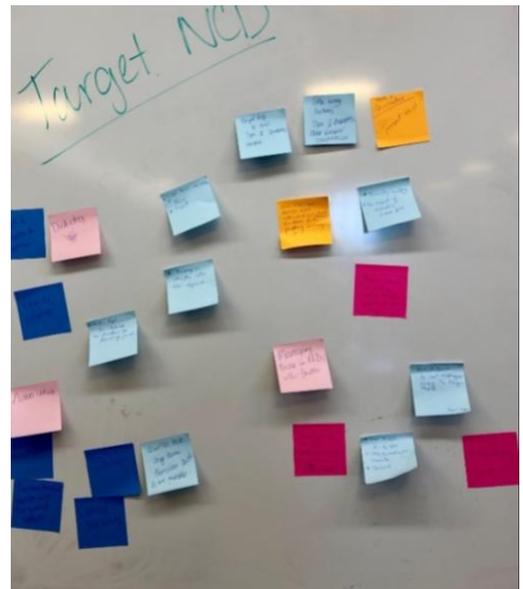
### Community perspectives

In a highly interactive *Soapbox* activity each participant was invited to speak for three minutes on the following: (i) an NCD or other health issue that has had a huge impact in their communities; (ii) individual and community insights/perspectives on the health issue; and (iii) their personal vision (research dreaming) for future work. These contributions were scribed and thematised (Appendix 2), and reviewed by the whole group to identify the key themes. There was great diversity in what people shared, encompassing personal stories, insights, and research findings.

Type 2 diabetes and broader systemic issues within the health system emerged as key areas of concern for Pasifika peoples, and therefore as priority areas for Healthier Lives to focus on. The following areas were considered to be highly relevant to future research:

- Family-centred approaches
- Community-centred approaches
- Holistic health delivery and services
- Redesign of health systems

- Empowerment of Pacific communities
- Aiga/whanau-efficacy vs. self-efficacy
- Health literacy and education for Pacific peoples
- Co-design vs. co-development
- Measuring what matters to Pacific peoples
- Capacity-building within the communities and career pathway opportunities in health research
- Strengths-focus (re-position deficits within systems, not in the affected communities)
- Culturally-specific interventions.



## Gaps and opportunities

Participants divided into two groups to review and further explore potential research areas. Through the talanoa process, using examples, personal stories and experiences, a refined set of priorities was established.

### Group one

#### Priorities for research focus:

- Family-centred approaches
- Community-centred approaches
- Empowerment of Pacific communities
- Health literacy and education for Pacific peoples.

#### Gaps

There is a gap in the health system around working with *families* facing challenges to adopt healthy lifestyle behaviours. The current emphasis on individualised care overlooks the importance of family in lifestyle choices, and individualised care approaches often use language that translates ineffectively to the lived realities of Pacific peoples.

Barriers to educational opportunities and career development for young Pacific peoples within the health system were also noted.

#### Opportunities

The three priority areas listed above can be addressed collectively in research projects. Essential considerations include: (i) allowing participants to define what *family is for the purpose of the research*, (ii) ensuring research participants have an opportunity to share their voice and tell their own stories, and (iii) using family-centred intergenerational approaches i.e. not targeted to just one age group.

Specific ideas included:

- i. increased education and health literacy to enhance understanding of the health issues impacting families;
- ii. empowering families to identify and enact their own goals and solutions for leading healthier lives;
- iii. building on existing research, e.g. developing the OL@-OR@ app to include health literacy components to involve the entire family, include capacity development, and customisation for various community and cultural provisions;
- iv. creating health and career development pathways for young Pacific peoples such as school programmes, pastoral care, financial support and mentorship; and
- v. family-focused activity-based interventions, such as using games and activity-based educational tools to encourage behaviour changes that lead to healthier lifestyles at the family level.

## Group two

### Priorities for research focus:

- Holistic healthcare delivery/services
- Community-centred approaches
- Redesign of health systems
- Focus on deficits of the systems, not the communities
- Aiga/whānau-efficacy vs. self-efficacy.

### Gaps

The lack of integration of primary care services for Pacific peoples, the focus on deficits within the communities, and service delivery models based on *individualised* care (i.e. self-efficacy) rather than *family* care (i.e. aiga efficacy) were all identified as gaps for Pacific peoples within the current health system.

Systemic barriers to accessing holistic health services, such as the cost of transport, the enormous time-commitment to access services, a lack of continuity with health providers, a lack of understanding of diverse Pacific ethnicities (i.e. a pan-Pacific approach) were also identified as factors that often mean the poorest families with the highest needs are least able to access services.

### Opportunities

There is an opportunity to incorporate digital tools within an integrated care model to increase access to quality care without requiring additional visits to primary services.

Positive benefits will also come from:

- ensuring Pacific peoples articulate the health issues to be focussed on;
- adopting *family-centred* models that increase *aiga-efficacy* rather than individualised approaches;
- community-centred approaches;
- considering continuity of care and sustainable delivery, including developing long-term relationships with primary and secondary care providers built on a foundation of trust and rapport to improve interactions with the health system.

## Research themes moving forward

In the final session, there was further exploration of two potential research areas identified earlier in the day.

### 1. Developing a family-centred intervention for diabetes prevention

Healthy lifestyles start in the home so it is important to focus on the family nucleus to understand their lived realities and practical approaches to achieving better health, which are unique to each family.

Exploring the concepts of aiga/whānau-efficacy (as opposed to self-efficacy) – this fits with a family-centred approach.

Family-centred lifestyle interventions could include: encouraging regular family group visits to general practices that provide family-level care rather than exclusively focusing on the individual; intergenerational conversations, recognising the importance of elders' wisdom in Pacific cultures and empowering the older generation to set a positive example for the younger generation.

## 2. Championing models of holistic health delivery

There are considerable differences between the unique Pacific ethnicities. We need a methodology which acknowledges the specific strengths, cultural provisions, values, access barriers and protective factors of different Pacific communities.

A strengths-based model is far more empowering than a deficit model. One fono participant said it clearly: *"we don't want to be deficit-focussed anymore."*

Holistic models of health delivery are valued by Pacific peoples because they provide a roadmap for how health systems based on the Western biomedical model can be reoriented to better meet the needs of Pacific peoples. Change is required throughout entire health systems. There is a need to empower NZ Pacific communities to work with GPs and health services to contribute to systems change, emphasise the importance of the first 1,000 days of a child's life as a determinant of later health, and bring a stronger emphasis on wellbeing.

## Conclusion

The fono provided the opportunity to hear from Pacific community representatives and health researchers working in areas relevant to the mission of Healthier Lives. A rich talanoa delved into health issues and perspectives relevant to Pacific communities in Aotearoa and, importantly, led to a unified vision for two key priorities for research in this phase of the Challenge:

1. Family-centred health interventions for diabetes prevention, and
2. Models of holistic health delivery.

Within both areas, it is imperative for Pacific voices to be heard, to lead and contribute to the design and conduct of the research.

## Next Steps

This fono allowed a comprehensive talanoa with a range of voices and views from around New Zealand. Healthier Lives will use the ideas generated by the fono to guide the commissioning of Pacific-led research.

It was one of the first times a National Science Challenge has gathered Pacific health researchers and communities together.

The Healthier Lives National Science Challenge hopes that some of the very valid and innovative ideas that came from the talanoa could also help to shape and direct other future Pacific-led health research in New Zealand.

## Appendix 1: List of fono participants

*Facilitator: Lisa Te Morenga*

### *Participants*

<b>Name</b>	<b>Organisation</b>
Ofa Dewes	Emeritus Healthier Lives Science Leadership Team / University of Auckland / Maurice Wilkins Centre for Molecular Biodiscovery
Allamanda Faatoese	University of Otago, Christchurch
Gavin Faeamani	The Fono
Jen Filikitonga	Massey University
Riz Firestone	Massey University
Sunia Foliaki	Massey University
Tevita Funaki	The Fono
Akarere Henry	South Waikato Pacific Islands Community Services
Emily Hughes	The Fono
Jim Mann	Healthier Lives Director / University of Otago
Elizabeth Okiakama	South Waikato Pacific Islands Community Services
Danielle Prapavessis	Massey University
Vesinia Pulu	Massey University
David Schaaf	Healthier Lives Governance Group / Counties Manukau District Health Board
Aliitasi Sua-Tavila	Te Herenga Waka – Victoria University of Wellington
Lisa Te Morenga	Te Herenga Waka – Victoria University of Wellington
Hana Tuisano	Massey University

### **Apologies**

Cheryl Davies	Kokiri Marae Hauora
Ana Koloto	Ministry for Pacific Peoples
Dianne Sika-Paotonu	Healthier Lives Science Leadership Team / University of Otago, Wellington
Ana So'otaga	Te Awakairangi Health Network

### **Observers**

Fleur Templeton	Knowledge Exchange Manager, Healthier Lives
Jean Cockram	Operations Manager, Healthier Lives

## Appendix 2: Soap-box activity

### Target NCD: Type-2 Diabetes

- Type-2 diabetes for Pacific peoples
- Prediabetes and youth
- Managing risk factors of type-2 diabetes
- Increased awareness about what diabetes does to specific individuals
- Understanding co-morbidities (e.g. dialysis, renal disease)
- Compliance with the older generation
- However, diabetic people are considered “the walking-wounded” and, therefore, we must look at **prevention**

### Health systems issues

- Access
  - Increasing digital solutions for those in underserved, remote communities
- Health system currently operates in silos
  - Further, health is siloed from other government departments
  - Need integrated services
- The current system marginalises Pasifika peoples and is based on institutionalised racism
- Lack of money
  - Need free screening at GP clinics for CVD risk factors, diabetes, cervical cancer, bowel cancer, long-term conditions
  - Treatment
- Health inequity
- Many people are not hitting their medication targets because of systemic determinants and other issues that compound the four NCDs of focus, including:
  - Mental health
  - Domestic violence
  - Socio-economic status
  - Alcoholism
- Pacific peoples must work with GPs and health services to contribute to systems change
- Emphasis on the first 1,000 days in more than health
- Dismantle western biomedical models of care throughout health systems

### Community-led metrics and research methodologies

- We need metrics determined by Pasifika peoples
- Must capture changes in lifestyles
- Generate appropriate research markers
- Pacific populations partnering up with other community services (i.e. Butterbean example)
- Factors that concern funders dictate the funding that doesn't represent the community needs *“We need to convince funders to fund”*
- Redesigning DHB reporting
- Precision-medicine to take away the emphasis on entrenched behaviours
- Better, Pacific-specific biomarkers

- Less emphasis on deficit metrics, more on strengths-based metrics (especially for receiving funding)
- Look at health economics of interventions

### **Strengths-based**

- Embracing community
- Duty of care
- New ideas! Innovate!
- Greater, more empowering than a deficit model, *“we don’t want to be deficit-focussed anymore.”*

### **Youth**

- Empowering youth
- Career pathways in health for youth
- Young people learning how to ‘navigate the health system’
- Instilling resilience in kids
- Balancing the ‘wanting to live life’ with ‘healthy lifestyles’ (especially with respect to drugs and alcohol)
- Starting at home
- Coordinating with the 1,000 days of childhood wellbeing initiatives
- Enacting the vision of young Pasifika leaders and facilitators of programmes for the next generation

### **Aiga-efficacy > self-efficacy**

- Family-centred lifestyle interventions
- Health system access focusing on the family rather than the individual
- Family-focused care
- Healthy lifestyles start in the home, at the dinner table for people to have meaningful conversations and support one another
- Intergenerational conversations, empowering the older generation to set a positive example for the younger generation
- Recognising Pasifika culture and the importance of elder’s wisdom
- For communities to change, they must still be able to feel like they can enjoy life

### **Co-development**

- Co-development rather than co-design is better suited for Pasifika peoples
- Culturally relevant research
- Pasifika models are different (within Pacific ethnicities) and we need a methodology to utilise these
- Community goal setting for target health outcomes
- *“Empowered programmes generate transformative programmes”*
- Increased capacity-building opportunities for Pasifika peoples
- Translation of language
  - Pasifika languages
  - Images / symbols

## **A holistic approach to health**

- Emphasis on wellbeing
- *“Go to the people; live among them; work with them; build upon their strengths, and let them say ‘we did this ourselves’”*
- Embedding integration of health topics in school curriculum from primary to tertiary
- Increased partnerships (with local governments, PHOs, data collection, interventions, research dissemination)
- Focus on long-term conditions
- Managing risk factors holistically

## Appendix 3: Research projects relevant to Pacific communities

### Phase 1: 2015-2019

<p><b>1. OL@-OR@, a Māori and Pasifika mHealth approach to supporting healthy lifestyles</b></p> <p>This project co-created and co-evaluated a culturally tailored, personalised mobile-phone delivered (mHealth) healthy lifestyle support programme for Māori and Pasifika in New Zealand.</p> <p>The mHealth programme consists of a smartphone app and website which allow users to set goals and invite fanau and friends to join them on their journey to achieve positive lifestyle changes. It contains healthy eating and physical activity tools to support behaviour change, and provides regular motivational messages and tips.</p> <p>The programme was evaluated in a Cluster Randomised Trial. 24 Maori and 24 Pasifika community clusters were randomly assigned to either receive the mHealth tool (intervention condition) or a simplified version of the tool which only collects data (control condition). Participants in the intervention clusters used the tool for 12 weeks and participants in control clusters were able to use the tool after the 12-week intervention period.</p> <p>The evaluation found improvements over time in adherence to health-related behaviours, including physical activity, and fruit and vegetable consumption, although there were no significant differences between the intervention and control groups. However, participants who engaged with the OL@-OR@ app and set behaviour change goals showed significant improvements compared with the control group. The findings from the trial suggest that while apps are not for everyone they may support behaviour change in those motivated to engage with them.</p>	<p><b>April 2016 – June 2019</b></p> <p>Principal Investigators:</p> <p><b>Prof Cliona Ni Mhurchu</b> <i>University of Auckland</i></p> <p><b>Dr Ridvan Firestone</b> <i>Massey University</i></p> <p><b>Dr Lisa Te Morenga</b> <i>Victoria University of Wellington</i></p> <p>Community Partners:</p> <p><b>South Waikato Pacific Islands Community Services (SWIPCS)</b></p> <p><b>The Fono Health &amp; Social Services</b></p> <p><b>Toi Tangata</b></p> <p>Funding: <b>\$2.086M</b></p> <p>Status: <b>COMPLETED</b></p>
<p><b>2. Pasifika Pre-diabetes Youth Empowerment Programme*</b></p> <p>This programme aims to address the high prevalence of obesity and prediabetes among young working-age Pasifika people (18-45 years old) through developing effective lifestyle intervention programmes which are community-led and culturally-centred, and take account of the social-physical-cultural realities of the environment.</p> <p>Working in a collaborative partnership with Pacific communities, the project has implemented two different lifestyle intervention programmes:</p> <ul style="list-style-type: none"> <li>(i) youth empowerment programme obesity study (15-24 year olds)</li> <li>(ii) young adults prediabetes study (25-45 year olds).</li> </ul>	<p><b>October 2017 – September 2020</b></p> <p>Principal Investigator:</p> <p><b>Dr Ridvan Firestone</b> <i>Massey University</i></p> <p>Pacific Associate Investigators:</p> <p><b>Jennifer Filikitonga</b> <i>Massey University</i></p> <p><b>Elizabeth Okiakama</b> <i>SWIPCS</i></p> <p><b>Gavin Faemani</b> <i>The Fono</i></p>

<p>Both programmes aim to build knowledge, understanding and skills to empower behavioural changes to reduce the prevalence of obesity and prediabetes.</p> <p>The PPYEP study has developed the following educational materials:</p> <ul style="list-style-type: none"> <li>• <i>Facilitation Manual</i> –a guide for training facilitators in an established Youth Empowerment Programme (YEP) which is underpinned by the theory of social change;</li> <li>• <i>Prediabetes Youth Empowerment Programme</i> –a modular guide to the pilot work of the YEP study.</li> </ul>	<p><b>Lis Ellison-Loschmann</b> <i>Massey University</i></p> <p><b>Jemaima Tiatia-Seath</b> <i>University of Auckland</i></p> <p><b>Claire Ing</b> <i>University of Hawaii</i></p> <p><b>Joseph Kaholokula</b> <i>University of Hawaii</i></p> <p>Community Partners:</p> <p><b>South Waikato Pacific Islands Community Services (SWIPCS)</b></p> <p><b>The Fono Health &amp; Social Services</b></p> <p>Funding: <b>\$1.0M</b></p> <p>Status: <b>ACTIVE</b></p>
<p><b>3. Mana Tū: A whānau ora approach to long term conditions*</b></p> <p>This study is testing Mana Tū—a programme co-designed with whānau, clinicians, health service planners, and whānau ora providers. It aims to improve the impact of clinical and lifestyle interventions for whānau living with pre-diabetes, and people with poorly controlled diabetes.</p> <p>Mana Tū deploys skilled and supported Kaimanaaki-whānau (KMs) in general practices. The KMs use a mana whānau approach, and work with general practice teams while being operationally supported by a central hub. The hub co-ordinates broader community and social service support systems for whānau including training, programme design, and support, within a rich data environment.</p> <p>A student undertaking a PhD in Māori Health is funded by this project.</p> <p>400 study participants have been recruited at 10 GP clinics (five clinics intervention, five clinics control).</p> <p>Results of the study are expected soon.</p>	<p><b>March 2017 – February 2020</b></p> <p>Principal Investigator:</p> <p><b>A/Prof Matire Harwood</b> <i>University of Auckland</i></p> <p>Clinical Partners:</p> <p><b>National Hauora Coalition</b></p> <p>Funding: <b>\$2.376M</b></p> <p>Status: <b>ACTIVE</b></p>

#### 4. Equitable CVD risk prediction

This research aims to reduce the health burden of cardiovascular disease (CVD) and diabetes in New Zealand by investigating ways to improve early detection of those at highest risk so that treatment will be more effective and more equitable. There are two parts to the study:

##### Primary care

Drawing on New Zealand-specific information gathered from more than 400,000 people (including 55,000 Māori, 55,000 Pacific and 35,000 people of Indian descent), the research team has refined the *New Zealand Cardiovascular Risk Assessment Algorithm* to predict CVD risk more accurately in Māori, Pacific and South Asian populations. The refined algorithm has been incorporated in the Ministry of Health's updated guidelines for GPs on *Cardiovascular Disease Risk Assessment and Management for Primary Care*, issued in February 2018. These guidelines recommend that for the general population CVD risk assessments should start at age 45 for men, and 55 for women but for Māori, Pacific and South Asian populations, assessment should start at 30 for men, and 40 for women.

The team is continuing to investigate large, linked administrative datasets to identify risk factors that contribute to the greater cardiovascular and diabetes risk in specific ethnic groups.

##### Secondary care

The MENZACS (Multi-Ethnic NZ Study of Acute Coronary Syndromes) study\* has recruited a large cohort of 2,000 patients, admitted to one of six New Zealand hospitals with a first-time heart attack. The cohort includes Māori and Pacific patients.

The study's overall goal is to more accurately determine the factors that influence the risk of recurrent events in patients who have had a heart attack by integrating clinical and lifestyle (e.g. diet, physical activity and smoking) data with genetically based and other blood markers.

This is important so that treatments can be targeted to the individual, and those at highest risk can be monitored and treated more intensively.

The study will yield important insights into ethnic variation in the clinical expression of coronary artery disease, which will in turn provide a better understanding of the ethnic-specific factors that contribute to recurrent heart attacks.

\* MENZACS is a collaborative study supported by grants from the Heart Health Research Trust of the Heart Foundation, the University of Auckland, the Healthier Lives—He Oranga Hauora National Science Challenge, and the Green Lane Research and Educational Fund.

November 2015 – June 2020

Principal Investigators:

##### Primary care

**Prof Rod Jackson**

*University of Auckland*

##### Secondary care

**Prof Vicky Cameron**

*University of Otago Christchurch*

**A/Prof Malcolm Legget**

*University of Auckland*

**Prof Rob Doughty**

*University of Auckland*

Pacific Associate Investigators:

**Dr Allamanda Faatoese**

*University of Otago Christchurch*

**Dr Rinki Murphy**

*University of Auckland*

Community Partners:

**National Heart Foundation**

Clinical Partners:

**Auckland Hospital**

**Christchurch Hospital**

**Middlemore Hospital**

**Waikato Hospital**

**Tauranga Hospital**

**North Shore Hospital**

Funding: **\$1.72M**

Status: **ACTIVE**

## 5. ctDNA for better cancer management

This study has investigated the use of a blood test to detect ctDNA (circulating tumour DNA) as a diagnostic and surveillance tool for colorectal cancer and melanoma with numerous potential applications in the care of cancer patients:

- greater flexibility in drug treatment options;
- a greater role for research in routine practice (e.g. rapid learning from the clinical response of individual patients with specific tumour mutation profiles);
- timely identification of tumour progression while receiving targeted therapy or immunotherapies, so that toxic and expensive agents can be stopped and other options tried;
- dynamic changes to drug treatment schedules that reduce the speed of drug resistance development (adaptive therapy); and
- greater use of maintenance therapies for advanced disease.

Results from this study show that around 97% of colorectal cancer patients and 80% of melanoma patients with metastatic disease have detectable ctDNA using the study's current methodologies. By comparison, only 77% of colorectal cancers in the study could be tracked with a blood test called carcinoembryonic antigen (CEA), which is commonly used at present. Moreover, CEA's responses were often delayed compared to ctDNA.

The study has also established that ctDNA measurements could be turned around in three days which is rapid enough for clinical use. To accelerate implementation of the technology, the research team worked with Genomics Aotearoa to develop a bioinformatics pipeline, obtained aligned funding for the development of an early detection device, and established active collaborations with clinical laboratories.

Unlike current cancer surveillance methods, ctDNA analysis can be done relatively inexpensively, and testing can be undertaken in isolated locations such as rural marae clinics and remote islands, potentially reducing health inequities for Māori and Pacific people.

Population-based strategies rely on international drug trials and genomic tests developed in overseas populations, with little or no representation of Māori and Pacific people. By taking a personalised approach to drug selection, based on the molecular characteristics of individual cancers, biases that until now have favoured the largest population will be reduced.

November 2015 – June 2019

Principal Investigators:

**Prof Parry Guilford**

*University of Otago*

**Prof Cristin Print**

*University of Auckland*

**Dr Chris Jackson**

*University of Otago*

Pacific Associate Investigator:

**Dr Dianne Sika-Paotonu**

*University of Otago Wellington*

Clinical Partners:

**Canterbury Health Laboratories**

**Grafton Clinical Genomics**

Funding: **\$2.253M**

Status: **COMPLETED** but research on integrating ctDNA technology into NZ cancer care, and extending its use to other cancers, is continuing in phase 2

*\*funded jointly by Healthier Lives, the Ministry of Health and the Health Research Council of NZ via the Long Term Conditions Partnership*

## Phase 2: 2019-2024

<p><b>1.</b></p>	<p><b>ACCESS: investigating access-gaps in CVD treatment for Māori and Pacific Peoples*</b></p> <p>Despite proven treatments that can halve rates of heart disease, Māori and Pacific people are less likely to receive treatment and more likely to die from heart disease than other New Zealanders. Barriers to accessing healthcare are important contributors to these disparities.</p> <p>This research will integrate qualitative and quantitative studies to investigate access-related gaps in treatment for Māori and Pacific at three points along the healthcare-continuum:</p> <ol style="list-style-type: none"> <li>i. assessment and management of the risk of heart disease in general practice;</li> <li>ii. delays in accessing hospital care for heart attacks;</li> <li>iii. post-hospital management of heart failure.</li> </ol> <p>At each point we will ask: (1) what are the gaps in treatment; (2) are they due to access barriers and why; (3) how can these barriers be reduced? Answers to these questions will be used to create a Quality-Improvement-Equity roadmap to systematically reduce the barriers.</p> <p><i>*co-funded by Healthier Lives and the Heart Foundation</i></p>	<p>April 2020 – March 2023</p> <p>Principal Investigators:  <b>A/Prof Matire Harwood</b>  <i>University of Auckland</i></p> <p><b>Dr Corina Grey</b>  <i>University of Auckland</i></p> <p>Funding: <b>\$2.0M</b></p> <p>Status: <b>ACTIVE</b></p>
<p><b>2.</b></p>	<p><b>Evaluation of the Implementation and Impact of the National Healthy Food and Drink Policy</b></p> <p>The aim of this project is to find out how well the National Healthy Food and Drink Policy has been implemented by DHBs, and what its impact has been on food availability and purchases. It will also explore what resources are needed to support the further implementation of the policy and maximise its adoption by public sector institutions.</p> <p>The project will also look at equity implications of the Policy for Māori, Pasifika and low-income New Zealanders.</p> <p>The results will provide direct evidence of the Healthy Food and Drink Policy's effectiveness as a national health promotion tool, and inform future improvements to enhance its implementation and impact at a population health level.</p>	<p>January 2020 – 31 December 2022</p> <p>Principal Investigators:  <b>Prof Cliona Ni Mhurchu</b>  <i>University of Auckland</i></p> <p>Funding: <b>\$1.5M</b></p> <p>Status: <b>ACTIVE</b></p>
<p><b>3.</b></p>	<p><b>Integrating ctDNA assays for cancer surveillance into NZ health system</b></p> <p>This project is a continuation of phase 1 research; it will:</p> <ul style="list-style-type: none"> <li>• engage with a wider range of stakeholders to demonstrate the utility of ctDNA technology for cancer care in various clinical settings;</li> </ul>	<p>August 2019 – July 2022</p> <p>Principal Investigators:  <b>Prof Parry Guilford</b>  <i>University of Otago</i></p> <p><b>Prof Cristin Print</b></p>

<ul style="list-style-type: none"> <li>• collaborate with accredited diagnostic laboratories to establish the technology as a routine, validated clinical service;</li> <li>• establish a collaborative network to coordinate implementation of ctDNA technology into the New Zealand healthcare system and facilitate the entry of new research groups into the field.</li> </ul> <p>One of its specific aims is to determine the acceptability and feasibility of using ctDNA to diagnose and treat cancer at an earlier stage in resource-poor countries, with an emphasis on the Pacific Islands. This aspect of the project is being led by Dr Dianne Sika-Paotonu (through her HRC Sir Thomas Davis Te Patu Kite Rangī Ariki Health Research Fellowship). Early engagement work by Dr Sika-Paotonu has sought clarity around the cancer diagnostic, management practices and treatments that exist for cancer patients in Tonga, Samoa and the Cook Islands and involved preliminary discussions with medical, nursing, health and community research staff, and lay persons to better understand current practice and the Pacific context.</p>	<p><i>University of Auckland</i></p> <p>Pacific Associate Investigator:  <b>Dr Dianne Sika-Paotonu</b>  <i>University of Otago Wellington</i></p> <p>Clinical Partners:  <b>Canterbury Health Laboratories</b>  <b>Grafton Clinical Genomics</b>  <b>Te Ira Kāwai (Auckland Regional Tissue Bank)</b></p> <p>Funding: <b>\$1.9M</b></p> <p>Status: <b>ACTIVE</b></p>
---	--