

Ākuhata 2024 August 2024

Ngā taunakitanga mō te hauora me te toiora i Aotearoa New Zealand

Evidence for health and wellbeing in Aotearoa New Zealand

He rārangi o ngā huaputa mai i ētahi Kōkiri Pūtaiao ā-Motu e toru: E Tipu e Rea, He Oranga Hauora, me te Kia eke kairangi ki te taikaumātuatanga

An inventory of research outputs from three National Science Challenges: A Better Start, Healthier Lives, Ageing Well









Kupu whakataki | Introduction

The research of three National Science Challenges – A Better Start, Healthier Lives and Ageing Well – encompasses the life-course, from infancy and teenage years through to middle age and later years.

Achieving equitable outcomes in Aotearoa New Zealand, while improving the health and wellbeing of all New Zealanders, is the central focus of our research.

Many of our research projects strive to encompass kaupapa Māori and Pacific cultural practices and much of our research has been co-designed in partnership with mana whenua and communities. We hope to enrich impact for all New Zealanders through learning from, and giving space and support to, a strong cohort of Māori and Pacific researchers.

In this inventory, research outputs are grouped within the broad priority areas set out in *Te Pae Tata Interim New Zealand Health Plan 2022*, with the addition of two further priority areas – ageing well and climate change.

There is a short description of each output and a link to more information. As well as research outputs that are already available ("ready now"), we have included research that is still underway ("coming soon") so that you can see what is coming through the pipeline.

Our research teams welcome enquiries about their work and are keen to support its application.

Please get in touch with us if you would like any more information, have feedback to offer us, or wish to discuss any aspect of the research.

Ngā manaakitanga

Wayne Cutfield DIRECTOR A Better Start: E Tipu e Rea Jim Mann DIRECTOR Healthier Lives: He Oranga Hauora David Baxter DIRECTOR Ageing Well: Kia eke kairangi ki te taikaumātuatanga

AGEING WELL

National

SCIENCE

hallenge









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1. Pae ora | Better health in our communities

TAKING RESEARCH EVIDENCE INTO COMMUNITY PRACTICE

lealthier Lives Implementation Network	READY NOW Healthier Lives
The Healthier Lives Implementation Network brings together community providers, researchers and people in the health system to help implement novel research programmes and products to meet the health needs of Māori and Pasifika communities. It is a single network with separate branches for Māori and Pacific communities.	Principal Investigators Professor John Oetzel University of Waikato Akarere Henry
Health providers can be involved at different levels: 1) being informed of novel programmes and products	South Waikato Pacific Islands Community Services Darrio Penetito-Hemara Ngāti Haua, Ngāpuhi, Ngāti
 actively adapting and trialling programmes or products identifying research needs or needs for new programmes. The Network is a learning collaborative guided by Te Tiriti and	<i>Tamaterā</i> Toi Tangata
Pasifika practices. It also undertakes research to better understand implementation needs and challenges.	Associate Professor Dianne Sika-Paotonu University of Otago, Wellington
More information: <u>https://www.healthierlivesimplementationnetwork.co.nz/</u> and https://healthierlives.co.nz/research/healthier-lives-	Research partners
implementation-research-network/	Community Services

WEIGHT-RELATED HEALTH ISSUES IN CHILDREN

Healthy Lifestyle Check IT application	COMING SOON A Better Start
The Healthy Lifestyle Check is a tablet-based, home health assessment of children (aged 4-16) with weight related health issues.	Principal Investigator Associate Professor Yvonne Anderson
The check is undertaken by a healthy lifestyle coordinator in the user's home. It is a person-centred approach offering individualised care whilst aiming to achieve efficiencies through	University of Auckland and Curtin University Research partner
reduced screening and investigation costs. More information: https://www.tamarikipakari.org/	Whanau Paraki

PREVENTING DIET-RELATED DISEASES

Evaluation of National Healthy Food & Drink Policy

The National Healthy Food & Drink Policy (NHFDP) is a voluntary policy recommended for use in health and public sector settings. A comprehensive evaluation was undertaken to determine if, and where, the NHFDP had been adopted, what its impact had been, and the equity implications for Māori, Pasifika, and lowincome New Zealanders.

Tools to support policy adoption were developed:

- a food environment digital audit tool to collect and collate data;
- the Healthy Kai Checker database which allows food providers to easily search for and identify products that meet Policy criteria;
- a customised framework to report the performance of organisations and identify areas for improvement.

The evaluation identified factors that contributed to ineffective implementation of the NHFDP and has made evidence-based recommendations for strengthening it and improving future implementation. The findings of this evaluation have relevance to similar policies in other settings, e.g., schools and workplaces.

More information: <u>https://healthierlives.co.nz/research/hype/</u> or contact: <u>c.nimhurchu@auckland.ac.nz</u>

READY NOW | Healthier Lives

Principal Investigator

Professor Cliona Ni Mhurchu University of Auckland

Research partners

National DHB Food and Drink Environments Network

Te Whatu Ora | Health New Zealand

Ministry of Health

SUPPORTING YOUNGER PACIFIC CARERS

Culturally-centred Pacific approaches to support younger family carers	READY NOW Ageing Well
This study reveals the challenges faced by the proportionally large number of young Pacific people who are caring for older adults at home, and in response, sheds light on the supports that they might need. These include recognition of their caring role, ongoing education and training, improving the delivery of information, and reviewing assistance eligibility criteria.	Principal Investigator Dr Ofa Dewes University of Auckland Research partner Tongan Health Society Inc.
A service initiative, <i>Tui moe Amanaki</i> , has been rolled out to achieve better health and wellbeing outcomes for carers and their families, health equity, integrated health care and social support, and carer-centred approaches to support ageing in place. The service also includes a carers' network. More information: https://www.ageingwellchallenge.co.nz/research/building-	

<pre>connections-as-we-age/ or contact: o.dewes@auckland.ac.nz or</pre>	
ofa.dewes@tonganhealth.com	

CULTURAL AND SOCIAL CONTEXT OF HEALTH AND WELLBEING FOR KAUMĀTUA

Understanding kaumātua experiences of and responses to health and wellbeing	READY NOW Ageing Well
This study – named 'Mā mua ka kite a muri; mā muri ka ora a mua' – documents the health experiences of older Māori in two Tai Tokerau (Northland) communities, in order to provide a model for the future success of support structures, built on an evidence base of things that older Māori value.	Principal Investigator Associate Professor Marama Muru-Lanning University of Auckland
Kaumātua deemed practical support and interest from whānau to be important, although kaumātua emphasised that they themselves are in charge of their own health and were reluctant to burden their adult children. For support and understanding, kaumātua looked to other kaumātua, being at a similar life stage.	
More information: https://www.ageingwellchallenge.co.nz/research/building- connections-as-we-age/	

2. Kahu taurima | Maternity and early years

HAPŪTANGA | MATERNAL WELLBEING

A Raranga, raranga taku takapau: hapū ora for tamariki	
A Karanga, faranga taku takapau. napu ora for tamariki	COMING SOON A Better Start
A co-design approach to understand how Māori communities	Principal Investigators
support maternal wellbeing within a mātauranga Māori worldview.	Dr Waikaremoana Waitoki
Ngā Māmā o Ngāti Hauā	<i>Ngāti Hako, Ngāti Māhanga</i> Waikato University
This project is looking at the wellbeing of mothers and whānau in	Dr Naomi Simmonds
Ngāti Hauā. It is a community-based research collaboration with	Raukawa, Ngāti Huri
Te Rau Ora, a Māori workforce and development service in	Te Whare Wānanga o
Hamilton, who will be working with Ngati Haua iwi health	Awanuiārangi
services to investigate the current use of maternity services in	
the Cambridge, Matamata and Morrinsville areas.	Professor Helen Moewaka-
	Barnes
Ngā wai ora o Rāhui Pokeka	Te Kapotai, Ngapuhi-nui-tonu
This project is creating communities for hapū ora in Huntly. It is a	Massey University
community and iwi based collaboration to design maternity	
wellbeing initiatives in Huntly, Rahui Pokeka.	Research partners (Ngā
wendering initiatives in Functy, Nation FORERa.	Māmā o Ngāti Hauā)
Te Whare Pora	Te Rau Ora

This project is looking at Wairua and wellbeing in hapū ora. Te Whare Pora in Flaxmere, which is a hauora 'clinic' for pregnant women staffed by weavers, rather than health professionals. Te Whare Pora can be viewed as a concept and a state; people don't have to be in a specific physical place to be in te whare pora, but need to be able to act and access what it means to them and what nurtures this state.

More information:

https://turamapractise.com/2020/05/21/raranga-raranga-takutakapau-hapu-ora-for-tamariki/ Te Rau Ora Ngāti Haua marae

MOEMOEĀ | SLEEP

Infant sleep webinar	READY NOW A Better Start
A webinar outlining the latest research findings about infant sleep, covering:	Principal Investigators Professor Rachael Taylor
 What is normal sleep, helping babies to fall asleep, and keeping them asleep; 	University of Otago Dr Justine Camp
 The relationship between infant sleep and maternal mental health; 	Kāi Tahu, Kāti Mamoe, Waitaha University of Otago
 A look at infant sleep through the lens of Māori and Pasifika whānau. 	Research partners
More information:	Whānau Āwhina Plunket
https://www.abetterstart.nz/2021/08/04/webinar-help-me- sleep-the-latest-research-on-infant-sleep/	Melbourne's Murdoch Children's Research Institute

oemoeā Sleep Programme	COMING SOON A Better Start
Moemoeā aims to promote health and wellbeing by drawing on traditional knowledge from Māori communities to empower whānau. Strengths-based, practical resources and tools are available online:	Principal Investigators Professor Rachael Taylor University of Otago
• Rongo time tools and resources aim to encourage healthy kai and activities for the whole whānau. Rongo-marae-roa, inspired us help whānau connect to outdoor spaces through a waiata hīkoi, a walking jingle and tātai or short karakia. Rongo-mā-Tāne, has encouraged us to bring ritual into food related activities through karakia, short videos and activities that promote ritual around dinner and connection amongst whānau.	Dr Justine Camp <i>Kāi Tahu, Kāti Mamoe, Waitah</i> University of Otago
• Uru time tools and resources are designed to help pēpi to transition from day to night, sleep well and wake up well rested. We have created waiata and karakia to help pēpi relax during bath time and mirimiri, as well as oriori, karakia and pūrākau to learn and play when putting pēpi to sleep.	
• Whānau support is an interactive resource which allows you to build your own waka to lean into the strengths within your whānau networks while also helping to identify other potential sources of support at community, regional and national levels.	

EARLY CHILDHOOD

READY NOW A Better Start
Principal Investigators
Associate Professor Barry
Milne
University of Auckland
Dr Nichola Shackleton
University of Auckland
Research partner
Social Wellbeing Agency

nfant growth webinar	READY NOW A Better Start	
A webinar outlining the latest research findings about infant	Principal Investigators	
growth, covering:	Dr Lisa Daniels	
• Using BMI as a measure of nutrition in infants, how to	University of Otago	
interpret it, and what it predicts for the future;	Associate Professor Barry	
• How to approach the conversation with parents whose child	Milne	
is gaining weight too rapidly, how to support caregivers to follow their baby's cues, and how to separate a demand for	University of Auckland	
food versus a demand for attention.	Research partners	
More information:	Whānau Āwhina Plunket	
https://www.abetterstart.nz/2021/11/18/watch-watch-me- grow-webinar-the-latest-research-on-infant-growth/	Incredible Families	

Words Can POP!	READY NOW A Better Start
Words Can POP! Is an oral language and foundational literacy	Principal Investigators
knowledge approach for preschoolers.	Professor Brigid McNeill University of Canterbury
The approach includes teaching mentoring and professional learning, resource development (for kaiako and home) and whānau workshops. Development of culturally responsive	Professor Gail Gillon Ngāi Tahu
storytelling resources and books – in which the culture, language and identity of tamariki Māori is affirmed – is a major part of the	University of Canterbury
project. It leads to enhanced oral language, letter-sound	Research partners
knowledge and cognitive flexibility (a measure of self-regulation) for children.	Kidsfirst Kindergartens, Māori Achievement Collaborative,
More information: https://www.betterstartapproach.com/families	Tuahiwi School, Newton Central School, EFKS Parish Hornby

3. Mate pukupuku | People living with cancer

CANCER SCREENING AND MONITORING

tDNA technology for cancer detection COMING SOON Healt	
Circulating tumour DNA (ctDNA) technology uses a simple blood test to identify and measure cancer markers in the bloodstream. It delivers more rapid and sensitive results than current methods for monitoring cancer treatment.	Principal Investigators Professor Parry Guilford University of Otago
The utility of ctDNA for the management of colorectal cancer and melanoma has been confirmed, and the feasibility of remote sample collection in New Zealand has been demonstrated.	Professor Cristin Print University of Auckland Dr Cherie Blenkiron University of Auckland
The technology is highly portable, through either the easy transport of stabilized blood samples to centralized laboratories, or the use of low cost, transportable DNA sequencing devices, such as the flow cells provided by Oxford Nanopore Technologies. This accessibility is opening the way for cancer screening and monitoring to take place in rural areas and community settings, away from large hospitals.	
Potential clinical applications for this technology include:	
 early diagnosis of cancer detection of residual disease post-treatment monitoring of patient response to treatment identification of molecular drug targets identification of developing mechanisms of drug resistance. 	
More information: https://healthierlives.co.nz/research/ctdna-integration/	

Cancer prevalence in Aotearoa New Zealand	READY NOW Healthier Lives
This study produced an estimate of limited duration cancer prevalence in Aotearoa New Zealand.	Principal Investigator
Publication: Brewer N, Atkinson J, Guilford P, Print C, Blakely T, Teng A. <u>An estimate of limited duration cancer prevalence in</u> <u>New Zealand using 'big' data. New Zealand Medical Journal</u>	Dr Andrea Teng University of Otago Wellington
<u>(2020) 133:1514; 49-62</u>	Lead author
More information: https://healthierlives.co.nz/research/big-data/	Dr Naomi Brewer Massey University

H. pylori clinical pathways	COMING SOON Healthier Lives	
This study used data from community laboratories and primary care to understand the full clinical pathway for testing and treatment of <i>H. pylori</i> infection.	Principal Investigator Dr Andrea Teng	
	University of Otago Wellington	
It examined who was tested for <i>H. pylori</i> infection, who was treated, and who was re-tested and treated, both overall and by	Research partners	
age and ethnicity; using ten years of laboratory and pharmacy dispensing data from four northern regions (1.9 million population).	Statistics New Zealand	
	Te Aho o Te Kahu – Cancer Control Agency	
It will inform the development of strategies to address <i>H. pylori</i> infection in priority populations and will also provide a model for future research using primary care data in New Zealand's health and integrated data system.		
More information: https://healthierlives.co.nz/research/integrated-data/		

4. Māuiuitanga taumaha | People living with chronic health conditions

SUPPORTING HEALTHY LIFESTYLES

mi Ora whānau active lifestyle programme	READY NOW Healthier Lives Principal Investigator Dr Nina Scott Ngāpuhi, Ngāti Whātua and Waikato Te Whatu Ora Waikato Research partner	
Kimi Ora is a programme to help whānau lead healthier, more active lifestyles. It was co-designed (using the He Pikinga Waiora Implementation Framework – see p.19) by researchers, Te Kōhao Health, and the participants themselves. In the research phase, the 10-week Kimi Ora programme resulted in significant reduction in weight (4.3%), BMI (1.80) and HbA1c (8%). Weight and BMI reductions were greater than a comparison group (HbA1c measures were not available for the comparison group).		
Kimi Ora continues to be owned and run by Te Kōhao Health as an 8-week programme offering nutrition and exercise education classes, advice from a nutrition and exercise coach, and access to online resources with motivational tips and healthy recipes. More information: <u>https://www.tekohaohealth.co.nz/kimi-ora</u> and <u>https://healthierlives.co.nz/research/hpw/</u>	Te Kōhao Health	

outiri Health Challenge lifestyle programme	READY NOW Healthier Lives
The Poutiri Health Challenge was a 12-week lifestyle programme for Māori men with BMI > 25, focussed on increasing physical activity and improving nutrition. The programme was co- designed (using the He Pikinga Waiora Implementation Framework – see p.19) by researchers, the Poutiri Trust, and the participants themselves. It consisted of:	Principal Investigator Professor John Oetzel University of Waikato Research partner
 free access to a community gym an individual training programme nutritional information, shared weekly a session with a nurse about screening for health conditions. The original focus was on diabetes prevention, but the co-design process resulted in a focus on obesity and related health conditions, including diabetes and cardiovascular disease.	Poutiri Charitable Trust
The intervention resulted in significant reduction in weight (4.7%) and BMI (1.87), and a significant improvement in health- related quality of life and self-rated health. There was no comparison group but the effect sizes were large. Additionally, the retention rate was high (88%), which was attributed to the co-design processes.	
More information: https://healthierlives.co.nz/research/hpw/	

@-OR@ healthy lifestyle app	READY NOW Healthier Lives
OL@-OR@ is a free smartphone app to support healthy lifestyles for Māori and Pasifika. It is designed to support small lifestyle changes – in nutrition, physical activity and spirituality – that can improve overall health and wellbeing. The features and	Principal Investigator Professor Cliona Ni Mhurchu University of Auckland
functionality of OL@-OR@ are based on tried and tested behaviour change techniques. They include:	Associate Professor Lisa Te Morenga Ngāti Whātua Ōrākei, Te Uri c
 goal setting and identifying small steps to reach goals culturally tailored virtual rewards as goals are achieved lifestyle trackers to monitor progress 	Hua, Ngāpuhi and Te Rarawa Massey University
 Infestyle trackers to monitor progress regular reminders and motivational messages information about food, physical activity, local activities and health services 	Associate Professor Rivdan Tupai-Firestone Massey University
In a large randomised controlled trial, participants who engaged	Research partner
with OL@-OR@ and set behaviour change goals showed significant improvements in health-related behaviours, such as eating more fruits and vegetables, compared with the control	South Waikato Pacific Islands Community Services
group. The findings suggest that while apps are not for everyone, they may support behaviour change in those motivated to	The Fono Health & Social Services
engage with them.	Toi Tangata
More information: https://olaora.auckland.ac.nz/ and https://healthierlives.co.nz/research/ol-or/ or contact: c.nimhurchu@auckland.ac.nz	

PREVENTING PREDIABETES AND TYPE 2 DIABETES

READY NOW Healthier Lives
Principal Investigator
Dr Andrea Teng University of Otago
Wellington

re Tokoroa Family Diabetes Lifestyle Programme	READY NOW Healthier Lives Principal Investigator Associate Professor Ridvan Tupai-Firestone Massey University Research partner South Waikato Pacific Islands Community Services	
 Oire Tokoroa is a family-centred diabetes prevention programme for the Pacific community. It works by identifying vaevae oro'oro (family champions) and empowering them to support their family unit to adopt healthier lifestyle habits. In the Tokoroa Pacific community, vaevae oro'oro participated in a seven-module training programme and co-designed a 24-week Pacific family-health programme, consisting of: the Kai Tari Cookbook, an intergenerationally-friendly Pasifika cookbook featuring sixteen culturally appropriate, dietitian-reviewed recipes, and monthly food plan weekly food bags containing ingredients and recipes for four healthy Pacific meals for the family to cook together options for two or three family physical activity nights each week a family logbook to record family-specific goals online support for vaevae oro'oro from Community Coordinators. 		
sifika Prediabetes Youth Empowerment Programme	READY NOW Healthier Lives	
The Pasifika Prediabetes Youth Empowerment Programme (PPYEP) is a model for delivering community-based health interventions through youth advocacy and leadership. It has been successfully trialled in an intervention aimed at reducing rates of prediabetes but the model could be applied to other health and wellbeing issues.	Principal Investigator Associate Professor Rivdan Tupai-Firestone Massey University	

health and wellbeing issues. **Research partners** The programme offers training to Pasifika youth to enable them South Waikato Pacific Islands to be leaders for health advocacy in their own community. In **Community Services** PPYEP, young people used the new knowledge and skills they The Fono Health & Social acquired from the nine-module empowerment programme to Services co-design, deliver and evaluate a health intervention in their community, alongside university and community-based **Co-funding** researchers. Ministry of Health Relationships of trust and reciprocity, and the capability of youth Health Research Council to design culturally-relevant health interventions for their own community is central to the success of this model. More information: https://healthierlives.co.nz/research/ppyep/

REMISSION OF TYPE 2 DIABETES

Te Kāika DiRECT

There is good international evidence that a dietitian-supported weight loss protocol (known as DiRECT) is effective for long-term weight loss and can lead to remission of type 2 diabetes. Other benefits can include reduced risk of heart disease, chronic kidney disease, retinopathy, nephropathy and lower limb amputation. The DiRECT protocol involves a period of total meal replacement followed by a weight-loss maintenance phase. The original UK study observed benefits up to five years after the intervention.

The 12-month Te Kāika DiRECT study recruited 40 participants with obesity and prediabetes or type 2 diabetes, who were looking to lose weight, of whom 40% were Māori and 40% Pasifika. Participants were randomised to either dietitiansupported usual care or the DiRECT approach to weight loss. The participants who received the DIRECT intervention lost more weight and achieved greater blood sugar control than those in the control group, and they found the intervention culturally acceptable. Study results highlighted the invaluable role of support from a dietitian.

More information: https://healthierlives.co.nz/research/te-kaika-direct/

READY NOW | Healthier Lives

Principal Investigators

Dr Andrew Reynolds University of Otago

Dr Kim Ma'ia'i

Dr Justine Camp *Kāi Tahu, Kāti Mamoe, Waitaha* University of Otago

Research partner

Te Kāika Hauora

Co-funding

Ministry of Social Development

Healthy Hearts for Aotearoa New Zealand

MANAGING TYPE 2 DIABETES & RELATED CHRONIC CONDITIONS

1ana Tū: whānau ora type 2 diabetes programme	diabetes (and other ānau determine e these by services that address ag, social care). The actice (GP) teams, ported by a central	
The Mana Tū programme helps people with diabetes (and other chronic conditions) manage their health. Whānau determine their own goals and are supported to achieve these by Kaimanaaki (case managers) who work with services that address the wider determinants of health (e.g. housing, social care). The Kaimanaaki also work closely with General Practice (GP) teams, ensuring clinical input. In turn, they are supported by a central hub offering peer support and ongoing quality improvement.		
In a randomised controlled trial of 400 participants across ten GP clinics, Mana Tū was found to increase participants' consumption of fruit and vegetables and their level of physical activity as well as improving most participants' diabetes markers. It also improved the way people felt about engaging with the healthcare system; participants' sense of cultural safety and readiness to engage with health and social services rose by 84%.	National Hauora Coalition Co-funding Ministry of Health Health Research Council	
More information: https://healthierlives.co.nz/research/mana-tu/		

Epigenetics for	equitable	cardiovascular	risk prediction
L'higeneties ioi	cquitable	caratovascular	nok prediction

Epigenetics studies the modifications to DNA following environmental exposures. A form of epigenetic modification – altered levels of DNA methylation (DNAm) – is enabling identification of precise biomarkers that could surpass the performance of conventional CVD risk prediction.

This study identified many potential DNAm-based CVD risk markers and selected some for clinical translation assessment. A marker for smoking exposure accurately predicted lifetime tobacco consumption, length of smoking cessation in ex-smokers, and passive smoking exposure in never-smokers. Its inclusion into statistical risk models substantively improved risk prediction even after adjusting for conventional risk factors and also when self-reported smoking status was included.

The research team designed a simple blood test for use in clinical diagnostic settings to measure this marker. Its utility as a screening tool for lung cancer, abdominal aortic aneurysm and peripheral artery disease will also be assessed.

Other markers identified in this study hold great promise. Another test (involving multiple DNAm markers) is being developed to assess lifelong diabetes/metabolic syndrome.

More information:

https://healthierlives.co.nz/research/epigenetics/

COMING SOON | Healthier Lives

Principal Investigator

Professor Greg Jones University of Otago

Dr Anna Rolleston The Centre for Health

Research partner

MENZACS Governance Group

DESIGNING & IMPLEMENTING EQUITABLE HEALTH PROGRAMMES

He Pikinga Waiora Implementation Framework	READY NOW Healthier Lives
The He Pikinga Waiora Implementation Framework is a tool for creating, implementing, and evaluating health programmes for Indigenous communities. It can be used to support the autonomy and engagement of community organisations in the design of new health programmes.	Principal Investigators Dr Nina Scott <i>Ngāpuhi, Ngāti Whātua and</i> <i>Waikato</i> Te Whatu Ora Waikato
The Framework is centred on Kaupapa Māori (Indigenous knowledge, methods and philosophy) and based on four pillars: cultural centredness; community engagement; systems thinking; and integrated knowledge transfer.	Professor John Oetzel University of Waikato Dr Bridgette Masters-Awatere University of Waikato
The Framework has been successfully used to design healthy lifestyle programmes such as Kimi Ora (see p.15) and health screening interventions. A toolkit of resources is available to help anyone interested in using it: <u>https://www.hpwcommunity.com/resources</u>	Research partners Te Kōhao Health Poutiri Charitable Trust
anyone interested in using it:	

stems change for health equity	READY NOW Healthier Lives
There are persistent inequities in the health of Māori and Pacific	Principal Investigator
peoples when compared with people of other ethnic groups in Aotearoa New Zealand. This project co-designed tools to support the health system to deliver more equitable health outcomes, including:	Professor Sue Crengle <i>Kāi Tahu, Kāti Māmoe, Waitah</i> University of Otago
• FrEEIA, an equity-focused implementation science	Research partners
 framework The FrEEIA equity readiness assessment tool. 	Te Whatu Ora Northern Region
The framework and readiness assessment tool were trialed, evaluated and refined during the implementation of a lung	Institute for Innovation and Improvement - Waitematā
cancer screening intervention at Te Whatu Ora Waitematā, Auckland, Counties Manukau and Northland. They are now recommended for use across the mainstream health system.	National Hauora Coalition
The framework, tool and user guides will shortly be made available on the Implementation Science Aotearoa website.	
More information:	
https://healthierlives.co.nz/research/systems-change-for-health- equity/	
anawataki Fatu Fatu: roadmap for equitable CVD care	COMING SOON Healthier Lives
Māori and Pacific Peoples encounter barriers in accessing	Principal Investigators
treatment for cardiovascular disease (CVD) and this contributes to a life expectancy gap of 6-7 years. This project created a <i>Quality-Improvement-Equity Roadmap</i> (a living plan) to systematically improve access to CVD care for Māori and Pacific Peoples.	Associate Professor Matire Harwood Ngāpuhi, Ngāti Rangi, Te Mahurehure, Ngāti Hine University of Auckland
Quantitative research identifyied evidence-practice gaps at the following points along the care pathway:	Dr Corina Grey University of Auckland
primary care risk assessment and managementpre-hospital care for acute coronary events in the	Professor Shanthi Ameratunga University of Auckland
community, and • post-bospital discharge and long-term management of heart	,
 community, and post-hospital discharge and long-term management of heart failure. 	Dr Vanessa Selak University of Auckland

journey through the health system and their ideas for how it could be improved. Team members conducted in-depth korero (conversations) with patients, whānau and kaimahi (health providers) to better understand the barriers to accessing care, to ensure that the research would be mana-enhancing by elevating the voices of patients and whānau in healthcare planning.

More information: https://www.manawafatu.org/

Research partner

Hato Hone St John Ambulance Service

Co-funding

Heart Foundation of New Zealand

STROKE PREVENTION AND TREATMENT

roke and CVD Prevention	READY NOW Ageing Well
Traditionally, stroke risk management has focused on those most at risk of stroke, yet the most acute cardiovascular events occur in people with low to moderate risk. Moreover, as many as 80% of strokes are preventable, with adequate control of modifiable risk factors. This research investigates health and wellness coaching as a population wide strategy for risk reduction. The patient-centred approach of coaching overcomes the difficulties in sustaining lifestyle changes, which are often recommended for cardiovascular disease and stroke prevention. The coaching aims to assist participants to increase their self- awareness and feel empowered to set goals and reach their targets.	 Principal Investigators Professor Valery Feigin Auckland University of Technology Professor Rita Krishnamurthi Auckland University of Technology
An initial trial with over 300 Māori, Pacific, European, and Asian participants, over a six-week period, appeared to decrease levels of high blood pressure, one of the chief risk factors for stroke. Research over a longer, three-year term has shown the approach can help to reduce the number of people affected by stroke incidents.	
More information: https://www.ageingwellchallenge.co.nz/research/stroke-and- cvd-prevention/ and https://www.ageingwellchallenge.co.nz/research/health-and- wellness-coaching/	

Electrical Stimulators for Stroke Recovery	READY NOW Ageing Well
Stroke recovery treatment developed from this research was enhanced by applying electrostimulation to the healthy side of the brain, complementing and speeding up traditional rehabilitation therapy.	Principal Investigators Professor John Reynolds University of Otago
An electrode was placed on the dura covering the motor cortex on the healthy side of the brain, changing the messages from the healthy side to the stroke side, thereby allowing the diseased side of the brain to better recover function.	Professor Dirk de Ridder University of Otago
The intervention was surgically very safe and produced positive results in two individuals who volunteered to trial the device.	
More information: https://www.ageingwellchallenge.co.nz/research/electical- stimulators-for-stroke-recovery/	

HELPING MĀORI AND PACIFIC PEOPLE LIVE WELL WITH DEMENTIA

Adapting Cognitive Stimulation Therapy for Māori and Pacific People	READY NOW Ageing Well
Cognitive Stimulation Therapy (CST) is an evidence-based psychosocial group treatment that can help people with mild to moderate dementia cope with the loss of normal brain function. It works by trained facilitators meeting people with dementia in small groups over several sessions of activities, discussions and social interactions that engage and stimulate. The research team has created a Māori CST manual to train facilitators to deliver the therapy in a meaningful way to Māori with dementia, and has conducted similar work to adapt CST to Pacific People's needs.	Principal Investigator Dr Gary Cheung University of Auckland
More information: https://www.ageingwellchallenge.co.nz/research/adapting- cognitive-stimulation-therapy/	

5. Oranga hinengaro | People living with mental distress, illness and addictions

E-HEALTH INTERVENTIONS FOR YOUNG PEOPLE

roha: A chatbot to help young people cope with stress	READY NOW A Better Star
Aroha is a chatbot designed during the COVID-19 pandemic to help young people cope with stress in positive ways. It works on Facebook Messenger.	Principal Investigators Dr Tania Cargo Ngāti Manu, Ngāti Maru,
Aroha has guided activities divided into different sections:	<i>Ngāpuhi ōku iwi</i> University of Auckland
 Mood and Emotions covers a selection of calming activities such as breathing exercises and meditation, self- care, and how to distract yourself. 	Dr Karolina Stasiak University of Auckland
 Boost Wellbeing covers getting active, spirituality, staying connected and practicing gratitude. 	Associate Professor Sarah Hetrick University of Auckland
 Practical Support covers getting expert help, alcohol and drugs, violence/abuse, anger and money worries. 	Research partner Rush
More information: https://healthify.nz/apps/a/aroha-chatbot/	

eadstrong: Three chatbots to support youth mental ealth and wellbeing	READY NOW A Better Start
Headstrong is a digital app that connects users with a virtual guide to help build resilience and a healthy outlook on life.	Principal Investigators Dr Tania Cargo
Using Te Whare Tapa Whā as the holistic wellbeing model, it was developed by and for rangatahi with help from experts. The psychological strategies used in Headstrong are based on	Ngāti Manu, Ngāti Maru, Ngāpuhi ōku iwi University of Auckland
culturally responsive cognitive behavioural therapy (CBT), positive psychology (e.g. gratitude), mindfulness, interpersonal skills, and substance use harm-minimisation strategies. Rangatahi	Dr Karolina Stasiak University of Auckland
can choose from three chatbot courses:	Associate Professor Sarah Hetrick
Paparahi – FoundationsAroha	University of Auckland
Hiki Taumahatanga - Stress Detox	Research partners
More information: https://www.headstrong.org.nz/about-	Kekeno, Rush

Kia Haumanu: A bicultural hauora app to support rangatahi Māori	COMING SOON A Better Start
Kia Haumanu is a redevelopment of the Aroha chatbot as a	Principal Investigator
bicultural hauora app for rangatahi Māori.	Dr Tania Cargo
It helps support stronger connections with the user's cultural	Ngāti Manu, Ngāti Maru,
identity and to their whanau and to hauora using important tikanga	Ngāpuhi ōku iwi
Māori content such as purakau, waiata and maramataka	University of Auckland
knowledge. More information: Contact PI	Research partners Kekeno, Rush

Quest - Te Whititianga	READY NOW A Better Start
Quest – Te Whitianga is a smartphone game that aims to help young people (10-14) cope with strong emotions.	Principal Investigators Dr Tania Cargo
Users learn cognitive behavioural therapy skills via a series of activities and games. The app is set on an ocean and the user travels between islands to learn six evidence-based skills. These	Ngāti Manu, Ngāti Maru, Ngāpuhi ōku iwi University of Auckland
include a relaxation/mindfulness activity, activity planning, a gratitude journal plus problem solving and communication skills training.	Dr Karolina Stasiak University of Auckland
More information: <u>https://apps.apple.com/us/app/quest-te-</u> whitianga/id1438476829	Associate Professor Sarah Hetrick University of Auckland

TuneIn: A goal setting app to reduce suicide ideation	READY NOW A Better Start
TuneIn is a free smartphone app which takes young users on a journey to positive change using the power of music to reduce suicide ideation and self-harm.	 Principal Investigators Associate Professor Sarah
It has been tested specifically with rangatahi Māori and modified to increase the use of Te Reo Māori as well as additional content developed from a Te Ao Māori perspective.	Hetrick University of Auckland Dr Tania Cargo Ngāti Manu, Ngāti Maru,
More information:	Ngāpuhi ōku iwi University of Auckland Dr Karolina Stasiak University of Auckland Research partner National Institute of Health
https://apps.apple.com/nz/app/tunein/id1538861756	Innovation

TACKLING DISTRESS ASSOCIATED WITH LONELINESS

cial isolation and loneliness	READY NOW Ageing Well
Social isolation and loneliness are growing problems in Aotearoa, causing illnesses such as depression and in the worst cases, premature death.	Principal Investigator Professor Merryn Gott University of Auckland
This research conducted interviews with different ethnic groups (especially Asian, Māori and Pacific peoples) to gauge how they experienced and understood loneliness. It also evaluated Age Concern's Accredited Visiting Service, which seeks to provide companionship and reduce loneliness amongst socially isolated older people.	
The visiting service was found to be cost-effective and there is a strong argument for the integration of such services into Te Whatu Ora / Te Akai Whai Ora and Council service provision. The service was found to be particularly successful when relationships between the volunteer and the isolated individual were based on mutual respect and shared cultural knowledge.	
The research also yielded an animation short film, which draws on participants' own words to convey the effects and feelings of social isolation and loneliness.	
More information: https://www.ageingwellchallenge.co.nz/research/social- isolation/	

6. Te pai o ngātau o te kaumātuatanga | Ageing well

FALLS PREVENTION FOR AGEING WHĀNAU

「aurite Tū − a kaupapa Māori falls prevention and wellness programme for ageing whānau	READY NOW Ageing Well
 Taurite Tū is a kaupapa Māori falls prevention and wellness programme, designed specifically for ageing Māori. It encompasses mātauraka Māori and other evidence-based science, that aims to empower Māori to age stronger. Results show statistically significant reductions in falls risks for Māori participants, and numerous other wellness benefits. Attendance (79%) and retention (86%) rates indicate the programme is successful in engaging Māori. The programme is currently delivered by trained workers in 26 rūnaka and Māori health providers in several rohe including and beyond Ōtākou, as an effective kaupapa Māori solution to injury prevention and rehabilitation. More information: https://www.ageingwellchallenge.co.nz/research/taurite-tu/ or contact: katrina.bryant@otago.ac.nz or tauritetu@tro.org.nz 	Principal Investigator Katrina Pōtiki Bryant <i>Kāi Tahu, Kāti Māmoe,</i> <i>Waitaha</i> Te Rūnanga o Ōtākou Research partner Te Rūnanga o Ōtākou

Using the Drug Burden Index to predict and prevent falls and fractures	READY NOW Ageing Well
Falls and fractures are common for people over 65 and can have damaging impacts such as loss of mobility, independence and quality of life, as well as early admission into residential care, or hospitalisation. This project explored the link between the Drug Burden Index (DBI) – a tool that calculates the total exposure of medications that sedate or affect cognition – and likelihood of falls and fractures. A big data approach used data on over 71,000 older New Zealanders from interRAI – International Resident Assessment Instrument, an evidence-based clinical assessment questionnaire used widely across the motu. Those taking three or more high-scoring DBI medications (especially sedative and cognitive medications) were almost twice as likely to fall and break their hip. The effect is due to each medication reacting with others, creating often unforeseen consequences. More information: https://www.ageingwellchallenge.co.nz/research/drug-burden- index/	Principal Investigator Associate Professor Hamish Jamieson University of Otago, Christchurch

SOCIAL CONNECTION FOR OLDER ADULTS

anawaroa – a film about later life social connection	READY NOW Ageing Wel
The film <i>Manawaroa</i> was co-created by older people of diverse cultural backgrounds, and younger filmmakers. It addresses stereotypical ideas of older people as a burden, which are contrary to research evidence that shows what older people contribute to society.	Principal Investigators Professor Merryn Gott University of Auckland
t does this through Arts-Based Knowledge Translation, recognizing that creative arts can make people think differently about important and complex social issues, and that engaging people's hearts can open their minds to change.	Dr Lisa Williams University of Auckland
The film is part of Age Concern New Zealand's campaign to end loneliness and plans are underway to include it in the University of Auckland Nursing Programme. One of the most effective ways to increase health and wellbeing is to raise awareness, particularly with our future health workforce, of the broader determinants of wellbeing, such as the importance of social connection to overcome loneliness.	
More information: https://www.ageingwellchallenge.co.nz/research/promoting- social-connection/	

IMPROVING WELLBEING FOR OLDER MĀORI

aumātua Mana Motuhake tuakana-teina intervention	READY NOW Ageing Well
Kaumātua Mana Motuhake is a kaupapa Māori peer education programme that empowers older Māori to navigate challenges associated with ageing. The Programme draws on the Māori view of ageing, that encompasses ever-accumulating mātuaranga -	Principal Investigator Professor Brendan Hokowhitu University of Queensland
which can be passed on to younger peers, benefiting both	Co-Investigators
mentor and mentee. The Programme was implemented in partnership with Hamilton's	Professor John Oetzel University of Waikato
Rauawaawa Kaumātua Charitable Trust, and was cost effective in improving wellbeing measures such as tribal identity (for teina/mentees) and sense of purpose (for tuakana/mentors).	Rangimahora Reddy Rauawaawa Kaumātua Charitable Trust
The scope and reach of the project is currently being expanded through new research involving up to 350 kaumātua across Aotearoa.	Research partner Rauawaawa Kaumātua Charitable Trust
More information: https://www.ageingwellchallenge.co.nz/research/kaumatua- mana-motuhake/	

ENSURING HIGHEST QUALITY OF END-OF-LIFE CARE

railty index and trajectories to guide care in retirement illages	READY NOW Ageing Well
This study yielded a frailty index tool which can, on an individual level, lead to direct referral for those with high scores to a geriatrician/frailty team, and also help make decisions regarding interventions with significant risk (e.g. chemotherapy, surgery).	Principal Investigator Dr Katherine Bloomfield University of Auckland
The tool is based on data from interRAI – International Resident Assessment Instrument, an evidence-based clinical assessment questionnaire used widely across the motu. At a population level, the tool allows frailty to be measured and compared across Aotearoa/facilities, so that policy makers and care facility operators can better plan infrastructure, funding, and support.	
The research also measures changes in frailty of retirement village residents over 2.5 years and the concurrence of health events, and explores the relationship between frailty, quality of life and resilience.	
More information: https://www.ageingwellchallenge.co.nz/research/frailty- trajectories/	

Frailty Care Guides	READY NOW Ageing Well
The Frailty Care Guides are a set of 26 decision support tools that provide guidance to nurses providing end-of-life care. They cover topics such as advance treatment planning, dementia, enduring power of attorney, and pain assessment and management.	Principal Investigator Associate Professor Michal Boyd University of Auckland
The guides promote early intervention and communication with the older person's multidisciplinary team. They were developed in collaboration with the Health and Safety Quality Commission, the government agency that works to improve health and disability support services. The Commission released an updated version in September 2023, to include more Māori material.	
The guides can be used, alongside clinical best practice, in any setting where people at risk of frailty receive care, including aged residential care, primary health care, community care, hospice and acute hospitals.	
More information: <u>https://www.ageingwellchallenge.co.nz/research/neurodegeneration-and-individual-interventions/</u> and <u>https://www.hqsc.govt.nz/resources/resource-library/frailty-care-guides-nga-aratohu-maimoa-hauwarea-2023-edition/</u>	

Recognising deterioration	READY NOW Ageing Well
In developing the Frailty Care Guides, a gap became apparent between care practices and operational management of residents' health in aged residential care facilities. To address this, the Deterioriation Early Warning System (DEWS) was developed to help clinical staff recognize health deterioration early for those in residential aged care.	Principal Investigator Associate Professor Michal Boyd University of Auckland
The DEWS tool is based on statistical data from the interRAI (International Resident Assessment Instrument) database combined with qualitative data from interviews with residents, families, facility staff, nurses, general practicioners and geriatricians, and was co-designed with clinical and non-clinical expertise, including Māori cultural expertise.	
More information: https://www.ageingwellchallenge.co.nz/research/recognising- resident-deterioration-in-residential-aged-care/	

INJURY PREVENTION AND RECOVERY FOR OLDER MAORI

Vhaioranga te Pā Harakeke – Māori injury prevention & ecovery service	READY NOW Ageing Well
Research suggests older Māori in Te Arawa iwi area may be at more risk of age-related, unintentional injury than other Māori nationally, and non-Māori regionally. Also, there is a need to provide whānau with choices and options to experience an ACC- funded injury prevention and recovery care service as Māori, where Te Ao Māori worldviews and preferences are prioritised.	Principal Investigator Dr Joanna Hikaka University of Auckland Research partner
In response, an injury prevention, rehabilitation, and recovery workforce with iwi and communities was developed, and the impact of the new workforce on individuals and communities measured. Central to the workforce are paeārahi (community navigators) who centre their approach on mātauranga Māori and are welcomed by whānau and communities.	Te Arawa Whānau Ora Collective
132 koeke (older people) were part of a 12-week intervention with support from paeārahi, and improved wellbeing was recorded across all four aspects of the Te Whare Tapa Whā model, as well as, for a proportion of koeke, greater confidence around accessing injury care.	
More information: https://www.ageingwellchallenge.co.nz/research/whaioranga-te- pa-harakeke/ or contact: j.hikaka@auckland.ac.nz	

HOUSING ISSUES AND RESPONSE FOR OLDER PEOPLE

lder renters' toolkit	READY NOW Ageing Well
With lack of effective state-wide provision of affordable housing for seniors, a rapidly increasing proportion of over-65s are having to live in rental accommodation – known as the "Tenure Revolution."	Principal Investigator Dr Kay Saville-Smith Centre for Research, Evaluation and Social Assessment (CRESA)
As part of a wide set of research questions and findings covering the impact of this phenomenon on older people's health, wellbeing, independence, dignity and social engagement, a suite of tools for older renters has been produced:	
 Going for Good Renting: A Guide for Renting in Later Life; 	
 Rapid Reference for Older Renters; 	
 Housing and Supporting Older Tenants: A Landlords Guide. 	
The suite of tools covers information on rental options available, tenancy advice, moving to another rental or other living arrangement, and sources of support.	
More information:	
https://www.ageingwellchallenge.co.nz/research/independence-	
and-housing-tenure/ and https://renting.goodhomes.co.nz/tools-	
for-you-renting/	

7. Huringa āhuarangi | Climate change

HEALTH AND ENVIRONMENTAL CO-BENEFITS OF OPTIMAL DIET AND ACTIVE TRAVEL

ustainable New Zealand Kai	READY NOW Healthier Lives
This study identified several versions of theoretical diet to meet the nutritional needs of Aotearoa New Zealand's population while reducing greenhouse gas emissions, at minimal additional cost to individuals. Epidemiological modelling showed that population-wide adoption of this diet would result in significant benefits: improved health outcomes, increased equity of health outcomes, cost-savings in the health system, and reduction in greenhouse gas emissions.	Principal Investigators Dr Cristina Cleghorn University of Otago, Wellington Dr Christina McKercher Ngāti Kahungunu, Tūhoe, Ngāti Porou University of Otago, Christchurch
The research team consulted policymakers, academics, industry representatives and community members to identify five feasible policy interventions which could create a population-level shift towards a more sustainable diet. The impact of these interventions was modelled: all five policies would result in health benefits and more equitable health outcomes; three would result in overall cost savings while the other two would be cost-effective or borderline cost-effective.	
More information: https://healthierlives.co.nz/research/sustainable-nz-diets/	

ACTIVATION: Active and shared travel in neighbourhoods	READY NOW Healthier Lives & Ageing Well
This research explored ways of retro-fitting the design of urban neighborhoods and increasing residents' mobility choice, to encourage more active and shared modes of travel. It was undertaken at two separate sites:	Principal Investigators Professor Karen Witten Massey University
 in Māngere, South Auckland, the project investigated the impact of locally co-designed activities aimed at 	Professor Simon Kingham University of Canterbury
increasing the connectivity and use of walking and biking infrastructure;	Dr Hamish Mackie Mackie Research
 in central Christchurch, it investigated how shared transport options and housing design can be integrated 	Professor Alistair Woodward University of Auckland
to encourage active mobility.	Dr Angela Curl University of Otago Christchurch
The research team worked closely with community stakeholders and policymakers to develop evidence to inform future housing	Research partners
and transport policy. More information: <u>https://healthierlives.co.nz/research/activation/</u> or contact: <u>K.Witten@massey.ac.nz</u>	Waka Kotahi; Auckland Council; Time-to-Thrive; Ōtautahi Community Housing Trust; Te Whatu Ora Canterbury; Christchurch City Council

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He korero mo matou | About us

National Science Challenges (NSCs) are collaborative research programmes with a mission to address some of the biggest science-based issues and opportunities facing Aotearoa New Zealand. Three NSCs focus on health and wellbeing across the life-course:

- A Better Start: E Tipu e Rea is working to find practical, evidence-based solutions that make a measurable and impactful difference in the lives of our tamariki and rangatahi. Researchers are creating the tools and methods to predict, prevent and intervene early so children have a healthy weight, are successful learners, and can access the tools they need to look after their mental health.
- Healthier Lives: He Oranga Hauora investigates equitable approaches to the prevention and treatment of four major non-communicable diseases – cancer, cardiovascular disease, diabetes and obesity.
- Ageing Well: Kia eke kairangi ki te taikaumātuatanga tackles the most important ageingrelated themes facing Aotearoa's older generations - kaumātuatanga, hāpori, tātai hono and tinana (age friendly, community, connection and wellbeing).

We aim to deliver equitable outcomes by working towards Te Tiriti Partnership and by building enduring relationships between stakeholders and researchers.

A Better Start is hosted by The University of Auckland. Healthier Lives and Ageing Well are hosted by the University of Otago. NSCs are funded by the Ministry of Business, Innovation and Employment.

Note: This inventory was first published in September 2023 and updated in August 2024.



A Better Start: E Tipu e Rea

www.abetterstart.nz



Healthier Lives: He Oranga Hauora www.healthierlives.co.nz National SCIENCE Challenges

Ageing Well: Kia eke kairangi ki te taikaumātuatanga www.ageingwellchallenge.co.nz







