



Te Kāwanatanga o Aotearoa
New Zealand Government



Health National Adaptation Plan 2024–2027

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Foreword from the Director-General

The health system has a crucial role to play in guiding the Aotearoa New Zealand (New Zealand) response to climate change and in supporting New Zealanders to live healthy lives in the face of that change. This Health National Adaptation Plan (HNAP) is part of our commitment to fulfilling this role.

We know that creating healthy environments is fundamental to achieving healthy futures. As we learnt from the extreme weather events of 2023, climate change impacts not only the environment we live in but also our ability to lead healthy and safe lives in that environment. It affects our health needs and services in many ways. For example, extreme events create an urgent need to stay safe from injury while they occur, while the damage they can cause to roads may disrupt our ability to reach the health care we need afterwards. We need to recognise climate change will also likely bring new health challenges for New Zealand, such as by developing the conditions for mosquitos that carry dengue fever and leading to ever more extreme temperatures that affect our ability to work outside safely.

Adapting to climate change is a big challenge for the health system. But it offers an even bigger opportunity. The work we are doing now to prepare for future climate change, if we do it well, can have significant benefits in other areas of health. For example, policies to invest in energy-efficient and climate-resilient housing can significantly reduce the transmission of infectious diseases and help to prevent many non-communicable diseases.

The actions outlined in the HNAP lay the foundation for building climate resilience within our health system. They focus on strengthening climate adaptation leadership across the health system and partnering with iwi, hapū and hapori Māori, and other communities, to further enable the incredible work already under way in those communities. By emphasising the social determinants of health that extend beyond the health sector, we are aiming to make health considerations critical to decision-making on climate change across sectors.

I would like to acknowledge the contribution that Health New Zealand – Te Whatu Ora has made to creating this first strategic plan for climate and health, as well as the many people we spoke with to make sure we head in the right direction. I look forward to continuing to work with all of these contributors as we put the HNAP into action.

Dr Diana Sarfati
Director-General of Health
Ministry of Health

Kupu Whakataki a te Te Tumu Whakarae

He mahi waiwai tā te pūnaha hauora kia ārahi i te urupare o Aotearoa ki te panoni āhuarangi me te tautoko kia hauora te noho o ngā tāngata o Aotearoa ahakoa te wero o taua panoni. He wāhanga te Whakamahaere Urutau ā-Motu Hauora (HNAP) o tō mātou noho haepapa kia whakatutuki i tēnei mahi.

E mōhio ana mātou he waiwai te waihanga i ngā taiao hauora kia whakatutuki i ngā anamata hauora. Ko te mea i ako mātou i ngā taiopenga huarere pākaha o te tau 2023, ka pā atu te panoni āhuarangi ki te taiao e noho nei tātou, waihoki ka pā mai ki tō tātou āhei kia hauora, kia haumaruru hoki te noho ki taua taiao. Ka pā ki ō tātou hiahia me ā tātou ratonga hauora i ngā āhuetanga maha. Hei tauira, mā ngā taiopenga pākaha e puta ai te hiahia ohotata kia noho haumaruru i te wharanga i te wā e puta tonu ana, ā, mā te whakakino e puta mai ai pea ki ngā huarahi ka whakararu i tō tātou āhei kia tae atu ki te tiaki hauora e hiahiatia ana e tātou i muri iho. Kia mōhio mai tātou, he nui te tūponotanga ka hari mai te panoni āhuarangi i ētahi wero hauora hou mō Aotearoa, pērā i te whakawhanake i ngā āhuetanga mō ngā naenae ka kawē i te pīwa tenakī (dengue), ā, ka whai mai ko ngā paemahana pākaha ake ka pā ki tō tātou āhei kia mahi haumaruru ki waho.

He wero nui ki te pūnaha hauora te urutau ki te panoni āhuarangi. Engari nā runga anō i tēnei ka hua mai tētahi kōwhiringa nui ake. He painga nui i roto i ngā mahi e mahia ana e mātou ināianei ki te whakarite mō te panoni āhuarangi anamata ki ētahi atu wāhi o te hauora. Ka riro ngā painga mēnā he pai te mahi. Hei tauira, he kaupapa here kia haumi ki te wharenoho pūngao whāomo, manawaroa ā-āhuarangi hoki e taea ai te tino whakaheke i ngā mate hōrapa me te āwhina ki te aukati i ngā mate huhua e kore e hōrapa.

E whakatakoto ana ngā mahi i whakahuatia i roto i te HNAP i te tūāpapa mō te hanga manawaroa ā-ahuarangi ki roto i tō tātou pūnaha hauora. Ka arotahi ki te whakakaha i te hautūtanga urutaunga āhuarangi puta noa i te pūnaha hauora me te tūhono ki ngā iwi, ngā hapū me ngā hapori Māori me ētahi atu hapori, kia whakamana anō i te mahi whakamīharo kua tīmata kē i roto i aua hapori. Mā te miramira i ngā whakaritenga pāpori o te hauora e whātoro atu ki tua i te rāngai hauora, e whai ana mātou kia noho waiwai ngā whakaaroarotanga hauora ki ngā whakatau mō te panoni āhuarangi puta noa i ngā rāngai katoa.

E mihi ana au ki te tāpaetanga o Te Whatu Ora ki te waihanga i tēnei mahere rautaki tuatahi mō te āhuarangi me te hauora, tae atu ki ngā tāngata maha i kōrero ai mātou hei whakatūturu e tika ana tā mātou haere. E hiamō ana au kia mahi tahi tonu ki te katoa o ēnei kaitāpae ina whakahaeretia ana te HNAP.

Tākuta Diana Sarfati

Te Tumu Whakarae mō te Hauora
Manatū Hauora

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1 Introduction

Our climate is changing. These changes are affecting what we value most in our lives, including our health and wellbeing. We can expect their impact to be immense: climate change has been described as the biggest global health threat of the 21st century (Costello et al 2009; Ghebreyesus et al 2023).

To reduce climate-related risks to health, the world needs to reduce emissions of greenhouse gases significantly and rapidly to limit temperature rises (mitigation). We also need to take robust and timely action to adjust to the current impacts of climate change and prepare for the projected impacts (adaptation).

This first Health National Adaptation Plan (HNAP) is an important step towards placing health considerations at the forefront of the climate response of Aotearoa New Zealand (New Zealand). It sets the strategic direction and provides national-level priority actions for health-focused adaptation to climate change.

The vision for the HNAP is 'to protect the health and wellbeing of people and communities from the effects of climate change to achieve pae ora – healthy futures for all New Zealanders'. The aim of this deliberately broad scope is to ensure the health system can provide climate-resilient health services, while also addressing the broader direct and indirect effects of climate change on the health of communities, including those effects that sectors outside the health system contribute to. Through this vision, the HNAP also seeks to raise the profile of health considerations in cross-sectoral climate action, so that New Zealand can realise the substantial health co-benefits of well-designed climate action, including mitigation.

The Ministry of Health – Manatū Hauora (Ministry of Health) has developed the HNAP as an action arising from New Zealand's first National Adaptation Plan. The National Adaptation Plan is a statutory requirement under the Climate Change Response Act 2002 and sets out what government agencies will do to help New Zealanders understand, adapt to and respond to climate change risks (Ministry for the Environment 2022b). The HNAP also reflects the health system's own mandate to respond to climate change, most recently reiterated in the Government Policy Statement (GPS) on Health 2024 – 2027 (Minister of Health 2024).

The HNAP sets the foundation for the regional or local climate health action plans (CHAPs) that Health New Zealand – Te Whatu Ora (Health NZ), including the National Public Health Service, will develop. Each CHAP will identify locally relevant operational adaptation actions, in view of the variable effects of climate change across the country and reflecting the specific aspirations and needs of local communities.

2 Climate change and health

Climate change is a serious and leading threat to health. The floods and storms that disrupted large parts of the country in early 2023 clearly demonstrated the health-damaging effects of climate change (Jones et al 2023). These types of extreme weather events are increasing in frequency and severity. Their direct health impacts include injury, illness and impacts on mental health and wellbeing. However, as the climate changes, it is anticipated that other direct impacts will increase, such as heat-related illnesses and deaths (Awatere et al 2021; Bolton et al 2020; Royal Society Te Apārangi 2017).

Less obvious but also likely to cause significant human suffering are the indirect health impacts of climate change. As the effects of climate change become more frequent and extreme, we will have less time and fewer resources to recover between events. There will be cascading impacts on other environmental and social determinants of health, including threats to food security, water quality and availability, the spread of water- and vector-borne diseases, forced displacement of people, threats to livelihoods and social cohesion, disruption to education and health services, and additional pressures on housing (Lawrence et al 2018). Navigating and anticipating these cascading impacts also negatively affects mental health and wellbeing (Hickman et al 2021; Tiatia-Seath et al 2018).

Figure 1: Impacts of climate change on human health



Source: Adapted from Centres for Disease Control and Prevention

2.1 Climate change and health for Māori

Climate change threatens pae ora – healthy futures for Māori, as it directly and indirectly impacts on mauri ora (one’s own wellbeing), whānau ora (the wellbeing of families and communities) and wai ora (wellbeing in the context of the environment). While all New Zealanders will feel the effects of climate change, Māori face greater risks and impacts due to their geographical locations, the industries they work in, and current socio-economic circumstances (Te Puni Kōkiri 2023; 2024). For example, 86% of Māori households are located in flood-exposed areas, and many of these areas already experience poorer health outcomes (Te Puni Kōkiri 2023). Therefore, increased flooding is likely to worsen the health inequities that Māori already experience (Masters-Awatere et al 2023). Similar patterns exist for other climate risks like increased sea-level rise, heatwaves and drought (Te Puni Kōkiri 2023). Māori also experience culturally specific impacts: because Māori have an intrinsic connection to whenua (land) and the associated mauri (life force) of other beings, the impacts of climate change on te taiao (the environment) affect their social cohesion and identity (Ministry for the Environment 2022a).

Māori have contributed vast knowledge, time and resources towards national climate adaptation efforts. For example, iwi and hapū-led responses have been critical in responding to and recovering from extreme weather events. During Cyclone Gabrielle, many marae supported the civil defence response by becoming emergency centres, housing displaced people and distributing food and supplies. Whānau from around the country coordinated these efforts. Iwi and hapū continue to support affected communities to recover, by cleaning up neighbourhoods, fixing broken infrastructure and supporting families to access housing and financial support.

2.2 Upholding Te Tiriti o Waitangi

Pae Tū: Hauora Māori Strategy (Minister of Health 2023b) and *Whakamaua: Māori Health Action Plan 2020–2025* (Ministry of Health 2020) provide the guiding framework for health entities to work together with Māori to respond to Māori health aspirations and address Māori health needs. The HNAP reflects this commitment through actions to coordinate effort across the health system and broader government to shift decision-making around resources closer to people and communities. This will enable local iwi Māori leadership, collaboration and innovation to meet community needs. For example, Health NZ will be expected to partner meaningfully with iwi, hapū and hāpori Māori to develop the CHAPs, including them in policy and resourcing decision-making.

The HNAP also draws on the Rauora framework developed for the National Adaptation Plan (Ihirangi 2021). This indigenous view of climate change is reflected in the HNAP’s broad, cross-sectoral and partnership approach that considers supporting community and whānau leadership, and influencing the wider determinants of health as a foundational part of building climate resilience.

2.3 Equity: priority populations affected by climate change

Among our communities, some groups experience greater impacts from climate change than others. The groups that are most affected, who we refer to in this HNAP as 'priority populations', are young people, rangatahi, children and future generations, Māori, Pacific peoples, disabled people, rural populations and people living with high levels of socioeconomic deprivation (Ministry for the Environment 2022b; Royal Society Te Apārangi 2017).

For some people, belonging to multiple intersecting population groups can compound the impacts of climate change that they experience. Young people and future generations will inequitably experience greater impacts from climate change as they will spend a greater part of their lifespans with more severe climate change.

Some additional populations are expected to experience greater impacts from specific climate-related factors. For example, elderly people are at higher risk of being negatively affected by extreme heat, and people living in coastal areas may experience more displacement and costs from sea-level rise and coastal erosion.

However, these inequities are not inevitable. While climate change has been described as the biggest global health threat of the 21st century, tackling climate change offers the greatest global health opportunity (Wang and Horton 2015). We have this opportunity because equity-focused action on climate change can have substantial short- and long-term health co-benefits, as well as reducing the health impacts of climate change – especially for priority populations.

2.4 Climate change adaptation and mitigation

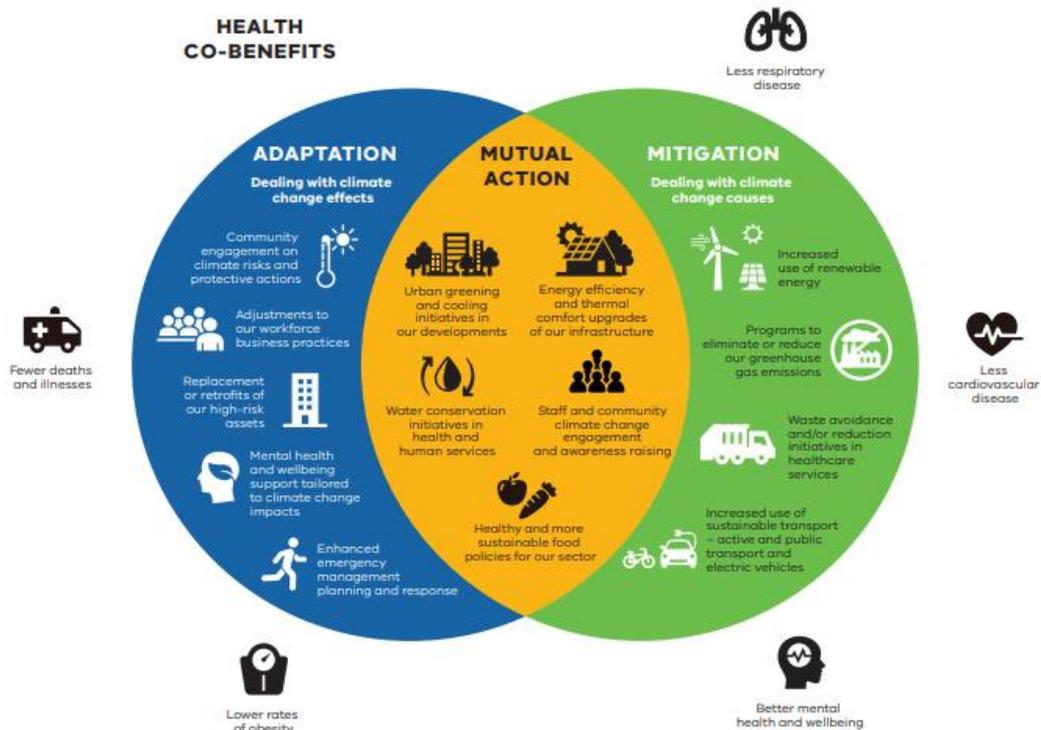
Tackling climate change involves two broad kinds of action: adaptation and mitigation.

Climate adaptation is the process of adjusting to actual or expected climate change and its effects. Adaptation focuses on living with, and adjusting to, the impacts of climate change already locked into our climate systems.

In contrast, **climate mitigation**, also known as emissions reduction, focuses on addressing the causes of climate change by reducing global greenhouse gas emissions. Some measures that are primarily about mitigation, in addition to reducing greenhouse gas emissions, can bring about substantial health co-benefits. Examples include shifting to active and public transport, reducing red meat and animal fat in the diet (FAO and WHO 2019) and improving the energy efficiency of housing. The health benefits of such measures include reducing type 2 diabetes, heart disease, road traffic accidents, cancer and respiratory disease, and improving mental health.

Climate change adaptation and mitigation are closely interconnected, which creates potential for achieving synergies between them as well as for producing conflicts and trade-offs in efforts to progress each of them. Importantly, some climate change actions span both adaptation and mitigation (for example, growing urban forests, restoring wetlands and making buildings thermally efficient). Figure 2 provides an overview of how climate adaptation and mitigation are interconnected, and how both forms of climate action can lead to health co-benefits.

Figure 2: How climate adaptation and mitigation are interconnected, and can lead to health co-benefits



Source: State of Victoria Department of Health and Department of Families, Fairness and Housing (2022)

Pursuing equitable mitigation policies that have strong co-benefits for health is a fundamental component of climate adaptation planning, because any reduction in emissions and associated changes make it easier to adapt effectively. The Ministry of Health and Health NZ are already working on programmes focused on mitigation, including an emissions reduction plan for health service delivery that will be completed by December 2024. For this reason, this HNAP primarily focuses on actions that progress adaptation specifically or that produce mutual benefits for both adaptation and mitigation (the blue and yellow segments of Figure 2).

National climate adaptation and mitigation policy actions often involve cross-cutting policy areas, and decisions made in one sector impact outcomes in others. The health system’s work on climate adaptation intersects with the work of many other sectors, such as water, natural environment, primary industry, built environment, education and training, transport, economic development, and local government. These interdependencies are amplified by climate variables and the way they interact with each other as well as with our natural and built environments (Dawson 2015). Therefore, the HNAP aims to support coordinated planning and decision-making in response to these interdependencies in a way that avoids unintended consequences.

3 The wider strategic context for climate change and health

The HNAP is a component of New Zealand’s wider response to climate change. Figure 3 provides an overview of the context for the HNAP. That context includes how the HNAP relates to our global obligations, as well as to our domestic legislative and strategic context.

3.1 Global commitments

Internationally, New Zealand is party to several agreements that commit us to reducing greenhouse gas emissions. These agreements include the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement, which aim to limit temperature increases to 1.5°C above pre-industrial levels. At the most recent UNFCCC Conference of Parties in Dubai (COP28), New Zealand endorsed a Declaration on Climate and Health that underscored the urgent need to confront the connections between climate change and health. The Declaration included a commitment to strengthen policies that maximise the health gains from mitigation and adaptation actions.

New Zealand is also party to other international conventions that guide climate adaptation policy, including the United Nations Declaration on the Rights of Indigenous Peoples and Convention on the Rights of Persons with Disabilities.

3.2 National climate change legislation and adaptation policy

Within New Zealand, the Climate Change Response Act 2002 provides the legal framework for climate change policies on both mitigation and adaptation. The Act requires the Minister of Climate Change to develop a National Adaptation Plan at least every six years in response to a National Climate Change Risk Assessment (Ministry for the Environment 2020). The first National Adaptation Plan was published in August 2022, titled *Adapt and thrive: Building a climate-resilient New Zealand* (Ministry for the Environment 2022b). It sets out what government agencies will do to help New Zealand understand, adapt to and respond to climate change risks. Implementation of

the National Adaptation Plan is a cross-agency effort led by the Ministry for the Environment.

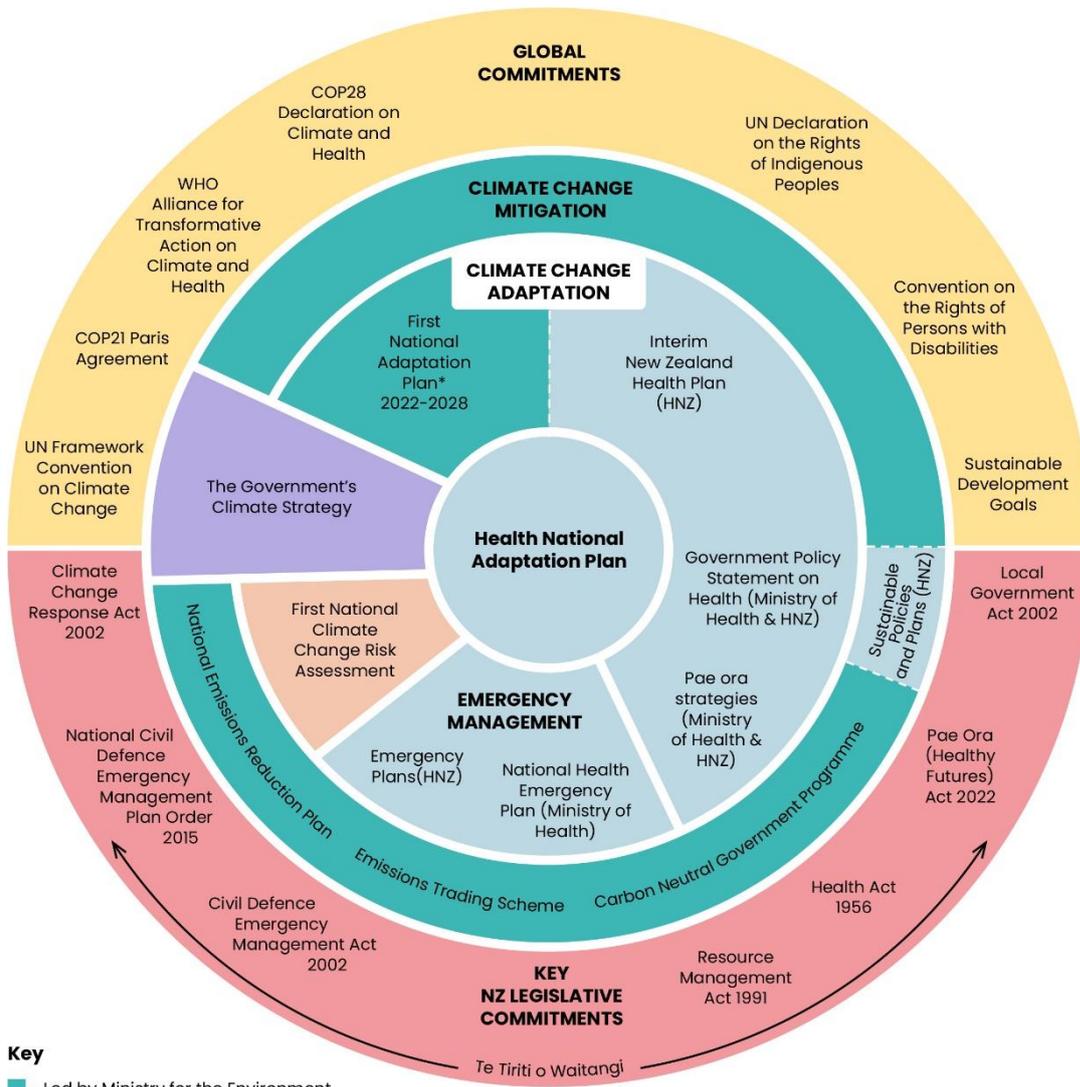
In July 2024, the Government published *Responding to a changing climate: the Government's climate strategy* (Ministry for the Environment, 2024) which outlines how it will deliver on New Zealand's climate goals. The HNAP contributes to achieving the first pillar, which focuses on ensuring that infrastructure is resilient and communities are well prepared.

3.3 National health legislation and policy

The health system has its own legislative mandate and strategic context for responding to climate change. In addition to meeting requirements under the National Adaptation Plan, the HNAP identifies how the health system will meet some of its obligations under the Pae Ora (Healthy Futures) Act 2022 (Pae Ora Act). The Pae Ora Act requires the health system to address the wider determinants of health, including climate change.

The HNAP aligns with the priorities and objectives of the GPS on Health 2024 – 2027 due to its strong focus on prevention and building resilient, sustainable health care services (Minister of Health 2024). Several Pae Ora Act strategies also set out priority areas relating directly to climate change, including sustainability, cross-sectoral action to improve the social determinants of health and resourcing whānau- and community-led approaches (Minister of Health 2023; Ministry of Health 2023a).

Figure 3: Global and domestic legislative and policy context for the Health National Adaptation Plan



Key

- - Led by Ministry for the Environment
- - Led by Health
- - Led by Climate Change Commission

*Implementation monitored by the Climate Change Commission

Note: HNz- Health New Zealand

4 Developing the HNAP

The Ministry of Health is responsible for developing an HNAP to achieve the National Adaptation Plan objective: ‘The health sector is prepared and can support vulnerable communities affected by climate change’. After developing an early draft of the HNAP, we paused this work during the health reforms. The Public Health Agency began working on the HNAP again on behalf of the Ministry of Health in 2023. A cross-agency working group, which included representatives from Health NZ and Te Aka Whai Ora – Māori Health Authority, progressed the HNAP.

Guidance for the approach to the HNAP came from a Ministry of Health-commissioned report from Environmental Science and Research (ESR) (Bolton et al 2019) and from World Health Organization (WHO) quality criteria (WHO 2021b). Targeted engagement with key stakeholders on the proposed actions in the HNAP occurred through online surveys and five web-based workshops in March and April 2024. Stakeholders included representatives from the health system, local and central government agencies, academics and researchers, non-governmental organisations (NGOs) and community organisations. A workshop focused on te ao Māori specifically was also held. This final HNAP reflects feedback received during this engagement phase.

4.1 Health system roles and responsibilities for climate adaptation

Table 1 sets out the general structure of adaptation roles and responsibilities for climate adaptation that are distributed between the Ministry of Health and Health NZ.

Table 1: Roles and responsibilities in planning for climate adaptation in the health system

Agency	Role	Responsibilities	
Ministry of Health – Manatū Hauora	Strategic lead	<ul style="list-style-type: none"> HNAP National-level actions Monitoring and evaluation Cross-agency partnerships 	Building relationships and working with iwi, hapū, local government and local health providers, and communities
Health New Zealand – Te Whatu Ora	Operational lead	<ul style="list-style-type: none"> Planning for delivery of climate-resilient health services HNAP actions at regional and local levels (ie, climate health action plans) 	

4.2 Principles

Building on the health principles established in the Pae Ora Act, four principles have guided the development of the HNAP (see Table 2).

Table 2: Principles guiding the development of the HNAP

Principle	What it means for the HNAP
Whanaungatanga	Adaptation is an iterative process that takes place over a long period. Effective, equitable adaptation that can be sustained throughout generations requires enduring relationships between the health system and communities. The aim of the HNAP is to develop strong partnerships across sectors and levels, and especially to ensure that iwi, hapū and hapori Māori can exercise decision-making authority over how to adapt to climate change.
Equity	All New Zealanders deserve to have equitable health outcomes. Many populations will be disproportionately affected by climate change impacts, which will worsen existing health inequities if the health system does not adequately embed equity into our climate adaptation efforts. The HNAP is required to prioritise actions that reduce these inequities.
Kaitiakitanga	The Ministry of Health has an obligation as steward of the health system to guard and protect the health of people and the environment by understanding and supporting the close relationship that people, especially Māori, have with the land.
Flexibility	Climate change will occur over a long period and have intergenerational effects. We can see the effects of climate change already, but the timing, location and magnitude of the effects can be difficult to predict. The information we have available to use in our adaptation planning is imperfect, and health adaptation plans need to be flexible to respond to changing or new information and evidence.

4.3 Objectives

Table 3 sets out the objectives of this HNAP. We will revise this first HNAP by the end of 2027, recognising that the health system needs to undertake considerable research and engagement work to guide future versions of the HNAP. For this reason, these objectives span a longer period than the first HNAP covers.

Table 3: HNAP objectives in the short, medium and long term

Timing	Objectives	What this objective looks like
Short term: 2024–2027	The health system has a comprehensive approach and action plan for adapting to climate change	<ul style="list-style-type: none"> The HNAP is being implemented as resources allow. As part of this, CHAPs are successfully developed. Crown entities in the health system are working together and with other stakeholders to build a shared understanding of the relationship between climate change and health. Crown entities in the health system are building climate and health adaptation into more work programmes. The health system incorporates different forms of knowledge and robust evidence on climate and health.

Timing	Objectives	What this objective looks like
Medium term: 2028–2033	Climate change adaptation is embedded across the health system and is a core part of how we plan and deliver services	<ul style="list-style-type: none"> • All relevant government policy considers the broad range of co-benefits for health that arise from climate mitigation and adaptation action. • New Zealanders are engaged in the health system’s climate and health planning. • The health system is equipped to flexibly plan services and respond to the changing climate in a way that ensures equitable service delivery and health outcomes. • The health system meets Te Tiriti o Waitangi obligations to iwi, hapū and hāpori Māori by supporting Māori-led climate adaptation.
Long term: 2034–2050	The health system is resilient to climate-related impacts	<ul style="list-style-type: none"> • The publicly funded health system sets and meets emissions targets in line with a 1.5°C warming pathway. • Our health system is resilient and sustainable. • The health system is well positioned to achieve pae ora – healthy futures for all New Zealanders, and inequities have been greatly minimised, with the aim of eliminating inequities before 2050.

5 Focus areas and summary of actions

Given the wide-ranging health impacts of climate change and our intention to take a comprehensive approach to health-focused adaptation, the actions we identify in this HNAP encompass a wide range of areas and activities. These actions are grouped under the following five broad focus areas:

1. Leadership and governance
2. Social and environmental determinants of health
3. Knowledge and risk assessment
4. Health care service resilience and adaptation
5. Community and whānau leadership.

Appendix 1: Health National Adaption Plan actions describes the actions in more detail. It also identifies the responsible agency or agencies and the timeframe for completing each action.

5.1 Leadership and governance

Strong health and iwi Māori leadership and governance is essential to ensure health-focused adaptation to climate change is effective, coordinated and consistent. At a national level, the Ministry of Health is responsible for the key actions under this focus area. Health NZ is responsible for leading operational actions, including at a regional level.

There are six actions (LG1–LG6) in the leadership and governance focus area.

- LG1 Review and update the first HNAP by the end of 2027 to align subsequent reviews with national adaptation planning cycles
- LG2 Develop climate health action plans
- LG3 Establish and strengthen mechanisms for working with local government, iwi, hapū and hapori Māori and other groups on climate-related risk, adaptation and emergency response
- LG4 Embed climate and health adaptation into Ministry of Health policy-making processes
- LG5 Monitor implementation of HNAP actions across the health system
- LG6 Establish a scientific advisory group in climate and health to guide work programme

5.2 Social and environmental determinants of health

Social and environmental determinants of health shape community resilience and adaptive ability. As recognised in the GPS, partnering and influencing across sectors in response to climate-related impacts on health will be critical to addressing these wider determinants of health. Well-designed actions by sectors such as housing, transport, urban development, and agriculture offer considerable opportunities to reduce greenhouse gases as well as to achieve co-benefits to health.

While climate change affects many other social determinants of health, the housing, transport, urban development, and agriculture sectors were chosen based on the strength of current evidence and the clear opportunities to collaborate with these sectors more effectively.

There are three actions (SDH1–SH3) in the social determinants of health focus area.

- SDH1 Work with relevant agencies and stakeholders to embed health, climate and equity co-benefits into national decision-making on housing, particularly rental housing and social housing
- SDH2 Work with relevant agencies and stakeholders to embed health, climate and equity co-benefits into national decision-making on urban form, blue and green spaces, active and public transport, and environmental determinants
- SDH3 Work with relevant government agencies and stakeholders to embed health, climate and equity co-benefits into national decision-making on actions in the food system

5.3 Knowledge and risk assessment

The health system climate change adaptation programme will draw on the best possible New Zealand-specific research, modelling and surveillance that informs us of the risks, where they are likely to occur and who will be most affected by them.

We will design our approach to pivot as new evidence arises and will refine that approach to meet the evidence needs identified in the CHAPs. We will draw on a wide range of scientific, expert and community knowledge, especially mātauranga Māori, so that we make informed, equity-focused decisions.

The process of identifying and prioritising risks is essential in planning adaptation pathways. CHAPs will consider local climate risks, health needs, health infrastructure and resources, and community needs and aspirations. They will draw on existing regional climate change risk assessments, such as those that regional councils are

developing. Health-related risk assessments must apply a strong equity lens to avoid disadvantaging priority populations.

There are 12 actions (KRA1–KRA12) in the knowledge and risk assessment focus area.

- KRA1 Undertake a national climate change and health vulnerability and adaptation assessment
- KRA2 Develop a surveillance system for excess summer mortality, create New Zealand-specific heatwave definitions and work with other agencies to introduce a national heat warning system
- KRA3 Commission a national heat vulnerability study to guide prioritisation of heatwave resilience and response, and develop heat threshold guidance for specific settings and priority populations
- KRA4 Evaluate the immediate and long-term health and wellbeing impacts of the 2023 extreme weather events, including the recovery and buyout process
- KRA5 Assess climate change impacts on work-related exposures
- KRA6 Review the domestic disease vector monitoring system to ensure it can detect relevant climate-related issues early
- KRA7 Assess the impacts of climate change on mental health in New Zealand
- KRA8 Assess transition risks and potential mitigation strategies for public health and health service delivery, with a particular focus on managed retreat
- KRA9 Assess likely effects of climate-related domestic migration on social determinants of health (eg, pressure on housing), health equity and health outcomes
- KRA10 Assess risks from climate change to drinking water security
- KRA11 Assess the extent of health-related, nature-based solutions and natural infrastructure in urban areas nationally, including tree coverage, urban food production, and access to green and blue spaces
- KRA12 Prioritise climate change in the New Zealand health research system, and facilitate partnerships between research institutes (including kaupapa Māori researchers) and the health system

5.4 Health care service resilience and adaptation

Climate change will pose risks to the functioning of our health system, including through risks to our physical premises, workforce and technology, and a potentially higher demand for services. It is important that we anticipate these risks and invest now to ensure our health system continues to function when it is faced with both increased pressures from individual incidents and greater long-term system pressures related to climate change.

The HNAP will particularly consider primary and community health care, given these sectors are common entry points into the health system and play key roles in preventing health issues and responding to local community needs. They have the potential to alleviate pressures elsewhere in the system, including in times of emergency.

There are two actions (HSR1–HSR2) in the health care service resilience and adaptation focus area.

- HSR1 Set clear national direction and actions related to sustainability and climate change for health service delivery
- HSR2 Support local government, as part of civil defence engagement, to develop regional or district health emergency plans for extreme climate-related events, including floods, storms, wildfires, heatwaves and drinking water contamination

5.5 Community and whānau leadership

Government agencies and services do not have all the answers and resources needed for healthy climate adaptation. It is important to empower communities, particularly hapori Māori, to adapt to climate change by ensuring they have the resources and autonomy they need to take action. The need for this focus is particularly clear considering the immense support hapori Māori provide to wider communities during climate emergencies, often without Crown resourcing and support.

The health reforms provide for increased partnership with communities in the form of strengthened iwi-Māori partnership boards. However, the health system also needs to undertake engagement, partnerships and joint decision-making with community groups more broadly.

There are three actions (CWL1-CWL3) in the community and whānau leadership focus area.

- CWL1 Collaborate with communities, enabling them to share data and stories and to take climate action that supports holistic health and wellbeing and equitable outcomes for those at greatest risk from the effects of climate change
- CWL2 Partner with iwi, hapū and hapori Māori, other priority populations and local communities to design and prioritise climate and health actions
- CWL3 Establish or support an existing national rangatahi climate and health board

6 Next steps: implementation and monitoring

This first HNAP is the foundation for the health system's work to adapt and build resilience to climate change. The focus areas and actions provide high-level strategic direction to build climate and health knowledge and partnerships both within the health system and across into other sectors. As we address these gaps, we will revise many actions in this first HNAP and replace others with updated evidence-based, intervention-focused actions. By taking a learning approach, the Ministry of Health and other health entities can take immediate action while working towards the long-term, shared vision of protecting the health and wellbeing of communities from the effects of climate change.

6.1 Implementation

We will develop a work programme to prioritise and implement the actions detailed in **Appendix 1: Health National Adaption Plan actions**. The work programme will set out a tailored approach for each action, reflecting the interdependencies between actions and the resources available to complete the work. For example, we will undertake the climate change and health vulnerability and adaptation assessment (KRA1) as this will provide key information required to progress several other actions. At the time of publishing, some actions are funded and implementation is under way. To progress other actions, we will need to undertake further work to identify the policy levers that are available and which components involve national strategy (Ministry of Health) and which are operational and/or local components (Health NZ).

The Public Health Agency-led working group that developed this HNAP will oversee implementation of the actions.

6.2 Monitoring

Through action LG5, the Ministry of Health will develop a monitoring plan to track the implementation of the HNAP actions. This monitoring plan will include indicators to ensure we are meeting our obligations under Te Tiriti and are improving outcomes equitably. The design of the monitoring plan will recognise that progress towards implementing the HNAP actions depends on broader factors, including:

- the capacity of Crown entities in the health system
- the extent to which we have access to in-depth, up-to-date, relevant knowledge
- the resourcing that is available.

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Glossary

Adaptation	In human systems, the process of adjusting to actual or expected climate and its effects, with the aim of moderating harm or taking advantage of beneficial opportunities.
Capacity	The ability for an individual, whānau or community to respond to change by enhancing their strengths and attributes and improving their access to resources.
Cascading impacts	A series of events where an initial impact produces further impacts that are significantly larger than the first one. In relation to extreme weather events, an extreme hazard causes a sequence of secondary events in natural and human systems that result in major physical, natural, social and/or economic disruption.
Climate change	A change in the state of the climate that can be identified (eg, using statistical tests) by changes or trends in the mean and/or the variability of its properties, and that persists for an extended period, typically decades to centuries. The United Nations Framework Convention on Climate Change (UNFCCC) definition of climate change specifically links it to direct or indirect human causes, as 'a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods'.
Climate resilience	The ability to anticipate, prepare for and respond to the impacts of a changing climate, including the impacts that we can anticipate and the impacts of extreme events. Achieving climate resilience involves planning now for sea-level rise, more frequent flooding, extreme events such as forest fires or extreme floods, and changing precipitation and temperature patterns, including droughts.
Co-benefit	A positive effect that a policy or measure aimed at one objective has on another objective, which increases the total benefit to society or the environment.
Displacement	In the context of this plan, primarily the involuntary movement of individuals or communities in response to climate change impacts.
Emergency management	The process of applying knowledge, measures and practices that are necessary or desirable for the safety of the public or property, and are designed to guard against, prevent, reduce, recover from or overcome any hazard, harm or loss associated with any emergency.
Emissions	In the context of climate change, emissions of greenhouse gases, precursors of greenhouse gases and aerosols caused by human activities. These activities include the burning of fossil fuels,

deforestation, land use and land-use change, livestock production, fertilisation, waste management and industrial processes.

Equity	In New Zealand, people have differences in health that are not only avoidable but unfair and unjust. Equity recognises that different people with different levels of advantage require different approaches and resources to get equitable health outcomes.
Exposure	Being present in a place or setting that could be adversely affected by climate change. Those that could be harmed in that environment include: people; livelihoods; species or ecosystems; environmental functions, services and resources; infrastructure; and economic, social or cultural assets.
Governance	The governing architecture and processes of interaction and decision-making that exist in and between governments, economic and social institutions. Governance includes Te Tiriti partnership between Māori and the Crown, and the relationship between local government and communities.
Hapori	Community, section of a kinship group, family, society.
Hapū	Kinship group, clan, subtribe.
Hazard	The potential occurrence of a natural or human-induced physical event or trend that may cause loss of life, injury or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, ecosystems and environmental resources.
Impacts	The (harmful or beneficial) consequences of realised risks on natural and human systems, where risks result from the interactions of climate-related hazards (including extreme weather events), exposure and vulnerability.
Infrastructure	The set of physical systems, along with their institutional arrangements, that interact with the broader environment to provide services to people and communities that support economic growth, health, quality of life and safety.
Kaitiaki/ kaitiakitanga	Guardian or guardianship, stewardship – for example, of natural resources.
Kaupapa Māori	Māori approach, topic, customary practice, institution, agenda, principles, ideology – a philosophical doctrine incorporating the knowledge, skills, attitudes and values of Māori society, with a distinct focus on decolonisation and re-indigenisation.
Mahinga kai	Practice of cultivating, gathering and preparing traditional food and other natural resources.
Mana whenua	Translates to the mana of the land. Māori are mana whenua of the land they whakapapa back to.
Managed retreat	The purposeful, coordinated movement of people and assets (eg, buildings and infrastructure) away from risks. This may involve the movement of a person, infrastructure (eg, building or road) or a

	community. It can occur in response to a variety of hazards, such as flood, wildfire and drought.
Mātauranga Māori	The knowledge system that encompasses Māori culture, values, traditions and worldviews. It has evolved over countless generations, with its roots in the wisdom of ancestors. Key components of mātauranga Māori are whakapapa, wairua, tikanga and taiao.
Mauri	Life principle, life force, vital essence, special nature, a material symbol of a life principle, source of emotions – the essential quality and vitality of a being or entity. Also used for a physical object, individual, ecosystem or social group in which this essence is located.
Mitigation	In the context of climate change, a human intervention to reduce the sources or enhance the sinks of greenhouse gases.
Nature-based solutions	Solutions that are inspired and supported by nature and are cost-effective, and at the same time provide environmental, social and economic benefits and help build resilience. Such solutions increase the number and diversity of nature and natural features (eg, vegetation and water features) and processes in cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions.
Pae ora	<p>Pae ora is a holistic concept that includes three interconnected elements:</p> <ul style="list-style-type: none"> • Whānau ora is a fundamental philosophy for creating strong, healthy and empowered whānau. A strong healthy and empowered whānau can make the most significant difference to intergenerational Māori health and wellbeing. • Mauri ora expresses an aspiration to shift the mauri (or life force) of a person from one that is languishing to one that is flourishing. • Wai ora acknowledges the importance of Māori connections to whenua as part of the environments in which we live and belong – and the significant impact this has on the health and wellbeing of individuals, whānau, hapū, iwi and Māori communities.
Papakāinga	Original home, home base, village, communal Māori land.
Resilience/resilient	The capacity of interconnected social, economic and ecological systems to cope with a hazardous event, trend or disturbance, by responding or reorganising in ways that maintain their essential function, identity and structure. Resilience is a positive attribute when it allows systems to maintain their capacity to adapt, learn and/or transform.
Risk	The potential for adverse consequences for human or ecological systems, recognising the diversity of values and objectives associated with such systems. In the context of climate change, risks can arise from potential impacts of climate change as well as

human responses to climate change. Adverse consequences may affect human lives, livelihoods, health and wellbeing; economic, social and cultural assets and investments; infrastructure; services (including ecosystem services); and ecosystems and species.

Risk assessment	The scientific estimation of risks, which may be either quantitative or qualitative.
Sustainable/ sustainability	Describes conditions where natural and human systems can persist. Ecosystems continuously function, biodiversity is high, natural resources are recycled and, in the human sector, people successfully apply justice and equity.
Taiao	The environment and the natural world. Māori have an intimate relationship with their whenua, awa (river) and all living beings.
Tangata whenua	Translates to the people of the land. All Māori are tangata whenua of Aotearoa New Zealand.
Te ao Māori	The Māori world.
Urban heat islands	Urban areas or urban 'islands' that experience higher temperatures than outlying areas. Structures such as buildings, roads and other infrastructure, which are highly concentrated in urban areas, absorb and re-emit the sun's heat more than natural landscapes do. Conversely natural landscapes, such as forests, other greenery and water bodies, are limited in urban areas.
Vulnerability/ vulnerable	In the climate change context, this concept is used to describe the extent to which certain people or ecosystems are likely to be adversely affected by climate change. Elements that contribute to this concept include sensitivity or susceptibility to harm and lack of capacity to cope and adapt.
Wellbeing	A state of being in which we have the tools, support and environments we need to be who we are and to build and sustain lives worth living.
Whānau	Family, extended family, family connection.
Whenua (Māori)	Māori land. There are three types of whenua Māori: Māori freehold land, Māori customary land and general land owned by Māori.

Note: This glossary is adapted from the National Adaptation Plan (Ministry for the Environment 2022).

Appendix 1: Health National Adaptation Plan actions

Table A1 provides a detailed explanation of each action in the HNAP. It also identifies which health agency is responsible for delivering the action. In most cases, this is either the Ministry of Health or Health NZ. Some actions list both the Ministry of Health and Health NZ as responsible agencies, reflecting the different roles and responsibilities each agency has in the health system. For example, actions to embed health, climate and equity co-benefits into the work of other sectors (SDH1–SDH3) require effort at all levels of the health system, including as part of local and regional CHAPs. As **Section 6.1: Implementation** outlines, the Ministry of Health and Health NZ will work together to develop a detailed work programme that clearly allocates responsibility for required activities to the appropriate agency.

The table also identifies broad timeframes for completing the actions. Actions have been categorised as:

- ongoing – for actions that are about building capability and continuous improvement
- to be completed in the first HNAP period (2024–2027) – for priority actions
- to be completed in the second HNAP period (2028–2033) – for longer-term actions that may depend on other actions being completed. We have included these future-focused actions in this first HNAP to establish the long-term strategic direction for health-focused climate adaptation. Health agencies will progress these actions earlier than 2028 where the opportunity arises.

Table A1: Detailed list of actions identified in section 5 of this HNAP

Code	Action	Responsible	Timeframe
Focus area 1: Leadership and governance			
LG1	<p>Review and update the first HNAP by the end of 2027 to align subsequent reviews with national adaptation planning cycles</p> <p>The HNAP will be a living document that responds to changing evidence and socioeconomic conditions. Because adaptation is not a static process, the HNAP will be regularly reviewed to ensure the greatest threats are being adequately managed. For example, the HNAP will need to be reviewed after each National Climate Change Risk Assessment as part of wider climate adaptation planning cycles.</p>	Ministry of Health	First HNAP period: 2024–2027

Code	Action	Responsible	Timeframe
LG2	<p>Develop climate health action plans</p> <p>The HNAP focuses on activities to adapt to climate change at the national level. However, a lot of climate adaptation needs to happen at local and regional levels given that communities will experience different effects and have different needs and aspirations. Health NZ will partner with local government and mana whenua to develop climate health action plans (CHAPs). CHAPs will include health-specific risk assessment and activities and will outline the resources and infrastructure required to support existing local climate adaptation activities (rather than duplicating existing work).</p>	Health NZ	First HNAP period: 2024–2027
LG3	<p>Establish and strengthen mechanisms for working with local government, iwi, hapū and hapori Māori and other groups on climate-related risk, adaptation and emergency response</p> <p>Local governments (regional councils and territorial authorities) are well placed to lead communities to adapt to climate change and to reduce their emissions. For example, councils are responsible for spatial and urban planning, resource management, transport services and emergency response planning. Councils also have established partnerships with local iwi and work with other parts of the community to ensure that decisions support equitable outcomes and build community resilience.</p> <p>Health NZ is the lead agency for the health system’s relationships with individual local authorities. It will work with local government to identify ways to increase collaboration on climate adaptation (ie, feeding health advice into regional climate risk assessments, and supporting local government projects with positive health outcomes). These mechanisms will also increase input from local researchers and community groups working to build community resilience to climate change.</p>	Health NZ	First HNAP period: 2024–2027
LG4	<p>Embed climate and health adaptation into Ministry of Health policy-making processes</p> <p>Because climate change increasingly impacts health outcomes and health service delivery, all policy decisions need to consider how we adapt to and prepare for climate change. As kaitiaki of the health system, the Ministry of Health will consider climate change impacts, co-benefits and adaptation options across all of its policy advice, planning and legislation processes.</p> <p>To support the process of embedding climate and health, an engagement programme will develop staff understanding of the impacts of climate change on their area of work and how policy and direction setting can help the health system to:</p> <ul style="list-style-type: none"> • improve the health of populations, which then increases their resilience to the impacts of climate change • design and deliver sustainable, resilient health care services and infrastructure. <p>Further support for this action will come from more knowledge and risk assessment actions to give kaimahi access to the information they need to undertake effective climate and health analysis.</p>	Ministry of Health	First HNAP period: 2024–2027

Code	Action	Responsible	Timeframe
LG5	<p>Monitor implementation of HNAP actions across the health system</p> <p>The progress of HNAP actions will depend on capacity within the health Crown entities, capability and the completeness of knowledge, and resourcing. As steward and owner of the HNAP, Ministry of Health will monitor and support progress towards the timely achievement of actions.</p>	Ministry of Health	First HNAP period: 2024–2027
LG6	<p>Establish a scientific advisory group in climate and health to guide work programme</p> <p>Implementing the breadth of actions in this HNAP requires strong expertise and collaboration between researchers and government. A climate and health scientific advisory group will ensure adaptation planning is informed by high-quality research and will help to shape further actions. This group will include mātauranga Māori experts and expertise across the range of climate-health impacts.</p>	Ministry of Health	First HNAP period: 2024–2027
Focus area 2: Social and environmental determinants of health			
SDH1	<p>Work with relevant agencies and stakeholders to embed health, climate and equity co-benefits into national decision-making on housing, particularly rental housing and social housing</p> <p>Housing is an important social determinant of health and wellbeing that climate change will have a major impact on. New Zealand’s housing stock generally has poor climate resilience, and the increase in frequency of heatwaves will lead to inequitable exposure of Māori, Pacific, elderly, disabled and low-income people to heat-related health impacts. Further, poorly insulated housing increases economic hardship because households need to spend a greater proportion of their budget on heating and cooling.</p> <p>Health agencies will strengthen relationships with agencies involved in aspects of the housing system, such as the Ministry for the Environment, the Ministry of Housing and Urban Development, Kāinga Ora, the Ministry of Business, Innovation and Employment and Te Puni Kōkiri.</p> <p>This action includes supporting papakāinga and other community housing models, which can increase community resilience to climate impacts.</p>	Ministry of Health, Health NZ	Ongoing
SDH2	<p>Work with relevant agencies and stakeholders to embed health, climate and equity co-benefits into national decision-making on urban form, blue and green spaces, active and public transport, and environmental determinants</p> <p>Compact urban form and access to non-motorised transport are key factors for healthy climate adaptation. Accessing amenities by using active and public transport is associated with reductions in air pollution, obesity, and cardiovascular and respiratory disease, which in turn reduce climate-related health vulnerability. Petrol costs are expected to rise during the transition to a lower-emissions economy, so options for lower-cost and healthy transport will maintain communities’ access to health care services and other amenities that keep them healthy. Green spaces have been shown to filter air pollution, reduce summer temperature peaks and improve mental health and wellbeing.</p> <p>Health agencies will strengthen relationships with the agencies responsible for urban development, transport systems and natural environment (eg, local government, Ministry of Housing and Urban Development, Ministry for the</p>	Ministry of Health, Health NZ	Ongoing

Code	Action	Responsible	Timeframe
	Environment, Department of Conservation, Ministry of Transport, New Zealand Transport Agency - Waka Kotahi) to support them to consider evidence about the health impacts and opportunities of climate adaptation and integrate it into their decision-making.		
SDH3	<p>Work with relevant government agencies and stakeholders to embed health, climate and equity co-benefits into national decision-making on actions in the food system</p> <p>Climate change poses significant risks to New Zealand’s food system. Higher temperatures, extreme weather events and biosecurity threats will increasingly affect where and how food is grown, processed, transported, sold, eaten and disposed of. For example, Cyclone Gabrielle extensively damaged crops, infrastructure and livelihoods.</p> <p>These climate-related impacts will worsen existing food insecurity in New Zealand. Food insecurity, associated poor nutritional outcomes and health inequities disproportionately affect Māori, Pacific peoples and people living in more deprived areas.</p> <p>The Ministry of Health will strengthen relationships with government agencies and other stakeholders in the food system to ensure that the food system adapts to provide all New Zealanders with equitable access to sufficient affordable and nutritious food. This work will be driven through our participation in (and in 2024, hosting of) a cross-agency food systems group (which will include the Ministry for Primary Industries) and through direct agency relationships.</p> <p>This action includes ensuring local food systems can increase community resilience to climate impacts. It supports traditional ways of accessing food (eg, mahinga kai) and ensuring these food sources are flourishing and safe.</p>	Ministry of Health, Health NZ	Ongoing
Focus area 3: Knowledge and risk assessment			
KRA1	<p>Undertake a national climate change and health vulnerability and adaptation assessment</p> <p>A health vulnerability and adaptation assessment is a prerequisite for evidence-based health adaptation planning. The World Health Organization recommends undertaking this assessment in its guidance on developing health national adaptation plans (WHO 2021a).</p> <p>New Zealand currently has multiple sources of climate vulnerability information across research and monitoring publications. However, a coherent national assessment will collate this information and fill the information gaps.</p>	Ministry of Health	First HNAP period: 2024–2027
KRA2	<p>Develop a surveillance system for excess summer mortality, create New Zealand-specific heatwave definitions and work with other agencies to introduce a national heat warning system</p> <p>New Zealand does not currently have a robust system for predicting and monitoring health impacts related to heat and humidity.</p> <p>Excess summer mortality is a key metric to monitor climate-related health impacts. This metric is a prerequisite for planning and responding to high heat and humidity events.</p> <p>To monitor heatwave-related health effects, we need a definition of heatwaves that is validated in the New Zealand context.</p>	Ministry of Health	First HNAP period: 2024–2027

Code	Action	Responsible	Timeframe
	<p>This measure must also allow forecasting so a warning system can be established. Effective forecasting for hot and/or humid periods is important to allow communities, businesses and public services to reduce exposure and prepare for health and other impacts. Since 2021, MetService has trialled public heat alerts accompanied by health and civil defence advice.</p>		
KRA3	<p>Commission a national heat vulnerability study to guide prioritisation of heatwave resilience and response, and develop heat threshold guidance for specific settings and priority populations</p> <p>A combination of atmospheric conditions and population vulnerability to heat determines the heat-related health effects we experience. Factors contributing to heat-related illness and mortality include age, occupation, comorbidities (particularly cardiovascular disease, respiratory disease and obesity), local heat island effects, housing, access to local amenities (eg, green or blue space, community cooling facilities) and access to health care. Auckland Council has published an assessment of heat vulnerability to guide preparedness and response activities, but this is limited to only one territorial authority area.</p> <p>New Zealand currently has recommendations and regulations for minimum indoor temperatures in various settings, but not for maximum temperatures (eg, minimum temperatures are a criterion for licensing of early childhood education centres). Many buildings in New Zealand are not equipped with adequate active or passive cooling features to limit indoor heat to healthy levels as temperatures continue to increase. Evidence-based guidance or regulation is required to help the public, builders and operators to improve their buildings to keep indoor temperatures safe.</p>	Ministry of Health	First HNAP period: 2024–2027
KRA4	<p>Evaluate the immediate and long-term health and wellbeing impacts of the 2023 extreme weather events, including the recovery and buyout process</p> <p>Storm and flooding events affect health in many ways. Acute effects can include direct injuries and loss of life, drinking-water contamination and infections, exposure to silt dust, and other toxic chemical exposures. Long-term effects include mental health and wellbeing impacts from property loss and insurance claim processes, reduced access to health care, and loss of community coherence through both unplanned and managed retreat. Events like Cyclone Gabrielle will become more common, so it is important to fully understand the health impacts of that event to inform future planning and responses.</p>	Ministry of Health	First HNAP period: 2024–2027
KRA5	<p>Assess climate change impacts on work-related exposures</p> <p>Climate change will make certain types of work more hazardous to health. Outdoor workers, emergency responders and transportation workers are particularly at risk. Laboratory and health care workers may also be at greater risk as new vectors and pathogens enter New Zealand. Knowledge about work-related exposures to the effects of climate change will inform further actions, which will include working with WorkSafe.</p>	Ministry of Health	Second HNAP period: 2027–2033
KRA6	<p>Review the domestic disease vector monitoring system to ensure it can detect relevant climate-related issues early</p> <p>Health NZ collects data on vector-borne notifiable diseases and conducts routine mosquito surveillance to give early warnings for incursions of new vectors. However, this work is targeted to international ports, and is largely focused on</p>	Health NZ	First HNAP period: 2024–2027

Code	Action	Responsible	Timeframe
	mosquitos rather than the full range of potential vectors. The Ministry for Primary Industries also conducts vector surveillance from a One Health perspective. These surveillance programmes should be reviewed to ensure they are fit to give effective early warning and response information in a changing climate.		
KRA7	<p>Assess the impacts of climate change on mental health in New Zealand</p> <p>The effects of climate change are major determinants of mental health, particularly for young people, Māori, Pacific peoples, and people living in rural areas or affected by severe weather events. Loss of whenua is a particular mental health risk for Māori, while loss of connection to place and displacement in Pacific countries affects Pacific peoples. Globally, climate anxiety affects a large proportion of adolescents and young people and has significant effects on daily life and emotional health. However, information about the prevalence of climate anxiety in New Zealand is lacking.</p>	Ministry of Health	First HNAP period: 2024–2027
KRA8	<p>Assess transition risks and potential mitigation strategies for public health and health service delivery, with a particular focus on managed retreat</p> <p>Transitioning to a low-emissions and resilient economy and society is an urgent and necessary process but can create new risks to consider. These transitional risks, while less catastrophic than climate risks themselves, still have significant and long-lasting impacts on wellbeing and equity. Therefore, it is important to identify these risks and plan to mitigate them as much as possible. Examples of transitional risks include risks from the mental health and wellbeing impacts of managed retreat, reduced transport equity and access to amenities due to rising petrol prices, and loss of income from animal agriculture.</p> <p>Impacts of transition are likely to be distributed in a way that disadvantages priority populations. Taking a ‘just transitions’ policy approach can help us to avoid reinforcing the socially and economically unjust patterns of our current (high-emitting) economy as we transition to a low-emissions economy. A well-planned transition can be just, equitable and limit negative impacts on public health. A just transition is also crucial to incentivise decarbonisation through sustainable and ‘green’ decisions and investments, as well as through diversification of the economy.</p>	Ministry of Health	First HNAP period: 2024–2027
KRA9	<p>Assess likely effects of climate-related domestic migration on social determinants of health (eg, pressure on housing), health equity and health outcomes</p> <p>Demographic changes and domestic migration associated with climate change are likely to be a major component of population health and system impacts. Workforce and service planning needs to match migration patterns within New Zealand, which are likely to be mainly from rural and coastal areas to urban and inland ones.</p> <p>International climate migration is heavily dependent on future immigration policy and is out of scope of this action.</p>	Ministry of Health	First HNAP period: 2024–2027
KRA10	<p>Assess risks from climate change to drinking-water security</p> <p>Climate change threatens New Zealand’s drinking-water security through multiple pathways, including:</p> <ul style="list-style-type: none"> • flooding and extreme weather events that contaminate water supplies and disrupt infrastructure • prolonged droughts that may reduce water supplies 	Ministry of Health	First HNAP period: 2024–2027

Code	Action	Responsible	Timeframe
	<ul style="list-style-type: none"> increased contamination of source water because of higher temperatures, food-borne and water-borne infections in humans and animals, and introduced pathogens underinvestment in drinking-water infrastructure due to cost of overall adaptation processes failure of the water infrastructure to provide for the population that is increasing through climate migration and managed retreat processes. <p>Climate-related threats to drinking-water are unevenly distributed across the country because of differences in levels of urbanisation, water sources, and infrastructure quality and financing. By assessing this geographic variation in risk, we will be able to allocate resources equitably. The Ministry of Health will work with other relevant agencies – including Taumata Arowai, the Department of Internal Affairs and the Ministry for the Environment – to understand how this action fits into existing drinking-water work programmes.</p>		
KRA11	<p>Assess the extent of health-related, nature-based solutions and natural infrastructure in urban areas nationally, including tree coverage, urban food production, and access to green and blue spaces</p> <p>The urban heat island effect occurs through a combination of increased heat absorption by materials used in built urban environments and increased heat production in urban areas. It is a major determinant of heat-related morbidity and mortality. Having extensive tree coverage in urban areas along with green and blue spaces is an important way of mitigating urban heat islands. However, these solutions are unevenly distributed across cities and towns, with wealthy neighbourhoods often having more trees than more socioeconomically deprived neighbourhoods.</p> <p>Trees and other greenery in urban environments also improve mental health and wellbeing, filter air pollution and create opportunities for community cohesion. While other agencies are working on increasing urban tree coverage, we can help to drive these policies by accurately quantifying the health benefits of increased urban greening.</p>	Ministry of Health	Second HNAP period: 2027-2033
KRA12	<p>Prioritise climate change in the health research system, and facilitate partnerships between research institutes (including kaupapa Māori researchers) and the health system</p> <p>There is still much we do not know about the links between climate change and health, particularly considering New Zealand-specific hazards, environments and communities. Climate adaptation depends strongly on high-quality, equity-focused evidence that considers Te Tiriti o Waitangi.</p> <p>While the health system and public service generate some information, our national climate adaptation response would be strengthened by the localised knowledge and evidence being generated outside of government, by iwi Māori and research institutes, including those conducting kaupapa Māori research. Therefore, we want to make sure that all groups are connected with each other to develop shared priorities and actionable goals for a climate and health research programme.</p>	Health Research Council	Ongoing

Code	Action	Responsible	Timeframe
Focus area 4: Health care service resilience and adaptation			
HSR1	<p>Set clear national direction and actions related to sustainability and climate change for health service delivery</p> <p>Health NZ must understand the impacts it has on greenhouse gas emissions alongside what impacts and opportunities climate change will bring to publicly funded health service delivery. Health NZ has directions under the National Adaptation Plan and Carbon Neutral Government Programme that it must meet.</p>	Health NZ	First HNAP period: 2024–2027
HSR2	<p>Support local government, as part of civil defence engagement, to develop regional or district health emergency plans for extreme climate-related events, including floods, storms, wildfires, heatwaves and drinking-water contamination</p> <p>Extreme climate events increase demand on health care services while at the same time reducing their operating capacity through effects on staff, infrastructure and supply chains. We can plan for these events and predict their effects under various scenarios.</p>	Health NZ	Ongoing
Focus area 5: Community and whānau leadership			
CWL1	<p>Collaborate with communities, enabling them to share data and stories and to take climate action that supports holistic health and wellbeing and equitable outcomes for those at greatest risk from the effects of climate change</p> <p>The health system has a responsibility to give communities information about the links between climate change and health, and to empower them to take action that benefits them. This includes working with communities to advocate for and develop public health interventions and policies that have health, mitigation and adaptation co-benefits.</p>	Ministry of Health, Health NZ	Ongoing
CWL2	<p>Partner with iwi, hapū and hāpori Māori, other priority populations and local communities to design and prioritise climate and health actions</p> <p>Adaptation planning and action that does not have strong community input is unlikely to achieve its intended outcomes. Health agencies must partner with communities to achieve equitable adaptation outcomes.</p>	Ministry of Health, Health NZ	Ongoing
CWL3	<p>Establish or support an existing national rangatahi climate and health board</p> <p>Rangatahi are one of the groups that climate change impacts most and they have a wealth of information on solutions. Rangatahi who are connected to or working on local health and/or climate initiatives can partner with decision-makers to share valuable insights that support healthy, equitable climate adaptation.</p> <p>The Ministry of Health will convene or support existing rangatahi collectives to continue to build youth leadership and learn from their insights to inform policy and strategic decision-making. Supporting rangatahi to come together and learn from each other will also increase information sharing and learning across the motu about possible climate adaptation and resilience-building activities.</p>	Ministry of Health	First HNAP period: 2024–2027