

HAUMANU HAUORA

A commentary on strengthening health institution responsiveness to Māori health in the face of climate change

*Bridgette Masters-Awatere**

Areta Ranginui Charlton†

Darelle Howard‡

Rebekah Graham§

Trish Young||

Abstract

Climate change is the biggest threat to humanity through compounding ecological disasters. A focus on global averages tends to hide dramatic differences and mask health disparities that exist for Indigenous people. For 21 years, district health boards (DHBs) were responsible for providing or funding the provision of health services across Aotearoa. The introduction of the Pae Ora (Healthy Futures) Act 2022 disestablished DHBs and offered an opportunity to reshape health in ways that give serious consideration to climate change impacts. The need to give greater consideration to Indigenous people in climate change conversations is essential. The Waitangi Tribunal highlights areas where the Crown needs to work to improve Māori health outcomes. A clear deficit in existing policy process means a lack of preparedness for the intersecting health crises vulnerable Māori will experience in the face of climate change. Structural change is needed to strengthen health institution responsiveness to Māori health needs.

Keywords

climate change, health, Māori, policy

* Te Rārawa, Ngātikahu ki Whangaroa, Ngai te Rangi, Tūwharetoa ki Kawerau. Professor of Psychology, Māori and Psychology Research Unit Director, School of Psychology, University of Waikato, Hamilton, New Zealand. Email: Bridgette.Masters-Awatere@waikato.ac.nz

† Tūhoe, Ngāti Ruapani. Researcher, Māori and Psychology Research Unit School of Psychology, University of Waikato, Hamilton, New Zealand.

‡ Researcher, Māori and Psychology Research Unit School of Psychology, University of Waikato, Hamilton, New Zealand.

§ Researcher, Māori and Psychology Research Unit School of Psychology, University of Waikato, Hamilton, New Zealand.

|| Te Arawa, Ngāti Awa. Researcher, Māori and Psychology Research Unit School of Psychology, University of Waikato, Hamilton, New Zealand.

Introduction

On a global scale, climate change is the biggest threat to humanity through compounding ecological disasters such as droughts, fires, rising sea levels, ocean acidification, flooding and the spread of vector-borne diseases (Intergovernmental Panel on Climate Change, 2019, 2021). When it comes to examining climate change impacts, a focus on global averages tends to hide dramatic disparities between rich and poor, and there remain large segments of the human population whose lives are curtailed by poverty, hunger and disease (Myers & Patz, 2009, p. 225). Climate change disproportionately impacts the socially and politically marginalised whose very identity is closely connected to the environment (Begay & Gursoz, 2018; Tassell-Matamua et al., 2021). Well documented is the notion that Māori experience a lower average life expectancy than other New Zealanders (Dow, 1999; Ministry of Health, 2020).

A research project, named “Haumanu Hauora”, received funding from the Vision Mātauranga programme of the Deep South National Science Challenge (2020–2022) to look at pathways for strengthening health institution responsiveness to climate change. The team took up the task of gathering quality information that would help guide health institutions (district health boards [DHBs]) to prepare to adapt policies to the scale and pace of climate change. With Bridgette Masters-Awatere as the lead, the team worked to determine how health institutions develop Māori responsive policy as a preparatory step in anticipation of climate change impacts on Māori health. Several activities were undertaken and presented in the Haumanu Hauora project report (Masters-Awatere et al., 2022), and these are presented in brief in this commentary: a critical analysis of literature and a systematic review of publications assessed for their inclusion and consideration of Indigenous perspectives; speaking with tangata whenua and DHB staff from the Bay of Plenty, Lakes and Waikato DHB regions about their experiences of climate change and involvement with health services; recruitment of rangatahi who were actively engaged in climate change activities to participate in interviews; and an environmental scan of available website information on the 20 DHBs to ascertain the extent of policy that speaks to both the Treaty of Waitangi and climate change.

This commentary presents a summary of our findings from activities and highlights the relevance of these to current legislation in Aotearoa.

Evidence pathway

As the primary health providers and funders of health services around the country for more than 20 years, DHBs were engaged as the site through which to understand the Māori health and climate change policy needs. While the timing was coincidental in that DHBs were disestablished in July 2022, at the time of the conclusion of our project there remained lessons from the “old” health system that provided insight for progression in the “new” health system.

DHBs have overseen and been responsible for providing and funding most of the health services throughout Aotearoa since they were established in 2001. In 2018 a review of the health system began. Subsequent review findings noted a fragmented health system that struggled to deliver equity and consistency for all New Zealanders. This latest health reform, with the creation of the partnership arrangement, heralded the promise of a new public health system that can better address the persistent health inequities that Māori experience.

Systematic review

Through PRISMA protocols (Moher et al., 2009), 22 international studies were identified as suitable for inclusion in the review. Included studies came from Fiji ($n = 1$), Samoa ($n = 1$), Aboriginal and Torres Strait Islands (Australia) ($n = 10$) and First Nations and Inuit communities (Canada and the United States) ($n = 10$). Studies were analysed according to the four components (cultural centeredness, community engagement, integrated knowledge transfer and systems thinking) of the He Pikinga Waiora framework (Oetzel et al., 2017). This framework was developed for people working with Indigenous communities and intentionally centres Indigenous knowledges. Our analysis found that collaboration with Indigenous groups remained shallow, and that only two of the included studies explicitly mentioned health systems or health institutions as state actors.

Our systematic review of published literature highlighted the minimal ways in which Indigenous voices are included in climate change adaptation planning internationally (Masters-Awatere et al., 2023). This is despite prior recognition that Indigenous groups are highly vulnerable to the health impacts of climate change (Clayton et al., 2015; Doherty & Clayton, 2011; Jones, 2019). Considering this review in light of the work being done in Aotearoa New Zealand, specifically that of the Office of the Māori Climate Change Commissioner (<http://www.>

maorclimatecommission.co.nz/) and the Ministry of Health's (2020) Māori Health Action Plan 2020–2025, we find it heartening to see that government agencies within Aotearoa are prioritising Indigenous responses to climate change adaptation activities.

Tangata whenua and DHB staff interviews

Often framed as a recent phenomenon, climate change is something that Māori have been responding to for a long time: "Māori have been involved in climate change action for decades" (Mike Smith, personal communication, 23 June 2022). Within our interviews we identified challenges within health service policy processes that warranted further investigation. In response to interviews with tangata whenua, we refined the existing policy framework and identified key intervention points transmutable to different contexts and structures. Our research conversations with tangata whenua and DHB staff identified two core themes: current policy process and its weaknesses, and co-designing policies with Māori.

Theme one includes institutional strategies of excluding Māori input. This is an obvious weakness in current policy development practices within DHBs. The corollary is ensuring opportunities for comprehensive and resourced Māori contributions to future climate change policy development. Our research participants expressed that a collectively perceived institutional weakness is that health policy can be developed without Māori input. The optional nature of Māori inclusion, and the pervasive inconsistency of inclusive practices, is a significant issue. We also share narratives of tensions arising from ad hoc invitations and of small teams of Māori staff being overburdened with requests to review multiple drafts of policies.

Theme two reflects on current policy development practices when searching for solutions-based opportunities for Māori in the climate change space. We were interested in opportunities that allow for the inclusion of Māori aspirations and experiences in climate change policy processes. Participants were eager for avenues to be solidified so that there would be consistent opportunities for Māori input into climate change policy.

Rangatahi interviews

Rangatahi Māori between the ages of 18 and 25 were interviewed. They were all wāhine with a passion for and interest in or had a role related to climate change. Some interviews were held kanohi ki te kanohi, while others were held via

videoconference because of COVID-19 lockdown restrictions.

Among rangatahi narratives, the concept of whakapapa was woven throughout how rangatahi connected to the environment and hence climate change, sat at the foundation of the responsibility they felt for the taiao, and lastly, grounded their aspirations for climate change responses. Rangatahi expressed that paradigm shifts grounded in whakapapa are crucial to ensure climate-safe realities are attained for both tangata whenua and the taiao (Ranginui Charlton, 2023). Further findings highlighted that rangatahi consider themselves to be equipped to contribute to decision-making spaces in order to address climate change, but these spaces must transform so as not to structurally disempower rangatahi (Ritchie, 2021).

Environmental scan

To ensure our in-depth focus on health institutions at the regional level was consistent at a national level, our team did an environmental scan of all 20 DHBs' policies related to climate change and Māori health (an activity undertaken in 2021–2022). An examination of the websites found a resounding lack of policy that dealt with climate change or a recognition of Māori health vulnerabilities to climate change. It was especially problematic that not a single DHB website publicly pronounced policies that addressed climate change and the Treaty of Waitangi in unison. In Aotearoa, health institutions such as DHBs and other providers have an obligation to ensure they are responsive to Māori health needs. The Wai 2575 report (Waitangi Tribunal, 2023) highlights areas the Crown needs to work on to improve Māori health outcomes. This gives rise to the need for Māori community health service provision and for Māori models of health and wellbeing to be included more readily in health institution policy, process, and ultimately, service delivery. Ensuring consistent Māori input in the policy process offers greater potential for such a vision to be realised. Our intention is to strengthen health institution preparedness to mitigate risk to Māori health in the context of climate change, and it is clear that there is substantial mahi to do in this space.

Towards an actionable solution

Through our research process, we examined the health institution policy processes so that we could identify places of potential in which to intervene in a proactive manner in order to strengthen Māori voices and guide climate change policy.

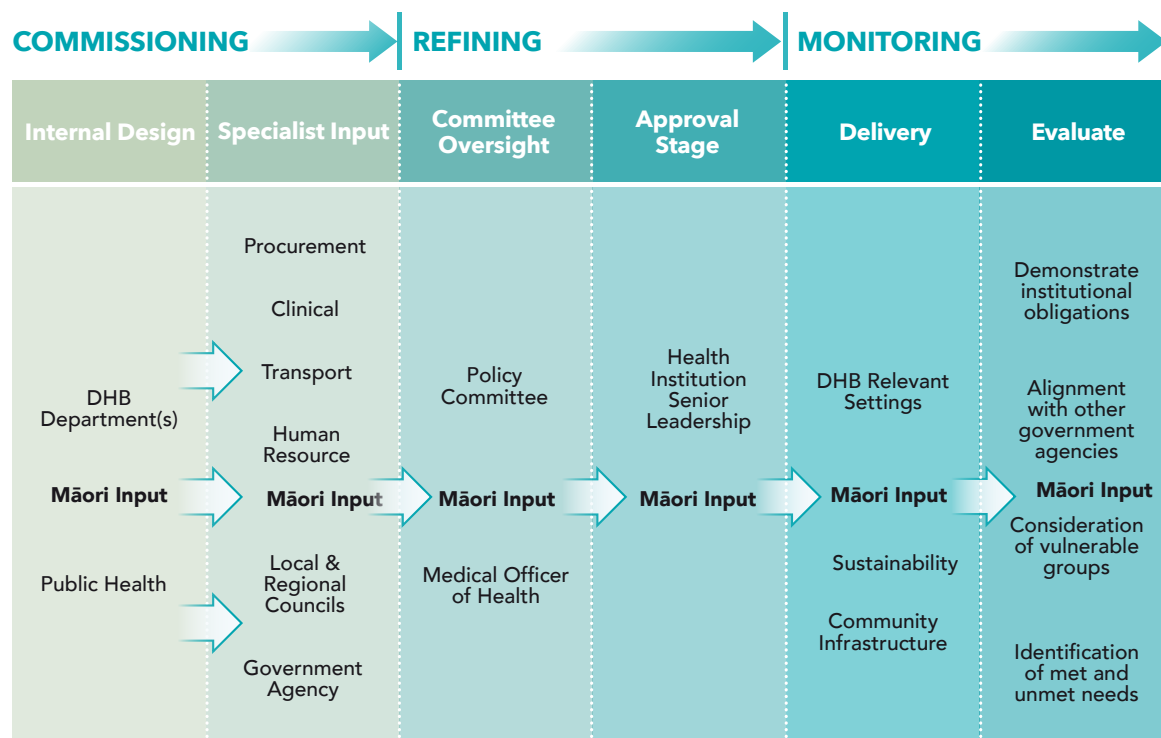


FIGURE 1 Haumanu Hauora proposed climate change policy process to ensure Māori input

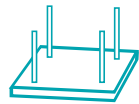
The process (based on what we heard in interviews with tangata whenua and DHB or health institution staff) minimised tangata whenua input into DHB policy. The framework demonstrates several key problems, namely, a lack of consistent Māori input and an absence of policy evaluation. In light of our interview findings, we developed a policy framework that we present as transmutable to different contexts and structures. Our proposed changes to the policy development, implementation and then evaluation process within DHBs (see Figure 1) would address the problem of excluding Māori voice in the process and thereby ensure that Māori input is a consistent part of the process and that decision-making power would be held by Māori at key points before progressing to an evaluation phase.

Along with the new policy development process proposed, we identified five intervention points that are important for effective policy that incorporates climate change and Māori health perspectives (see Figure 2). Described below, they are ensuring foundation alignment, enhancing access to care, engaging with vulnerable communities, building capacity and capability, and demonstrating institution obligations:

- *Ensuring foundation alignment* is imperative to consider decision-making factors,

climate adaptation, Māori health delivery and outcomes, and the social determinants of health. Consideration of these four areas in a commissioning phase of policy development clearly sets out the expectations for all new health institution policy.

- Public health institutions are part of the larger health system that have responsibility for maintaining health delivery, funding and service provision in Aotearoa. A recent finding of the Waitangi Tribunal (2021) that health services had not met the health needs of Māori means that work needs to be done to improve equity in health outcomes for Māori. *Enhancing access to care* involves improving the health system to reduce unmet health needs, ideally while also preparing for the impacts of climate change.
- The need to implement climate change as core business across health services to build capacity and capability to strengthen leadership and delivery is an intervention point that is pertinent to the entirety of the policy process. Climate change was reportedly not well understood by health institution staff and participants emphasised the need for strategies to help to increase knowledge and understanding. *Building capacity and capability* will strengthen



A. ENSURE FOUNDATION ALIGNMENT

Ensure the alignment of Māori responsive climate health adaptation to health institution policy, legislation and strategic direction



B. ENHANCE ACCESS TO CARE

Enhance services to reduce unmet health needs through preparedness for the impacts of climate change



C. ENGAGE WITH VULNERABLE COMMUNITIES

Meet climate health adaptation needs through authentic relationships with Māori and other vulnerable communities



D. BUILD CAPACITY AND CAPABILITY

Implement climate change as core business across health services to build capacity and capability to strengthen leadership and delivery



E. DEMONSTRATE INSTITUTION OBLIGATIONS

Commit to a strategic direction that meets the social, legislative, psychosocial, environmental, cultural, mental and physical wellbeing to climate health adaptation

FIGURE 2 Five key intervention points to enhance Indigenous perspectives in policy

all phases of policy development, in turn generating more effective policy outcomes.

- Indigenous people are disproportionately experiencing the negative impacts of climate change, despite generally contributing little to climate emissions. The deepening climate crisis generates specific impacts that will exacerbate the already disproportionately negative health impacts on Māori. Economic insecurity and deprivation substantially hinder capacities to respond to climate change impacts or seek health assistance. Health institutions such as DHBs and other providers have an obligation to ensure they are responsive to Māori health needs. *Demonstration of institution commitment* is key to making progress.

Relevance to legislation

The Waitangi Tribunal (2023) Wai 2575 report highlights areas the Crown needs to work on to

improve Māori health outcomes. This gives rise to the need for Māori community health service provision and for Māori models of health and wellbeing to be included more readily in health institution policy, process, and ultimately, service delivery. A clear national policy to mitigate the impact of climate change on Māori health is needed. Health institutions need to improve adaptation preparedness, while simultaneously engaging with mitigation and prevention.

The Ministry for the Environment (2019) produced the National Climate Change Risk Assessment, which clearly states the importance of prioritising wellbeing and health for people and the environment. While much of the focus of climate change research has drawn on population-level analyses, there remains a lack of investigation towards Indigenous (in this case, Māori) health risks (Bennett et al., 2014; Raerino et al., 2013). Jones et al. (2020) noted

the need to improve the quality of evidence relating to issues of importance to Indigenous peoples. Additionally, a recent report (Awatere, King et al., 2021) and webinar (Awatere, Masters-Awatere et al., 2021) by Māori research experts identified a clear need to prioritise Māori when considering the Ministry for the Environment's National Climate Change Risk Assessment (Awatere, King et al., 2021).

Those most at risk of exposure to floods, droughts, extreme heat and the spread of vector-borne diseases are Indigenous and low-income groups (Masters-Awatere, 2021). Such peoples are especially vulnerable to adverse health impacts from climate change (New Zealand College of Public Health Medicine, 2013). There are clear and strong connections to the Ministry of Health's (2014) He Korowai Oranga framework element of wai ora—healthy environments, which is recognised as essential to the Pae Ora Act (healthy futures for Māori).

Unfortunately, the opportunity to incorporate a clear reference within legislation (Pae Ora [Healthy Futures] Act, 2023) to embed consideration of the impacts of climate change on health, and especially Māori health, was overlooked despite a submission by the research team on how and where to do so (e.g., in Section 14: Functions of Health New Zealand & Section 19: Functions of Māori Health Authority to protecting the health needs of Māori [and other vulnerable population groups]).

Where climate change impacts Māori community physical environments (e.g., marae, urupā and water quality), there are also relevant economic, cultural, social and psychological impacts. The role of the healthcare system in the context of climate health is important. The Pae Ora (Healthy Futures) Act needed to include specific reference to meeting the health needs arising from the impacts of climate change to ensure a systems approach. Preparation for climate change is crucial. Ensuring necessary preparations are made would ensure that all health services can continue to function following climate change events—such as floods; heavy, continuous rain; and heatwaves—and prevent disruption to the provision of usual health services. There needs to be clear direction and signals from the Ministry of Health.

There already exists legislation that connects health and climate change. Pae Ora needs to (and can easily) connect with the Climate Change Response (Zero Carbon) Amendment Act 2019, which requires the government to develop and implement policies for climate change adaptation

and mitigation. Of interest is pt 1C, “Adaptation”, specifically, s. 5ZS(4), “National adaptation plan”: “In preparing a national adaptation plan, the Minister must take into account the following: (a) economic, social, health, environmental, ecological, and cultural effects of climate change, including effects on iwi and Māori.”

Closing comments

Both tangata whenua and rangatahi participants shared their experiences of climate change and its impacts upon their whānau and hāpori. Knowledge of climate change ranged widely among these participants. Some had a deep understanding of the nature of climate change and how to apply it to the health and wellbeing of whānau, hapū and iwi, while others asked, “What is climate change?” Understandings of climate change were compared with the impacts of extreme weather events on the environment, waterways, marae and urupā situated on the coastline and by waterways. The Pae Ora (Healthy Futures) Act 2022, the changing health structure, the need for a broader review of health infrastructure, the necessity to build relationships with iwi, hapū and whānau Māori, and barriers that hamper the implementation of recommended policy frameworks combine to communicate that our identified intervention points cannot be ignored.

There is a clear deficit in the existing policy processes. This means there is a lack of preparedness for the intersecting health crises that vulnerable people, including Māori, will experience in the face of climate change. Despite clear resilience and adaptation strategies, structural change is needed to address identified disadvantages. Strengthening health institution responsiveness to Māori health needs is essential. The refined policy framework and intervention points are a key place to start; central to the success of this is the connection between health institutions and iwi and Māori providers to develop policy that is centred on Kaupapa Māori and focused on whānau wellbeing to guide and develop climate adaptation strategies that fit Māori communities.

Glossary

hāpori	community
hapū	subtribe
iwi	tribe
kanohi ki te kanohi	face to face
Kaupapa Māori	Māori based topic/event/ enterprise run by Māori for Māori

mahi	work
marae	tribal meeting grounds
rangatahi	young adult Māori
taiao	Earth, natural world, environment
tangata whenua	Indigenous people of the land, first people of the land
urupā	burial ground, cemetery
wāhine	women
wai ora	healthy environment
whakapapa	genealogy, ancestry, familial relationships
whānau	family; nuclear/extended family

References

- Awatere, S., King, D. N., Reid, J., Williams, L., Masters-Awatere, B., Harris, P., Tassell-Matamua, N., Jones, R., Eastwood, K., Pirker, J., & Jackson, A.-M. (2021, October). *He huringa āhuatanga, he huringa ao: A changing climate, a changing world* (Te Arotahi Paper Series No. 7). Ngā Pae o te Māramatanga, New Zealand's Māori Centre of Research Excellence. <http://www.maramatanga.ac.nz/te-arotahi-07>
- Awatere, S., Masters-Awatere, B., Reid, J., Jones, R., & Harris, P. (2021, October 20). *He huringa āhuatanga, he huringa ao: A changing climate, a changing world* [Webinar]. Ngā Pae o te Māramatanga, New Zealand's Māori Centre of Research Excellence. <https://www.maramatanga.ac.nz/node/1556>
- Begay, J., & Gursoz, A. (2018, September 5). *Why defending Indigenous rights is integral to fighting climate change*. Rainforest Action Network. <https://www.ecowatch.com/defending-indigenous-rights-climate-change-2602221014.html>
- Bennett, H., Jones, R., Keating, G., Woodward, A., Hales, S., & Metcalfe, S. (2014). Health and equity impacts of climate change in Aotearoa-New Zealand, and health gains from climate action. *The New Zealand Medical Journal*, 127(1406), 16–31.
- Clayton, S., Devine-Wright, P., Stern, P. C., Whitmarsh, L., Carrico, A., Steg, L., Swim, J., & Bonnes, M. (2015). Psychological research and global climate change. *Nature Climate Change*, 5(7), 640–646. <https://doi.org/f7hcrh>
- Doherty, T. J., & Clayton, S. (2011). The psychological impacts of global climate change. *American Psychologist*, 66(4), 265–276. <https://doi.org/bgrths>
- Dow, D. (1999). *Māori health and government policy 1840–1940*. Victoria University Press.
- Intergovernmental Panel on Climate Change. (2019). *Special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems*. Final Government Distribution. <https://www.ipcc.ch/srccl/>
- Intergovernmental Panel on Climate Change. (2021). *Climate change 2021: The physical science basis—Working Group I contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. <https://www.ipcc.ch/report/sixth-assessment-report-working-group-i/>
- Jones, R. (2019). Climate change and Indigenous health promotion. *Global Health Promotion*, 26(Suppl. 3), 73–81. <https://doi.org/dvh2>
- Jones, R., Macmillan, A., & Reid, P. (2020). Climate change mitigation policies and co-impacts on indigenous health: A scoping review. *International Journal of Environmental Research and Public Health*, 17(23), Article 9063. <https://doi.org/h9t2>
- Masters-Awatere, B. (2021). Me tiro whakamuri, kia anga whakamua: Walking backwards into the future. *Psychology Aotearoa*, 13(2), 73–79.
- Masters-Awatere, B., Howard, D., & Young, P. (2023). Haumanu Hauora: Refining public health institution policy to include Māori and climate change. *Climatic Change*, 176, Article 58. <https://doi.org/pcfm>
- Masters-Awatere, B., Young, T., Howard, D., Powell, E., Ranginui Charlton, A., Graham, R., & Dixon, R. (2022). *Haumanu Hauora: Strengthening health institution responsiveness to climate change*. Technical report prepared for Deep South National Science Challenge. Māori and Psychology Research Unit, University of Waikato, Hamilton, New Zealand. <https://deepsouthchallenge.co.nz/resource/final-research-report-haumanu-hauora/>
- Ministry for the Environment. (2019). *Arotakenga Huringa Āhuarangi: A framework for the National Climate Change Risk Assessment for Aotearoa New Zealand*. <https://environment.govt.nz/publications/arotakenga-huringa-ahuarangi-a-framework-for-the-national-climate-change-risk-assessment-for-aotearoa-new-zealand/>
- Ministry of Health. (2014). *The guide to He Korowai Oranga—Māori Health Strategy*. <https://www.health.govt.nz/publications/the-guide-to-he-korowai-oranga-maori-health-strategy>
- Ministry of Health. (2020). *Whakamaui: Māori Health Action Plan 2020–2025*. <https://www.health.govt.nz/system/files/2020-07/whakamaui-maori-health-action-plan-2020-2025-2.pdf>
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & The PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine*, 6(7), Article 1000097. <https://doi.org/bq3jpc>
- Myers, S., & Patz, J. (2009). Emerging threats to human health from global environmental change. *Annual Review of Environmental Resources*, 34, 223–252. <https://doi.org/c8332r>
- New Zealand College of Public Health Medicine. (2013). *Policy statement on climate change*. <https://nzcpmh.org.nz/Policy-Statements/10944/>
- Oetzel, J., Scott, N., Hudson, M., Masters-Awatere, B., Rarere, M., Foote, J., Beaton, A., & Ehau, T.

- (2017). Implementation framework for chronic disease intervention effectiveness in Māori and other indigenous communities. *Global Health*, 13, Article 69. <https://doi.org/gbxfr5>
- Raerino, K., Macmillan, A., & Jones, R. (2013). Indigenous Māori perspectives on urban transport patterns linked to health and wellbeing. *Health & Place*, 23, 54–62. <https://doi.org/f49kn3>
- Ranginui Charlton, A. (2023). *Ka hao te rangatahi: Rangatahi Māori experiences of climate change* [Unpublished master's thesis, The University of Waikato]. Research Commons. <https://hdl.handle.net/10289/15744>
- Ritchie, J. (2021). Movement from the margins to global recognition: Climate change activism by young people and in particular indigenous youth. *International Studies in Sociology of Education*, 30(1–2), 53–72.– <https://doi.org/gqnvjf>
- Tassell-Matamua, N., Lindsay, N., Bennett, A., & Masters-Awatere, B. (2021). Māori cultural identity linked to greater regard for nature: Attitudes and (less so) behavior. *Ecopsychology*, 13(1), 9–18. <https://doi.org/jcwn>
- Waitangi Tribunal. (2023). *Hauora: Report on Stage One of the Health Services and Outcomes Kaupapa Inquiry—WAI2575*. <https://waitangitribunal.govt.nz/en/publications/tribunal-reports>