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An Examination of DHB Climate Change Policy and Implementation: Responsiveness to Māori Health

A thesis

submitted in partial fulfilment

of the requirements for the degree

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THE UNIVERSITY OF
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Abstract

The impacts of climate change have become increasingly evident throughout the world and in Aotearoa. Frequency and intensity of extreme weather events such as flooding, coastal erosion, wildfires, and droughts are notably increasing. Climate-related disasters have devastating effects on human health, as is well documented in literature. These effects include cardiovascular disease, poorer mental health, food insecurity and water borne disease.

Due to pre-existing health disparities, Māori are particularly vulnerable to the health impacts of climate change. Further, Māori have unique relationships with whenua wherein destruction of the natural environment will have a negative impact on the health of Māori people and communities. The health sector has an obligation to respond to Māori health in a way that honours Māori relationships with the environment and prioritises equitable health outcomes for Māori in climate change policy.

Although Māori face potentially severe health impacts due to climate change, there is limited literature that considers health sector climate change policy and its responsiveness to Māori health. In an effort to address this gap in literature, this thesis aims to examine whether there is existing District Health Board (DHB) policy focused on implementing institutional responses to climate change. Further, this research seeks to understand the extent to which any identified DHB climate change policy responds to Māori health.

At the time of study, DHBs were responsible for providing and funding health services throughout Aotearoa. During the late stages of this research, the health sector underwent reform, and two health authorities have replaced DHBs. The implications of this research have important ramifications within the newly established health authorities. A dedicated Māori health authority will provide the health sector with the chance to advance health equity by acting on holistic understandings of health for Māori. These actions would establish health policy that recognises Māori health as fundamentally linked to the environment and therefore uniquely impacted by climate change.

To achieve the aims of this thesis, two research methods were implemented. Initially, an environmental scan of 17 DHB websites was completed to identify climate change and Māori health policies. This was followed by qualitative interviews with three DHB staff from diverse localities. Additionally, tāngata whenua interviews from the wider research project named Haumanu Hauora, were analysed to ensure Māori understandings of climate change were included in this research (Masters-Awatere et al., 2022).

Research findings provide insights that point to highly fragmented climate change policies across the health sector. There is a glaring lack of direction in the health sector's response to climate change throughout existing policy. Māori health policies were in place across all DHBs, however, lacked recognition of the interconnection between Māori health and the natural environment, and therefore the impacts of climate change.

Although policy was fragmented across regions, there is potential to enhance both climate change and Māori health policies by recognising the interconnected nature of Māori health and climate change. This will necessitate a significant change in the health systems policy response to climate change that prioritises mātauranga Māori and addresses the ongoing impacts of colonisation.

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Ehara taku toa, he takitahi, he toa takitini – My success should not be bestowed onto me alone, as it was not individual success but success of a collective.

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Researcher Orientation

This research has been completed within a wider research project named Haumanu Hauora: Strengthening health institution Māori responsiveness to climate change. The wider project was a two-year research project funded by the Deep South Science Challenge. Key focus areas of the research were to highlight the impacts of climate change for Māori, as well as develop a framework to identify health policy development and importantly, opportunities for the health sector to develop policy that prepares for the impacts of climate change on Māori health (Masters-Awatere et al. 2022).

Within the wider project, my research will support understandings of current DHB climate change policy throughout Aotearoa. As Haumanu Hauora research focused on three DHB localities, my research will provide supporting information focused on the remaining 17 DHBs to develop understandings of policy that exists across Aotearoa and how climate change health policy responds to the health needs of Māori.

My research has been shaped through my life experiences and the training I have received as a psychology student. To orient myself within this research I will briefly describe my background. I am a masters student at Te Whare Wānanga o Waikato and am enrolled in the Masters of Applied Psychology in Community Psychology. I am of Dutch and Irish descent and grew up in Rotorua in the North Island of Aotearoa.

I am a Pākehā student and feel privileged to have had the opportunity to complete research within the Haumanu Hauora project, that focused specifically on institutional responses to Māori health. I hope that my work can contribute to highlighting the urgent need for a health system that prioritises Māori health equity and recognises the role of the health sector in responding to Māori health in the context of climate change. In recognition of my position as a Pākehā student, an essential element of my research practice has been to seek support from Māori academics to guide this research (Furness et al., 2016). It has been an honour to work under the supervision of Bridgette Masters-Awatere (Te Rarawa, Ngāti te Rangi, Tūwharetoa ki Kawerau) and Patricia Young (Te Arawa, Ngāti Awa) and alongside my friend and fellow masters student Areta Ranginui-Charlton (Tūhoe, Ngāti Ruapani). These researchers have provided me with guidance and insights regarding kaupapa Māori research methods, best practice for Māori health and policy research as well as their invaluable knowledge of Te Ao Māori.

As a community psychology student, I have been guided by community psychology principles throughout this research. Community psychology is a

value-based discipline within psychology that aligns with Māori worldviews (Robertson & Masters-Awatere, 2007). I have aimed to imbed community psychology principles within my research including, empowerment, diversity and cultural pluralism, social innovation and evaluation, community development and participation, collaboration and social change and importantly systems perspectives (Roberston et al., 1989; Institute of Community Psychology Aotearoa, n.d.). Community psychology has a focus on macro and meso levels and evaluates policy as part of the practice. These values have been at the heart of my research with a specific focus on the macro level within the health system, while exploring the potential for policy that creates equitable health outcomes for Māori.

Chapter One: Introduction

The impacts of climate change are becoming increasingly evident throughout the world (Intergovernmental Panel on Climate Change, 2022). As climate change continues to cause global temperature rise, there will be significant consequences for human health (Costello et al., 2009; Hopkins, Campbell-Hunt, Carter, Higham & Rosin 2015; Jones, et al., 2014; Royal Society, 2017; Srivastav et al, 2022 & Patz & Olson, 2006).

Literature throughout the world and specific to the Aotearoa context, has demonstrated that climate change will disproportionately impact the health of indigenous peoples (Bennet et al., 2014; Chin et al., 2017; Ford, 2012; Jones et al., 2014 & McMichael, Woodruff & Hales, 2006). Throughout this chapter I will present research related to climate change and discuss the unique impacts of climate change for Māori, the indigenous people of Aotearoa, and the role of the health sector in ensuring equitable policy responses for Māori in the context of climate change.

If the health sector can recognise the unique impacts of climate change for Māori, there is an opportunity to plan for the health consequences of climate change. However, there has been no research to systematically investigate the current climate policy response of the health sector. My research will use District Health Board (DHB) websites to identify any climate change policies or plans that DHBs have in place. Furthermore, I will examine the level to which any identified policies respond to Māori health needs.

To understand the extent to which climate change policy aligns with Māori health outcomes, I will draw on themes from the He korowai Oranga Framework developed as a part of the He Korowai Oranga Māori health strategy (Ministry of Health, 2014). The framework describes pathways to reaching Pae Ora – Healthy Futures for Māori and lays the foundation for health responses for Māori. Using the framework will support my understanding of whether DHB climate change policy aligns with the pathways, key threads and directions of achieving Pae Ora. Within this chapter I will describe each element of the framework and how the framework aligns with my research objectives.

As I move through the introduction, findings and discussion sections of this research I will refer to legislation that has influenced the context of the health sector, climate change action and Māori health responses within Aotearoa. To provide appropriate context for these discussions, I will describe the relevant legislation within this chapter.

Of key importance, The Pae Ora Healthy Futures Act came into effect in July 2022 and enacted Health Reform in Aotearoa. At the beginning stages of this research, the health system in Aotearoa was operating under the New Zealand Public Health and Disability Act (2000), that comprised twenty DHBs. As inequitable health outcomes for Māori have continued to persist within DHB mandates, a review of the Health and Disability System commenced in 2018. The review findings highlighted persisting health inequity for Māori. The recommendations from this review have resulted in significant health reform (Health and Disability System Review, 2020; Pae Ora Healthy Futures Act, 2022). Twenty DHBs have been replaced by two health entities. These being Te Whatu Ora/Health New Zealand and Te Aka Whai Ora/Māori Health Authority (Future of Health, 2022).

Although this research is focused on understanding DHB policy, learnings from this research can be applied in the context of the health entities currently in place. In this chapter I will discuss both the New Zealand Public Health and Disability Act (2000), and the Pae Ora (Healthy Futures) Act (2022). In Chapter Six I will highlight the implications of my research with reference to how my findings can be applied within the newly implemented health reforms.

The Relationship between Climate Change and Health

The Intergovernmental Panel on Climate change (IPCC) have identified an increase over time in all measurement areas, including carbon dioxide atmospheric concentration, precipitation, glacier mass loss, global surface temperature, global sea level and ocean heat content. This increase is based on a variety of scientific research and is indicative of rising global temperatures (IPCC, 2021).

Global temperature rise is largely a result of greenhouse gas emissions produced as a by-product of human activity (IPCC, 2021; Srivastav et al., 2022 & Van Aalst, 2006). Consequently, human health will be detrimentally affected. With global temperature rise, the world is and will continue to experience an increase in extreme weather events that will impact human populations (Costello et al., 2009 & Di Napoli et al., 2022). Projected future weather events and their impacts are represented in Table 1 (Van Aalst, 2006). They include events such as European heat waves, flooding, and an escalation in the intensity of hurricanes or tropical cyclones (Van Aalst, 2006).

As these kinds of significant weather events have increased, researchers have developed the ability to attribute their occurrence to climate change (National Academies of Sciences, Engineering, and Medicine, 2016., & Stott et al., 2015). Examining extreme weather events related to climate change can provide an illustration of the adverse health effects already being experienced by human

populations. Health impacts include increased risk of cardiovascular disease, vector and water borne disease, food insecurity, and increased mental health difficulties (Hall 2014; Hopkins, Campbell-Hunt, Carter, Higham & Rosin 2015; Jones, Bennett, Keating & Blaiklock 2014; Patz & Olson, 2006). If global temperatures continue to rise as predicted, these impacts will worsen while weather events increase in intensity (Emanuel, 2011 & Mirza, 2003). The health impacts of climate change will have consequences for populations across the globe including Aotearoa New Zealand.

Aotearoa Specific Climate Impacts

In Aotearoa, the repercussions of climate change will impact human health in a similar way. The Royal Society Te Apārangi outline eight foundations of health that will be disrupted by climate change¹ (Royal Society, 2017). The eight foundations include, increased risk of disease, disruptions to community connection, impacts on mental well-being following the stress of extreme weather events, access to clean water, poor air quality, temperature rise, risk of damage to food crops and availability, as well as loss of homes and shelter (Royal Society, 2017).

Notably, the above-mentioned health impacts are becoming more pronounced in Aotearoa. Due to coastal erosion, many coastal communities are at risk of having their homes and other culturally significant areas submerged by rising sea levels (Jones et al., 2014; Jones, 2019). The damage already occurring is causing significant stress for those whose homes are at risk, as well as whānau who will be impacted by the impacts on culturally significant sites including marae and urupā (Jones et al., 2014; Ministry for the Environment, 2020; New Zealand Climate Change Centre, 2010).

In 2015, the Otago region experienced flooding that exceeded the one in 100-year rainfall level. These floods impacted many communities both urban and rural (Otago Regional Council, 2015; Niwa, 2018). The Otago Regional Council outlines that sea levels in the Otago region will continue to rise as a result of climate change and they will need to prepare for the impacts of future flooding events (Otago Regional Council, 2015).

In August 2022, an Aotearoa city named Whakatū/Nelson entered a state of emergency following heavy rainfall and serious flooding. More than 150 homes were red stickered, with their residents forced to evacuate leaving behind possessions and animals (Cardwell & Blackwell, 2022). Residents expressed their feelings of stress following the event, "We're so devastated because it's

¹ See appendix F for the visual summary of these building blocks described by Te Apārangi.

been in our family for many generations and we've lost everything....all that we've got is our van to sleep in” (Radio New Zealand, 2022).

Table 1

Examples of projected changes in extreme climate phenomena, with examples of projected impacts

Projected changes during the twenty-first century in extreme climate phenomena and their likelihood	Representative examples of projected impacts (all high confidence of occurrence in some areas)
Higher maximum temperatures; more hot days and heatwaves over nearly all land areas (very likely)	<ul style="list-style-type: none"> • Increased incidence of death and serious illness in older age groups and urban poor • Increased heat stress in livestock and wildlife • Shift in tourist destinations • Increased risk of damage to a number of crops • Increased electric cooling demand and reduced energy supply reliability
Higher (increasing) minimum temperatures; fewer cold days, frost days and cold waves across nearly all land areas (very likely)	<ul style="list-style-type: none"> • Decreased cold-related human morbidity and mortality • Decreased risk of damage to a number of crops, and increased risk to others • Extended range and activity of some pest and disease vectors • Reduced demand for heating energy
More intense precipitation events (very likely in many areas)	<ul style="list-style-type: none"> • Increased flood, landslide, avalanche and mudslide damage • Increased soil erosion • Increased flood runoff could increase recharge of some floodplain aquifers • Increased pressure on government and private flood insurance systems and disaster relief
Increased summer drying over most mid-latitude continental interiors and associated risk of drought (likely)	<ul style="list-style-type: none"> • Decreased crop yields • Increased damage to building foundations caused by ground shrinkage • Decreased water resource quantity and quality • Increased risk of forest fire
Increase in tropical cyclone peak wind intensities, and mean and peak precipitation intensities (likely over some areas)	<ul style="list-style-type: none"> • Increased risks to human life, risk of infectious disease epidemics and many other risks • Increased coastal erosion and damage to coastal buildings and infrastructure • Increased damage to coastal ecosystems, such as coral reefs and mangroves
Intensified droughts and floods associated with El Niño events in many different regions (likely) (see also under droughts and intense precipitation events)	<ul style="list-style-type: none"> • Decreased agricultural and rangeland productivity in drought- and flood-prone regions • Decreased hydro-power potential in drought-prone regions
Increased Asian summer monsoon precipitation variability (likely)	<ul style="list-style-type: none"> • Increase in flood and drought magnitude and damages in temperate and tropical Asia
Increased intensity of mid-latitude storms (little agreement between current models)	<ul style="list-style-type: none"> • Increased risks to human life and health • Increased property and infrastructure losses • Increased damage to coastal ecosystems

Note. Adapted from Journal Article Van Aalst, M.K. (2006). The impacts of climate change on the risk of natural disasters. *Disasters*, 30 (1), p. 9.

These examples shed light on the health effects that Aotearoa communities are already experiencing. As temperatures continue to rise, communities are likely to experience increased negative health impacts related climate change.

Vulnerable communities

The aforementioned research highlights that the impacts of climate change including heavy rainfall, flooding, drought, increased temperatures, and heat waves are significant and increasing (DARA and the Climate Vulnerable Forum, 2012; Srivastav et al., 2022; Van Aalst, 2006). In 2012, climate impacts were the cause of an average of 400,000 deaths per year and deaths are predicted to rise to 700,000 by 2030 (DARA and the Climate Vulnerable Forum, 2012). The DARA and the Climate Vulnerable Forum report noted that deaths related to climate change were impacting vulnerable, low-income communities more significantly due to existing disparities.

Vulnerable communities were described in the literature as those that had a higher level of exposure to climate impacts, were less equipped economically, and/or geographically to respond and adapt to climate change as well as those experiencing existing health inequities and high levels of poverty (DARA and the Climate Vulnerable Forum, 2012; Ford, 2012). Increased risks for vulnerable communities are an important consideration within the context of this research and are further discussed in Chapter Six.

Two years following the DARA and Climate Vulnerable forum report, Hall (2014), described the increased health risks of climate change for vulnerable and marginalised communities. According to Hall (2014), addressing climate change from a human rights perspective is a crucial component of government action. At the same time a paper was published supporting the use of a human rights approach to health when addressing the health impacts of climate change (Jones et al., 2014). The approach posed that everyone is entitled to the highest possible health outcomes. These researchers therefore suggest that when developing responses to climate change, an approach that considers good health as a human right must be adopted (Hall, 2014; Humphreys & Robinson, 2011; Jones et al., 2014).

In line with human rights obligations, it is the duty of the government to uphold the fundamental human right to the best possible health outcomes (Braveman & Gruskin, 2003). However, significant inequities are known to exist in health outcomes for indigenous communities across the world (Jansen, Bacal & Crengle, 2009; Kirmayer & Brass, 2016; Phillips et al., 2017). The health impacts of climate change will be exacerbated by already existing inequities in health outcomes for indigenous people around the world (Jones et al., 2014; Chin et al., 2018).

Indigenous Health Inequities and Climate Change

As a result of the enduring effects of colonisation, inequities in healthcare persist for indigenous peoples (Bennett & King, 2018; Jansen, et al., 2009; Robson, 2007). Globally, indigenous methods of health have been considered illegitimate, while western methods remain the primary approach within mainstream health providers (Chatwood et al., 2017). Because dominant western biomedical theories are validated at the expense of indigenous knowledge, poorer health outcomes have been experienced by indigenous people (Durey & Thompson, 2012).

Inequities are evident for indigenous populations in Aotearoa and The United States through higher rates of chronic disease, mortality, poorer patient experience and quality care, as well as experiences of racism within government institutions (Mauri Ora Associates, 2009; Chin et al., 2018).

Fundamentally, the health of indigenous people is sustained through relational well-being and does not exist in isolation (Portman & Garrett, 2006). Indigenous health is underpinned by emotional, spiritual and physical domains of well-being (Mark & Lyons, 2010; Durie, 1994). Perhaps the strongest indicator of health for indigenous people across the world is the intrinsic relationship between health of people and the environment (Durie, 2004). I have noted that this relationship is critical to an understanding of the impacts of climate change. As I discuss the impacts of climate change for indigenous people, I will continue to refer to the intrinsic links between indigenous health and the environment.

In direct opposition to a holistic indigenous approach to health, a biomedical model approaches human health through the study of disease and applies rules to determine the cause of physical symptoms of ill health (Engel, 1992). An approach such as this elicits narrow understandings of health and well-being which has come at the detriment to indigenous people around the world (Haynes et al., 2021).

In addition to the detrimental impacts of a health system deeply rooted in western practice, there are several risk factors that heighten the likelihood of experiencing health inequity (Hodgetts & Stolte, 2017; Robson, 2007). These include differential access to healthcare in areas of treatment and prevention as well as disparities in quality of care received within the health system.

Additionally, the social determinants of health, including income, employment, housing, and education, are strongly associated with health outcomes (Jones, 2001 as cited in Robson, 2007; Commission on Social Determinants of Health, 2008). When people are exposed to conditions including inadequate and

congested housing, low health literacy, poor diet, and tobacco use, the health risks connected with climate change are also increased (Robson, 2007).

Through the prioritisation of western biomedical models of health, alongside disparities in the social determinants of health, indigenous people are experiencing health inequity. According to scholars, indigenous peoples around the world will be particularly impacted by the effects of climate change because of these inequities (Belfer et al., 2017; Bennett et al., 2014; Johnson et al., 2021; Jones et al., 2014; Ford, 2012; Green et al., 2009; Mckerchar et al., 2021). Recognising the inequities that exist for indigenous peoples, any institutional approach to climate change must prioritise equity.

The position of equity driven approaches to climate change is supported by Bennett & King (2018), who echo that indigenous populations are those that contribute least to rising temperatures, however, will experience the greatest impacts (Bennett & King, 2018). These two scholars draw attention to the gaps in the literature that consider both institutional health responses and climate change. They employ blue light thinking that explores opportunities to implement climate change responses driven by equity (Bennett & King, 2018). Bennett & King apply their equity, blue light thinking in the context of Māori health in Aotearoa. I will further describe the opportunities they highlight within the literature below.

Māori Health and Climate Change

In the section above, I have outlined the vulnerabilities for indigenous peoples related to health inequity and climate change. Indigenous peoples around the world are experiencing poorer health outcomes linked to the ongoing impacts of colonisation (Mauri Ora Associates, 2009; Robson, 2007). Māori as the indigenous people of Aotearoa are similarly impacted by a health system that is centred on a western biomedical approach to health that alongside institutional racism, creates inequity for Māori (Reid & Robson, 2000; Talamaivao et al., 2020). Climate change is likely to exacerbate health inequities if DHB climate change policy does not carefully consider and respond to existing health inequities for Māori (Bennett & King, 2018). In this section I will consider literature related to the relationship between existing health inequity and the impacts of climate change for Māori, the strengths of Māori to respond to climate change and the opportunities that exist within the health sector to implement equitable responses to climate change.

As the impacts of climate change continue to impact human health, there is particular risk of experiencing cardiovascular disease, food insecurity and increased mental health (Hall 2014; Hopkins, Campbell-Hunt, Carter, Higham &

Rosin 2015; Jones, Bennett, Keating & Blaiklock 2014; Patz & Olson, 2006). In Aotearoa, Māori are experiencing increased rates of disease in these areas which is reflective of the injustices Māori have experienced within the health sector. From 2010-2012 mortality for over 35-year-olds from cardiovascular disease was 268.8 per 100,000 for Māori, and 132.4 per 100,000 for non-Māori (Ministry of Health, 2018). Based on 2001 census data, Māori adults were one and a half times more likely to experience anxiety or depression than non-Māori (Ministry of Health, 2015). These figures outline health inequity across multiple health outcomes that are directly impacted by the systemic issues within the health system in Aotearoa (Came-Friar et al., 2019; Reid et al., 2019). As climate change is set to increase the risk of disease, and Māori are already experiencing higher rates in these areas, Māori populations are increasingly vulnerable to the impacts of climate change.

Further impacts for Māori mental health are considered related to the strong connection of health and the environment. Māori mental wellbeing is fundamentally linked to cultural connectedness, whanaungatanga, belonging and cultural identity (Russell, 2018). For Māori, connecting to their whenua, marae and places of cultural significance are an integral part of cultural identity and therefore influence wellbeing (Cram et al., 2003; Mark & Lyons; 2010). Māori have an intrinsic connection with land and the natural world and when this is compromised, so too is health and wellbeing (Harmsworth & Awatere 2013, Awatere et al., 2021). As climate change has negative impacts on the natural environment, intrinsic connection to land will be compromised for Māori and in turn, Māori wellbeing (Harmsworth & Awatere, 2013; Manning et al., 2014).

E tangi ana nga reanga o uta, e mahara ana nga reanga a taima ta aha ra e whakamahana taku ora kia tina – When the land, river and sea creatures are in distress then I have nothing to be proud of (Ngāti Wai) (Harmsworth & Awatere, 2013, p. 274).

The above whakatauki gives voice to the relationship Māori have with the natural world. It describes the unique impacts Māori will experience as climate change begins to negatively impact the environment.

Despite strong connections between Māori health and the environment, scholars have highlighted an absence of indigenous understandings of climate change represented within literature (Ford 2012; Belfer et al., 2017; Masters-Awatere et al., 2022).

Indigenous ways of being yield historical understandings gathered through centuries of interacting with the land that can provide solutions for climate change adaptation (Nakashima et al., 2018). In Aotearoa, Mātauranga Māori

provides understandings of the environment that can have a vital role in informing the approach to climate change (Macinnis-Ng, et al., 2021). These understandings are based on a central principle of whakapapa which describes intrinsic relationships between genealogy, tāngata whenua, the natural world and beyond to the supernatural being (Abbott, 2021; Hikuroa, 2016). The representation of connection through whakapapa creates opportunities to reflect on historical ways of being to protect future generations. In honouring whakapapa through responses to climate change, the health sector can respond in a way that recognises the intrinsic link between health and the environment.

Health policy can prioritise Māori cultural values by involving Māori at the very beginning of policy development. Facilitating the inclusion of mātauranga Māori in policy would encourage protection of Māori land, urupa, marae, culturally significant sites, and ensure a holistic view of health is considered (Harmsworth & Awatere, 2013). Implementing these priorities would significantly impact health and wellbeing for Māori. Grasping opportunities within the health sector is an approach adopted by Bennet and King (2018).

The work of Bennet and King (2018), highlights a gap in academia where literature has failed to consider the links between equity and health institution responses to climate change. Therefore, they approached this topic using blue sky thinking to illustrate the potential for the health system to integrate health equity and climate change (Bennett & King, 2018). The approach was one that holds hope for a system that ceases the opportunity to align the benefits of emissions reduction with health equity. These considerations are something that were echoed throughout my research and will be discussed further in Chapter Five and Six.

The above Māori health rates illustrate the relationship between health inequity and increased impacts of climate change. In recognition of persisting health inequity for Māori, the Waitangi Tribunal activated a process of inquiry into Health Services and Outcomes for Māori in 2017 (Waitangi Tribunal, 2019). This was named Wai 2575 – the Health Services and Outcomes Inquiry. Findings from the inquiry indicated that the health system as it stood under the New Zealand Public Health and Disability Act (2000), failed to uphold Treaty of Waitangi obligations to ensure Māori health equity (Waitangi Tribunal, 2019; Waitangi Tribunal 2023). Although the Ministry of Health developed, He Korowai Oranga as a framework to achieve Māori health equity, DHBs across Aotearoa were failing to apply the essential threads, which continued to perpetuate the problems leading to health inequity (Waitangi Tribunal, 2019).

Recommendations of the inquiry were to create legislative change that honours and creates accountability for the health sector to align with Te Tiriti o Waitangi

(Came et al., 2020; Waitangi Tribunal, 2019). The work of Came et al. (2020), who suggest that any health measures be anchored in equality and anti-racism, supports the report's description of the urgent action needed to create Māori health equity. This same urgency is required in response to the impacts of climate change to avoid further inequity for Māori (Bennett et al., 2014). By acting with urgency to achieve Māori health equity, the health sector would have an opportunity to ensure breaches of Te Tiriti o Waitangi do not continue within the context of climate change. As such, the recommendations of the Tribunal along with continual advocacy from Māori health professionals and academics, have supported legislative change and resulted in reforms to the health system in Aotearoa.

Health Reform in Aotearoa

The Waitangi Tribunal was developed to hear claims brought by Māori regarding breaches of Te Tiriti o Waitangi. As a part of the Tribunal the Wai2575 – Health Services and Outcomes Inquiry has highlighted significant failures of the state to uphold Tino Rangatiratanga and ensure Māori health equity (Came et al., 2020; Waitangi Tribunal, 2019). Following the inquiry, a review into the health system was established. This review was announced in 2018 and named the Health and Disability System Review. The outcomes of the review were published in 2020 and recommended legislative change that enacted reform to the operation of DHBs across Aotearoa (Health and Disability System Review, 2020).

DHBs were first established under the New Zealand Public Health and Disability Act (2000). DHBs were representative of a geographical area covered by health services including hospital services, primary care and public health services (New Zealand Public Health and Disability Act, 2000). While the health system was operating under this Act, 20 DHBs existed across Aotearoa. Within the DHB operational model, Māori continued to experience inequitable health outcomes. As a result of continued advocacy by Māori academics, health professionals and communities, the WAI2575 Health Service inquiries, and a Health and Disability system review, health reforms were enacted (Health and Disability System Review, 2020; Waitangi Tribunal, 2019). The reforms began with the introduction of the Pae Ora (Healthy Futures) Bill (2021). The Bill provided the structure for reforms that included two newly developed health entities.

With the passing of legislation, the Pae Ora (Healthy Futures) Act, 2022, the health system in Aotearoa underwent reform. This involved the disestablishment of 20 DHBs and establishment of Te Aka Whai Ora, the Māori health authority, and Te Whatu Ora (Health New Zealand).

As the Waitangi Tribunal Inquiry, Wai2572 suggests, the health system must take urgent action to reduce health inequity for Māori (Waitangi Tribunal, 2019). The health reforms that have been introduced under the Pae Ora (Healthy Futures) Act, 2022, provide an opportunity for the health system in Aotearoa to provide Māori with the authority under Te Aka Whai Ora to develop policies that better serve Māori people. This thesis will examine the current context of health responses to climate change, and therefore highlight opportunities for the health sector to ensure equitable policy responses to Māori health in the context of climate change.

The National Context in Health Sector Responses to Climate Change

This thesis aims to examine the current state of the health sectors (DHBs) responses to climate change. An examination of both literature and legislation has highlighted factors that influence the way the health sector responds to climate change and Māori health. In this section, I will outline key national strategies or action plans that have influenced the current state of the health sectors response to climate change and Māori health.

The Ministry for the Environment – Manatū Mō Te Taiao, alongside He Pou a Rangi Climate Change Commission, are leading the national response to climate change in Aotearoa (Ministry of Health, 2018). This includes the development and implementation of key outputs including the Climate Change Response (Zero Carbon) Amendment Act, Emissions reduction plan, Emissions Budget, New Zealand Emissions Trading Scheme, Carbon Neutral Government Programme and the National adaptation plan (Ministry for the Environment, 2022).

The responses listed above significantly influence the direction of the health sector and DHB climate change policies. Outputs of the climate change response programme are heavily focused on emissions reduction. Consequently, the health sector has focused on reducing emissions within their operations (Ministry of Health, 2019). The Ministry of Health provide a guidance document that outlines six actions for sustainability (Ministry of Health, 2019). The document provides insight into the priorities for the health sector relating to climate change. The actions are General actions, Transport, Procurement, Waste, Energy, Food and Building Design. General actions are described as systemic changes to make environmentally sustainable choices easier for staff and patients, sustainability initiatives that promote resilient communities, providing education to staff and communities to support a reduction in energy use (Ministry of Health, 2019). The actions are heavily focused on reduction of waste, energy, and emissions as guided by the climate change work programme. The only mention of supporting resilient communities is within General actions.

Understanding national influences on DHB responses to climate change provides context for their priorities. Similarly, national strategies and frameworks for Māori health have shaped DHBs responses to Māori health within their regions.

One of these national responses is the Whakamaui: Māori Health Action Plan 2020-2025 (Ministry of Health, 2020). The plan sits within the He Korowai Oranga Framework² and provides actions and responsibilities for the health system to reach Pae Ora. Priorities within the plan that are relevant to this research include:

Priority five – Cross sector action; addressing the broader determinants of health, cross sector action, holistic whānau centred services and coordinate across government agencies to maximise Māori health and wellbeing (Ministry of Health 2020, p. 44).

Within Priority five, the document makes reference to Wai Ora.

Wai Ora (healthy environments) acknowledges the importance of creating built and natural environments that supports Māori wellbeing. A whole-of-government approach is critical to addressing the broader determinants of health to ensure individuals, whānau and communities are better able to access and enjoy healthy environments and get the help they need to take control of the circumstances affecting their health and wellbeing. (Ministry of Health, 2020, p. 44).

As well as *Priority Area Seven – “Ngā kitenga me ngā tuanakitanga – Insights and Evidence”* (Ministry of Health, 2020, p. 48). This priority area focuses on using ensuring Mātauranga Māori is prioritised as a part of decision making within the health sector.

By listing these areas as priorities, the health sector has committed to supporting holistic Māori health and acknowledged that the health of Māori is dependent upon the health of the environment. These priorities are in line with what literature suggests as the intrinsic link between climate change and Māori health. However, it is unclear whether these priorities are being implemented within regions.

² The He Korowai Oranga Māori Health Framework and its relevance to this research is discussed further on page 16 and 17.

The priority areas provide scope for DHBs to simultaneously influence Māori health and climate change. This research will examine the extent to which DHBs are enacting priorities such as these, or where they could be strengthened to achieve Pae Ora. By working across sectors and establishing relationships with the Ministry for the Environment and the Ministry of Health, DHBs could enact positive climate change policy development and implementation. Priorities within Māori health strategies will support equitable DHB climate change policies. As the He Korowai Oranga Māori Health framework is the key document for Māori Health responses in Aotearoa, it will be further described in the following section. The He Korowai Oranga Māori Health strategy will be closely examined alongside the findings of this research to determine the alignment of DHB climate change policy and Māori health aspirations.

He Korowai Oranga Māori Health Strategy

The He Korowai Oranga Māori Health strategy³ is a Ministry of Health framework developed to provide guidance for the Ministry to support optimum Māori health outcomes, with recognition that Māori health is founded in collective wellbeing (King & Turia, 2002). The overall aim of the strategy is to achieve Pae Ora – Healthy Futures for Māori (Ministry of Health, 2014; Ministry of Health, 2020).

Within the framework, there are multiple pathways for action to achieve Pae Ora. The elements of Whānau ora, Wai Ora, and Mauri Ora are fundamentally linked. Whānau Ora refers to healthy families, Wai Ora is healthy environments, and Mauri Ora is healthy individuals. Each element needs to thrive to reach Pae Ora (Ministry of Health, 2022). Wai Ora is a particularly relevant concept for the topic of this thesis. Wai Ora represents the intrinsic connection between Māori health and the environment. The concept encapsulates safe living environments, drinking water, air quality, food environments, and emergency management (Ministry of Health, 2022). The Ministry of Health website specifically states that achieving Wai Ora will mean that Māori communities are prepared for emergency events and for *“Dealing with the impact of climate change on health”* (Ministry of Health, 2022 para. 2).

Throughout the analysis and discussion of this thesis research, I will compare the intended meaning of waiora with the way that DHBs have discussed the concept of Wai Ora in their planning and/or strategies. Through comparison, I will consider whether DHBs are aligned with the intentions of Wai Ora and ultimately Pae Ora within their response to climate change.

³ Through the implementation of the Pae Ora health reforms, Te Korowai Oranga has been enhanced and is now Pae Tū: Hauora Māori Strategy (Ministry of Health, 2023). At the time of this research, He Korowai Oranga was the most up to date strategy.

The pathways within the framework include working across sectors, effective service delivery, Māori participation, whānau, hapū, iwi, and community development. The key threads of the framework are Rangatiratanga⁴, Building on the gains from the whānau ora approach and achieving Māori health equity. At a directional level, the framework outlines the need for government aspirations and contributions to support Māori health outcomes. That includes financial contributions as well as planning and strategies that support Māori health needs. The framework recognises that Māori also have a significant role in contributing at a directional level to this strategy, as Māori understand their own aspirational needs for achieving Pae Ora (Ministry of Health, 2022).

He Korowai Oranga will be used as a framework to understand the extent to which climate change policy is responding to Māori health. The pathways to Pae Ora are further discussed in my findings in Chapter Four and Five, where findings are analysed alongside He Korowai Oranga pathways and outcomes.⁵

Relevant Legislation

Climate change legislation in Aotearoa is influenced by international responses to climate change. These include the United Nations Framework Convention on Climate Change, The Kyoto Protocol 2005, and most recently the Paris Agreement in December 2015 (Ministry for the Environment, 2022; Climate Change (Zero Carbon) Amendment Act, 2019).

The Paris Agreement has influenced climate change responses with relevance to mitigation commitments and the NET ZERO 2050 goal. Legislation relevant to health has also informed the way that the health system functions and therefore responds to Māori health.

Due to legislative influence within the health and climate sector, legislation has relevance to the issues of climate change and Māori health within this research. Throughout this thesis I will refer to a range of legislation in the context of interviews and research findings. I will briefly describe relevant pieces of legislation in this section to build context for subsequent discussion.

Treaty of Waitangi Act 1975

The Treaty of Waitangi Act 1975 was established to embed the Treaty of Waitangi within the law in Aotearoa (Treaty of Waitangi Act, 1975). A primary

⁴ Enabling whānau, hapū, iwi and Māori to exercise control over their own health and wellbeing. Recognises that Māori are both legitimate and an essential part of decision Making in the health and disability sector.

⁵ A visual representation of the He Korowai Oranga Strategy is attached in Appendix F.

outcome of the act was the establishment of the Waitangi Tribunal. The Waitangi Tribunal has the purpose of making “recommendations on claims relating to the practical applications of the Treaty and to determine whether certain matters are inconsistent with the principles of the Treaty” (Treaty of Waitangi Act, 1975, p.1).

The Waitangi Tribunal holds space for inquiries pertaining to inconsistencies in treaty obligations that impact Māori (Waitangi Tribunal, 2023). Wai 2575, The Health Services and Outcomes Inquiry, seeks to investigate health related concerns associated with this act. The inquiry highlights inequities that are being experienced by Māori within the health system (Waitangi Tribunal, 2023). Wai 2575 calls attention to the existing inequity for Māori related to health and therefore highlights a need to examine Māori responsiveness within DHB climate change policy.

This research seeks to understand state responsiveness to Māori health, in the context of climate change. An important aspect being to examine the extent to which the principles of the Treaty of Waitangi/Te Tiriti o Waitangi ⁶ are being observed by DHBs in their response.

Resource Management (Energy and Climate Change) Amendment Act 2004

The Resource Management Act is the primary act relating to the protection and management of natural and physical resources in Aotearoa (Resource Management Act, 1991). Of specific relevance to this research is the Resource Management (Energy and Climate Change) Amendment Act 2004. The purpose of this act was to ensure efficient use of energy, plan for the impacts of climate change and understand the benefits of using renewable energy. The act specifically requires local government to plan for the impacts of climate change on their communities (Resource Management Act (Energy and Climate Change) Amendment Act, 2004).

The amended Act relates to the adaptation needs in responding to climate change. As discussed, the impacts of climate change are closely related to human health. As this act requires planning for the impact of climate change, and protection of natural resources, it is particularly relevant to my research.

New Zealand Public Health and Disability Act 2000

The New Zealand Public Health and Disability Act came into effect in 2001 and established District Health Boards (DHBs) throughout Aotearoa. Provision for

⁶ Within this research I will primarily refer to ‘Te Tiriti o Waitangi’ version. However, when I refer to ‘The Treaty of Waitangi’ I will be referring directly to Government Legislation or wording used in DHB or government policies.

funding of all public health and disability services sat within this act, as well as an outline for the functions and responsibilities of DHBs (New Zealand Public Health and Disability Act, 2000). Specifications of board membership were described within the act and included the election of at least two Māori board members, and membership proportionate to the percentage of Māori within the DHB district. Additionally, the act required DHBs to prepare annual plans relating to the strategic direction of their services (New Zealand Public Health and Disability Act, 2000).

Annual plans were commonly identified within this research throughout data collection and analysis. Information pertaining to DHB annual plans will be further discussed in Chapter Three, Four and Five. Further, consultation with Iwi Māori Governance Boards within the DHB was a recurring theme of discussion throughout research interviews. Engagement with Māori and the role of Iwi Māori governance boards will be further explored within this research.

At the beginning stages of my research, the operation of DHBs was the model of healthcare within Aotearoa. The introduction of the Pae Ora (Healthy Futures) Bill (2021) came into effect at the end stages of my research and the context of my research now sits within the Pae Ora (Healthy Futures) Bill (2021). The details of the Bill are discussed below.

Pae Ora (Healthy Futures) Bill (2021)

As discussed, The Pae Ora (Healthy Futures) Bill was developed in 2021 with the purpose of creating health reform in Aotearoa. Following the passing of the Bill, The Pae Ora (Healthy Futures) Act (2022) has replaced the New Zealand Public Health and Disability Act (2000).

This Act reconfigured the health system by establishing two separate health entities. These being, Te Aka Whai Ora, the Māori health authority, and Te Whatu Ora (Health New Zealand). The purpose of creating two separate entities was to move toward health equity and reduce health disparities for Māori (Pae Ora Healthy Futures Bill, 2021).

Pertinent to this research is the direction of healthcare that the Pae Ora Healthy Futures Bill aimed to achieve. The outlined reform as a part of this bill focuses on moving toward equitable healthcare and achieving Pae Ora (healthy futures) for Māori.

The Pae Ora Framework is also discussed as a part of the vision of He Korowai Oranga which is closely examined within this research. Although DHBs will no longer exist under this legislation, the findings of DHB practice can inform areas

of consideration for the new health entities to in their response to climate change.

Climate Change Response (Zero Carbon) Amendment Act 2019

The Climate Change Response (Zero Carbon) Amendment Act was developed to meet international obligations related to climate change. This piece of legislation enacts responses to those international frameworks discussed above including the Kyoto Protocol, the Paris Agreement and the Convention (Climate Change Response (Zero Carbon) Amendment Act, 2019).

Within the Climate Change Response (Zero Carbon) Act (2019), plans and outcomes were developed that directly impact the health sector. These include the Emissions Trading Scheme, the Zero Carbon by 2050 target, monitoring of emissions, climate risk assessments and the National Adaptation Plan (Climate Change Response (Zero Carbon) Amendment Act, 2019). As government organisations, DHBs are required to adhere to the responses within the act. The influence of this legislation was significant for those I spoke to within this research. Accordingly, the Climate Change Response (Zero Carbon) Amendment Act will be referred to throughout this research.

Overview and Gaps in the Literature

Literature throughout the world maintains that climate change will have a significant impact on human health. Key impacts are related to cardiovascular health, vector and water-borne disease, food insecurity and increased mental health. For indigenous populations across the world, climate change will have unique impacts related to existing inequities and intrinsic connections between the environment and indigenous health. These unique impacts will also impact Māori as the indigenous people of Aotearoa. Due to existing health inequities, Māori will experience exacerbated impacts of climate change.

With the implementation of health reform, the health sector has a considerable opportunity to respond to climate change. The health sector can respond in a way that recognises the unique impacts for Māori and ensures an institutional health response is founded upon equity.

Research in Aotearoa has discussed the unique impacts of climate change for Māori given the intrinsic relationship that exists for Māori between the health of people and the health of the environment. DHBs, as the primary health provider in Aotearoa, will be experiencing an increased need for health services because of climate change. There is no doubt that DHBs have a role to play in the response to climate change. Literature is telling us that the impacts of climate

change will affect Māori in a unique and increased way. Therefore, DHBs must carefully consider health inequities within their response to climate change. To date, there has been no research to investigate current DHB climate change policies and their responsiveness to Māori health.

My research will systematically examine the existence of DHB climate change policies and strategies. This exploration will support an understanding of the level to which DHBs are responding to climate change. My research is distinctive from previous research, in that I will utilise the He Korowai Oranga Māori health framework to examine the extent to which any identified climate change policies respond to the health needs of Māori.

As a Community Psychology masters student, I will draw on the principles of community psychology throughout my research. Of relevance are the values of social justice, equity, diversity and cultural pluralism, cultural awareness and systems perspective (Institute of Community Psychology Aotearoa, n.d). I aim to use these values to guide the objectives of my research. This research will contribute back to the field in that it will seek to understand existing system responses to climate change and highlight areas for future transformation that are derived from the above community psychology values.

I will apply two research methods to investigate my focus areas. My key focus areas are outlined in an overview of my research objectives below.

Research objectives

1. **Examine whether there is DHB policy specifically focused on institutional responses to climate change**
2. **Understand the extent to which DHB Climate change policy responds to Māori health**

Does DHB policy recognise the links between the environment, climate change and Māori health?

To what extent do identified policies consider Māori health concepts?

3. **Understand the extent to which identified policies are being effectively implemented within the region**

Highlight key differences in policy development and implementation across regions

Discover the facilitators and barriers of effective climate change policy development and implementation

Determine the extent to which policy implementation responding to the health needs of Māori

Thesis Outline

This thesis is organised into six chapters. Chapter One provided an overview of the literature that has informed the development of this research. Further, the chapter presented key pieces of legislation that provide context for the topics within this research. Chapter Two outlines the methodology and research methods implemented to achieve my outlined research objectives. In Chapter Three I illustrate my findings from the climate change section of the environmental scan. In Chapter Four, the findings and analysis of the Māori health section of my environmental scan are presented. Chapter Five focuses on the second stage of this research and presents the findings and analysis of the of participant interviews. Chapter Six contains my discussion of the findings, implications, and conclusions of this research.

Chapter Two: Methodology and Method

Research Methods Summary

To examine and understand my intended research objectives, I implemented two research methods. The first of these was an environmental scan of 17 DHB websites using a desktop research process. In agreement with my supervisor, I chose to focus on 17 out of the 20 DHBs. Three DHBs were already included in the wider Haumanu Hauora research project; and to include them in my study could potentially jeopardise the relationships being forged on behalf of the Haumanu Hauora project. To maintain a point of difference, as well as gain insight into the DHBs across the country, my research focused on DHBs outside of the localities included in the Haumanu Hauora research project.

The second research method implemented was qualitative interviews with DHB staff and involvement in interviews with tāngata whenua through the wider Haumanu Hauora research project. These research methods provided the scope to understand the context of DHB climate change policy across Aotearoa. An environmental scan systematically identified the existence of DHB climate change policy for each DHB region, while qualitative methods facilitated a deeper understanding of the development and implementation of climate change policies within regions. The analysis of Haumanu Hauora interviews were included to ensure Māori understandings of climate change were included in this research.

A systematic environmental scan of 17 DHB websites identified any DHB policies focussed on responding to climate change, as well as the extent to which those policies responded to Māori health. To identify climate change policies and assess their responsiveness to Māori health, the environmental scan was completed in two stages. The first stage used climate change terms to search websites for climate change policy, and the second used Māori health terms to search for Māori health policies. Once both stages of the environmental scan were complete, a ranking system was used to identify DHBs that had existing and developed climate change policies, and/or Māori health policies that recognised the impacts of climate change on Māori health.

Interviews with DHB staff sought to provide a deeper understanding about the implementation of any identified policies. To gain insight into the effective methods, I chose to interview DHBs who had the most developed policies according to the ranking system.

Once the highest ranked DHBs were identified, emails were sent to potential participants. Due to time constraints and the size of this research project, I was limited to interviewing three relevant DHB staff members. Staff members were from three different DHB regions and were all working in the area of sustainability. Qualitative methods were used to have conversational interviews with staff.

This research has a focus on Māori health in the context of climate change. Therefore, it was also important to include the voices of Māori within the research findings. As part of my involvement in the wider Haumanu Hauora project, I worked with my supervisor to incorporate findings from Haumanu Hauora tāngata whenua interviews within this research.

The interviews were particularly relevant for informing an understanding of how the health system can respond to Māori health needs in the context of climate change in Aotearoa. These insights are included in Chapter Five.

Methodology

Environmental Scan Methodology

The environmental scan methodology originated from a business development context. Primarily, the method has been used to track progression, understand developing trends, and predict future business challenges (Albright, 2004). The purpose of the method is to gather external information of the wider business environment. Knowledge of the external context can equip businesses to respond to future trends or threats by assessing the environment and support future planning (Choo, 2002).

According to Albright (2004), environments to consider within an environmental scan include the political context, legislation that will influence business operations, societal shifts, the economy, developing technologies, and activities of external competitors. As an environmental scan is an effective, future focused tool to assess risks and trends, it has commonly been used to inform business strategies and planning (Albright, 2004).

Over time, environmental scans have also been applied within the social and health sector to assist with strategy and planning (Mossman et al., 2009; Charlton et al., 2019; Wilburn et al., 2016). Equal to businesses, the health sector will experience the impacts of legislation change, political environments, societal shifts, and the state of the economy. Consequently, the environmental scan methodology has relevance in understanding current context for future planning within the health sector. An environmental scan will be utilised in this research

to build an understanding of current climate change policy in DHBs, as well as support recommendations of future possibilities.

Implementing an environmental scan will be unique in that it will enable a detailed investigation of climate change policy in 17 DHBs across Aotearoa. To date there has been no previous research examining policy across all 17 DHBs. A scan such as this will build a picture of the challenges and opportunities that each DHB and region is facing. It will also provide insight into the possible challenges of climate change policy implementation for the Haumanu Hauora project.

An environmental scan can function to identify trends in the environment and further establish the relationships between these trends (Costa, 1995). The wider literature suggests that there is a relationship between climate change and Māori health. Therefore, an environmental scan of DHB policy in this study will be useful to understand if this relationship is reflected within DHB policy.

An environmental scan across 17 DHBs provides a unique opportunity to build on policy that currently exists, as well as identify the opportunities, barriers, and gaps in the health sectors response to climate change. This environmental scan will also examine potential barriers for effective climate change policy that is responsive to Māori health. To provide effective future planning, it is important that the environmental scan can identify both opportunities as well as barriers (Costa, 1995).

An environmental scan of 17 DHB websites will provide a broad understanding of what policies, strategies and plans DHBs have in place to respond to the impacts of climate change. This will be specific to understanding climate change responses in the context of Māori health. The information will be limited to publicly available documents. Therefore, there will be incomplete understandings of how policies are developed and implemented. To enhance the publicly available information collected in the scan, interviews with DHB staff will be completed. The intention of the interviews is to provide further context to the way that climate change policies can be implemented, while responding to the needs of Māori health. The methodology for the interview process is discussed in the next sub section.

Qualitative Methods

A scan of DHB websites can offer comprehensive information regarding the policy that exists within DHBs. However, alongside this information an understanding of what is happening to develop and implement policies within regions will be important. To establish a deeper understanding of how DHB

climate change policy could respond to Māori health, speaking with DHB staff working on climate change responses will be supportive to this research.

I considered a qualitative approach to be the most appropriate choice of research methods to build a deeper understanding of DHB climate change policy. I wanted to speak with DHB staff that held knowledge of the way the DHB functions and responds to climate change. I hope that this understanding will support discussion of the facilitators and barriers to creating climate change policy that meets the needs of Māori health.

Qualitative methods have been a commonly utilised approach in social science research. Qualitative methods align with the values of community psychology by ensuring an exploratory approach that prioritises the narrative of the research participant (Bergold, 2000; Hanlan et al., 2008). Qualitative research supports making meaning from participant's stories and discussions to inform research outcomes (Hanlan, 2008).

Applying qualitative methods in this research will support the use of a conversational inquiry where the primary focus is to learn from the participant's experience. Although an interview guide was developed, the guide will support the participant to share ideas within the context of the research.

Analysis Methods

Thematic Analysis

To analyse the data from my research, I drew on the method of thematic analysis. This method of analysis supported identification of themes within the environmental scan and interview data sets. Thematic analysis aligns closely with qualitative research methods in the way that the method creates meaning through themes shared across qualitative data (Nowell, 2017). Furthermore, thematic analysis is an accurate way of linking qualitative data to research questions (Clarke & Braun, 2016; Nowell 2017).

Due to the flexible nature of thematic analysis, I also chose to apply this method for analysis of both the environmental scan analysis and qualitative interviews. Thematic analysis is an analytic tool that is useful for comparing and contrasting data (Nowell, 2017). I hoped to understand similarities and differences in climate change policy across regions and used thematic analysis to represent the similarities and differences.

Thematic analysis was useful in categorising aspects of the data that related to the search terms listed in Table 2. Any evident trends could be captured through

grouping the data into categories and establishing themes (Clarke & Braun, 2016). Establishing themes created a link between the search terms, emerging trends within the data and the research outcomes.

For the thematic analysis of interviews, I followed the process listed in Table 1 below. I familiarised myself with the data by establishing transcription quality, while listening to the interview recording. I then annotated each transcript using codes. Codes reflected any reoccurring patterns in interviews, and any discussion related to the research questions. These codes are listed below:

- Alignment of policy with Māori health
- Māori participation
- He Korowai Oranga
- Working across sectors
- Political context
- Regional difference
- Barrier
- Facilitator
- Equity

I used the above codes to annotate my transcripts and information gathered from the environmental scan. I was then able to group together relevant themes to inform my writing presented in Chapter Three of this thesis.

Table 1 Phases of thematic analysis

Phase	Description of the process
1. Familiarizing yourself with your data:	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2. Generating initial codes:	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes:	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes:	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5. Defining and naming themes:	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6. Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Phases of Thematic Analysis (Braun & Clarke, 2006, p. 87).

Method

Ethical Considerations

The Human Research Ethics Committee (Health) at the University of Waikato provided ethical approval for this research on August 9, 2021 (HREC (Health) 2021#51). This approval endorsed the research topic, research activities and methods employed to ensure safety of participants. Ethical considerations submitted to the committee are further discussed below.

Research Relevance for Māori and Respecting the Cultural, Social and Language Preferences and Sensitivities of Participants

The research methods used were designed to understand DHB climate change policy and its responsiveness to Māori health. Therefore, there is a particular relevance to Māori wellbeing throughout this research. Due to the research focus on Māori health, cultural safety throughout the data collection process was an important consideration. Associate Professor Bridgette Masters Awatere is the Principal Researcher of the Haumanu Hauora – Health Responses for Māori Project and provided cultural supervision alongside Dr Trish Young who is the Research Coordinator for the project. To ensure the sensitivities of participants were met throughout the interview process, participants were offered the opportunity to have a support person. Further, to develop a safe interview space, interviews were opened and closed with karakia and before starting the interview, we spent time with engaging in whakawhanaungatanga to get to know each other. As my interviews were completed via teleconference, tea and refreshments could not be provided.

Method Process for Environmental Scan

An environmental scan of 17 DHBs was completed in two stages. The first stage primarily focused on searching for terms related to climate change. My literature search revealed eight terms as the most relevant based on literature, policy and legislation. I considered that using the same or similar terms as those discovered in the literature review, would give the strongest chance of finding climate change documents on DHB websites. Each DHB website presents a different search engine. This creates complexity in identifying documents. Therefore, it was important to define specific terms for the search. Eight terms were developed for the climate change section of this research. Using these terms gave assurance that a comprehensive search of DHB websites was completed to identify any policies, plans or documents relating to their response to climate change.

The second stage of the search used seven search terms relating to Māori health. To answer my research question, I used the He Korowai Oranga Māori Health Framework to determine my search terms. This is the guiding framework for DHBs to respond to Māori health. Due to the frameworks direct influence on DHB policies, I used the framework to develop the terms for the Māori health stage of the search. I also used the names of key reporting documents for DHBs to locate information on their responses to Māori health. My supervisor was aware of my decision making for developing these terms and gave final approval of the terms. The terms for each stage are presented in Table 2 below.

Table 2.

Environmental scan search terms

Climate Change Stage	Māori Health Stage
Climate change	Māori health strategy
Climate action	Māori health framework
Environmental health	Māori health plan
Sustainability	Māori health outcomes
Heat health	Pae Ora
Climate adaptation	Wai Ora
Climate mitigation	Equity
Energy policy	

As discussed, among the 17 DHB websites, there were several different search engine formats. A difference in search engines resulted in inconsistent and high numbers of documents appearing for each search term. Due to high document volumes and inconsistent results, it was important that a consistent approach to document identification was implemented. To ensure that only relevant information would be recorded, specific documents were excluded from the search results. Excluded documents were those that did not include information relevant to climate change, sustainability or the environment or documents that were repeated annually. Unless dissimilar information was included within an earlier annual plan, only the most recent plan was included in the results. Meeting minutes that were presented on search engines were not included in the scan. This was due to meeting minutes recording topics of discussion rather than describing actioned policies or strategies.

Documents that met the inclusion criteria were those that directly outlined a DHB strategy, policy or action related to climate change, sustainability and/or the environment. Documents that discussed the holistic nature of Māori health with reference to the environment were also included. Media releases were included when they directly reported a DHBs action to support climate change, sustainability, or the environment.

Information gathered from relevant documents in both stages of the search was recorded in an excel spreadsheet.

In stage one, the spreadsheet contained 17 columns that I had developed based on my key research objectives. Seven columns were developed to record DHB actions directly related to my research objectives. These were as follows; number of documents appeared in one search term, discussion of the impact of climate change on Māori health, inclusion of Māori health frameworks, association/collaboration with outside agency or group, identified action related to climate change, notable initiatives and policy documents identified. The remainder of the columns were used to record details such as an email address, the webpage link, type of document, date accessed and links to documents for future reference.

A very similar approach was implemented for recording data in the Māori health stage of the search. The spreadsheet for this stage included 16 columns. The columns relating to my research objectives were as follows; number of relevant documents, links made between climate change and Māori health, inclusion of Māori health frameworks, collaboration with Māori health agency/group or iwi, identified action related to Māori health, notable Māori health initiatives, policy documents identified in relation to Māori health. As with stage one, the remainder of the columns were used to record date accessed, outside links, email contacts, the website link and date accessed.

Qualitative Methods - Interview Recruitment

Interview recruitment was initiated following completion of the environmental scan. Key contact people were identified through documents examined in the scan. If a relevant contact person and email address was listed in a document relevant to climate change, the recruitment email attached in Appendix B was sent to the DHB contact. In the initial email, the information sheet (Appendix C) was included to provide potential participants with further information about the research. All participants in this research were separate to DHB staff interviewed as a part of the Haumanu Hauora research. The three DHB staff in this research, were selected from the 17 remaining DHBs outside of the Haumanu Hauora project DHB focus areas.

As recruitment was a flexible process, identification of the appropriate person within the second DHB was found through an existing DHB contact involved with my supervisor. A confirmed participant provided details of another potential participant at a different organisation who was then contacted. The same email

process was followed for both of these interviews, whereby the email⁷ was sent with an information sheet⁸ to the participant.

Participatory Interviews

Alongside the interviews completed with DHB staff, I was involved in tāngata whenua interviews through my research within the Haumanu Hauora project. Through discussion with my supervisor, I have drawn on these interviews to enrich my research findings. These interviews offer tāngata whenua understandings, perspectives and aspirations relating to Māori responsiveness in climate change policy. As this research seeks to understand the way that current policy responds to Māori health, it was important for me to ensure Māori voice and knowledge would be imbedded within my research findings.

A total of 27 interviews were completed over a 6-month period as a part of the Haumanu Hauora project. I participated in three interviews of which I will draw upon in my research. Two individual interviews and one focus group interview. One participant contributed in their dual role as tangata whenua and a DHB staff member, and the remaining participants shared their perspectives as tāngata whenua. Recruitment and interview ethics were completed through the Haumanu Hauora project team.

Data Collection and Storage

All information from DHB websites was entered into an excel spreadsheet and saved to a secure computer where files were locked and required password access. The excel spreadsheet was only shared with my supervisor for the purpose of helping to code and analyse entries for the Haumanu Hauora project.

Interviews were electronically recorded using the Zoom record function. I then downloaded the recording and sent the file to the project manager for Haumanu Hauora. The project manager organised transcription of the interview recordings as a part of the wider Haumanu Hauora project. A copy of the interview transcripts and recordings were sent to my supervisor for storage within the Haumanu Hauora project. For any correspondence within this research, I used my Waikato University student email address.

⁷ See Appendix B

⁸ See Appendix C

Interview Process

Within this research, qualitative methods were used to further understand climate change policy implementation from a DHB perspective. The chosen qualitative method was one on one interviewing. Participants were required to be involved in a 45–60-minute interview. During this interview they were asked to answer short questions in relation to their knowledge of climate change policy, policy implementation and health sector responsiveness to Māori. The interview style was conversational and an interview guide is attached as Appendix E.

Interviews in this research were a mix of face-to-face as well as teleconference interviews. This was due to the COVID-19 pandemic, as well as location and convenience for participants. Teleconference was agreed to be the preferred method for the participants as they could easily fit interviews into their work schedules. The teleconference platform used was Zoom. Interviews completed face-to-face were those I was a part of for the wider Haumanu Hauora project.

Teleconference meetings were scheduled by the researcher with a Zoom link shared between the researcher and participant via email. An email was also sent with an attached consent form. The participant could complete the form electronically and return it to the researcher or provide verbal consent during the interview. Whakawhanaungatanga occurred before interview questions commenced. The interview then moved to the formalities of ensuring the participant had read the information sheet, understood the research and was comfortable providing informed consent to participate in the research. Before beginning the interview questions, a karakia was led by the researcher. The interview began by understanding the participants position on climate change, and then following the interview schedule attached as Appendix E.

Once the interview questions were completed, the participant was asked if they had anything further to add, or any questions about the research. The process that would occur following the interview was explained. A transcript of the interview was returned to the participant within two weeks. The participant was then asked to review their transcript and provide feedback regarding any changes they would like to be made. Participants had two weeks to make any changes, and/ or withdraw from the research. This information was explained before the end of the interview and provided in the information sheet. No participants withdrew from the research within this time.

Informed Consent

The environmental scan method within this research used publicly available data from DHB websites. Therefore, no locality consent was required from DHBs for this section.

Within the initial recruitment email, potential participants were provided with an electronic information sheet. Once they had agreed to partake in an interview, they were sent a consent form via email. Included within both the consent form and information sheet, were contact details for my supervisors. Participants were invited to contact my supervisors if they had any further questions about the research. The consent form was further discussed at the beginning of the interview with participants. It was reiterated that participation in the research was voluntary and that participants could withdraw their consent anytime during the interview process, and up to two weeks after receiving their interview transcript.

Participants

Participants in this research were DHB staff members (2) and MOH staff members (1). All participants were working in the area of sustainability or climate change and had a wealth of knowledge and experience to contribute to this research. Participants were assigned pseudonyms to ensure their contribution remains confidential. Pseudonyms and participants connection to the research is presented in the table below. Limited information for each participant is provided to reduce the likelihood that they will be identifiable.

Table 3.

Interview Participant Pseudonyms and Connection to Research

Pseudonym	Professional connection to research	Personal connection to research
Jennifer	Has worked in the area of renewable energy, health and sustainability for a number of years. Is well connected to sustainability initiatives across the country and has a good understanding of the shifts that have occurred within health in response to climate change over time.	Has seen firsthand the impacts of industries on climate change and wanted to make a positive difference in this area.
Sue	Has worked in the area of sustainability for 25 years and has both a personal and professional connection to the environment. Is passionate about the intrinsic link	Has completed academic research in the area of environmental science and was a part of work with contaminated land sites and polluted waterways. This made

	between healthy people and a healthy environment.	extremely clear what happens for people when you do not care for the health of the environment. These experiences have solidified a personal and professional connection to environmental health for Sue.
Nicola	Nicola worked in one of the earliest sustainability healthcare roles established and has worked alongside pioneering healthcare practitioners who have advocated for climate change to be discussed and sustainability to be imbedded within healthcare. She remains working in the area of healthcare and sustainability.	Nicola has always felt an intrinsic and empathetic connection to the planet and the land. Living in New Zealand has shown Nicola how indigenous culture can guide us back to a way of being deeply connected to the land and caring for land in a way that establishes positive environmental outcomes for people. She has seen firsthand the waste that occurs within the hospital context and was inspired by the green healthcare movement. She has a passion for advocating for change within the system to create better environmental outcomes.

To provide further depth to my understanding of Māori health and climate change, I drew on interviews from the Haumanu Hauora project. Because this research is focused on responding to Māori health, I felt it was important to include Māori perspectives in my research. When discussing this with my supervisor, the inclusion of relevant tāngata whenua interviews from the Haumanu Hauora project was suggested. As I did not lead this piece of research, I have not included pseudonyms or participant information and will identify their input through using;

- Tangata Whenua Interview One
- Tangata Whenua Interview Two
- Tangata Whenua Interview Three

Privacy and Confidentiality

As my interviews were completed online, I completed interviews while at home. I ensured that I was the only person at home during this time so that interviews would remain private and confidential. My supervisor has been sent the interview transcripts and recordings for safe storage within the Haumanu Hauora project files. Participants agreed within the consent form for their

information to be included in a research report, and as a part of the wider Haumanu Hauora project. All transcripts and recordings have been kept in a locked file on my computer and will be deleted following the completion of this thesis. The interview transcripts and recording will remain in with the University of Waikato for five years and will then be destroyed.

Due to the involvement this research has with the wider Haumanu Hauora project, all researchers within the project have access to the interview recordings and transcripts. A confidentiality agreement has been signed with all researchers to ensure privacy and confidentiality within the project.

Chapter Three: Findings and Analysis: Environmental Scan Climate Change

Chapter Summary

In this chapter I will present the findings from stage one of the environmental scan of 17 DHB websites. As I discussed in Chapter Two, the environmental scan within this research was completed in two parts, a search using eight climate change terms and a search using seven Māori health terms. To accurately represent the findings from both sections I will discuss them separately in the following two chapters.

Chapter Three is focused on the climate change search terms as part one of the scan. In this chapter I will first present themes related to climate change findings, and then themes related to Māori health findings. Key themes include an overall lack of information on DHB websites that is inconsistent across regions. Where climate change and Māori health policy were identified on DHB websites, there was a gap in recognition of the interconnection between Māori Health, the environment, and the impacts of climate change. The findings related to these themes will be discussed throughout this chapter.

Toward the end of this chapter, I have drawn on the He Korowai Oranga framework to complete an analysis of findings against a Māori Health Framework. I have drawn on elements from the framework that are closely linked to themes I identified in my findings. Analysis using this framework will support my understanding of the extent to which identified climate policy is responding to the health needs of Māori.

Climate Change Information Identified on DHB Webpages

The method of an environmental scan in my research developed a national picture of DHB climate change responses that were accessible online. As the method drew on online information, access to DHB policy, strategy or responses to climate change related to health was challenging. This was a result of online search engines that produced results unrelated to search terms as well as information being discussed within a broader document unrelated to climate change. My experience accessing DHB information raised concerns about the public accessibility of information related to health responses to climate change.

Inconsistent DHB search engines made it difficult and time consuming to access climate change information through DHB websites. There were differences

across webpages in the quality and volume of information appearing for the search terms used in my scan⁹. The range of search results on a webpage was significant and ranged from zero results to over 1,000. When DHB search engines provided high numbers of documentation, it was difficult to identify relevant information. I have included a summary below in Table 4 using three search terms per DHB to demonstrate inconsistencies across DHBs, the volume of results appearing and the types of documents that discussed climate change.

Table 4 includes the search term 'climate action,' where Mid-Central Health webpage had 52 search results. Of these, two were relevant to the search term and included an annual plan and a wellbeing strategy. Taranaki DHB had 494 results for the search term 'Sustainability' and six of these were relevant. These examples illustrate that identifying information relevant to my search terms, required scanning high numbers of DHB documents.

Of the documents that were identified as relevant to my search terms across the 17 DHBs, 11 were annual plans, one annual report, 11 sustainability webpages, two wellbeing plans, two sustainability policies, one sustainability action plan and one sustainability strategy, one emissions management and reduction plan, a health needs assessment, and a Māori Health Strategy. This finding illustrated that it was more common for climate change information to exist within wider DHB documents than it was for a DHB to have a specified document outlining policies related to climate change or sustainability. An absence of climate related policies suggests that DHBs lacked institutional responses to climate change. Rather, they would focus on areas that were measurable and guided by national targets. I identified these focus areas through trends in the data gathered through stage one of the environmental scan.

Within the relevant information identified across DHBs, I identified key trends in the way DHBs were responding to climate change. DHBs used the word sustainability to describe their responses to climate change and focused on key areas including, waste, procurement of sustainable businesses, energy use, transport, and water management. Further many of the DHBs promoted registered with Toitū Envirocare where they measured their carbon reduction over time.

Overall, the information I gathered through this section of the environmental scan was limited, difficult to find and related to operational elements of the DHBs response, not to communities. The information that was available took time to access and illustrated that DHB climate change policy is variable and difficult for the general public to access and understand.

⁹ See search terms as listed in Table 2 page 34.

Table 4.
Number of results and types of documents identified within three search terms

DHB Name	'Climate Change' search term	Number of results	Number of relevant results	'Sustainability' search term	Number of results	Number of relevant results	'Environmental health' search term	Number of results	Number of relevant results	Document types	Discussion of Māori Health and Climate Change together
Auckland		1	1		1	1		1	1	Web page	None
Capital and Coast		0	0		7	1		1	1	Web page referencing repurposing of equipment. Waste reduction.	None
Counties Manukau		11	2		5	4		6	3	Web page detailing membership with Global Green and Healthy hospitals and detailing sustainability goals related to waste, energy, transport building and purchasing, detailing Toitū accreditation and emissions reductions over the last year.	None
Hawke's Bay		1	1		5	4		6	1	Webpage, Toitū accreditation, Annual Plan, Sustainability Policy Document	Yes
Hutt Valley		0	0		6	2		2	0	Webpage, Annual Report, Annual Plan, Wellbeing Plan.	No. Māori Health and Environments are discussed with reference to immediate environments – homes, places of work and neighbourhoods.
MidCentral		58	3		270	3		260	3	Annual Plan, Webpage, Wellbeing plan, Community Submission	Yes. Environment not climate change.
Northland		10	2		9	5		6	0	Webpage, Sustainability Action Plan, Carbon Footprint Report, Media Release	Yes.
Tairāwhiti		1	0		1	0		12	0	No relevant information identified.	No
Taranaki		46	5		494	6		181	5	Webpage, Annual Plan, Magazine, Research, Presentation to the Board by Sustainability Lead	Yes
Wairarapa		0	0		2	1		2	0	Webpage	No
Waitematā		76	6		420	8		353	5	Official Information request – included Sustainability Case for Waitematā DHB proposed elective care inpatients building, Sustainability Strategy, Sustainability Policy, Emissions Management and Reduction Plan, CEMARS Certification, Submission, Media Release, Core Design Principles Document, Health and Needs Assessment	Yes
Whanganui		75	5		6	0		559	2	Webpage, Annual Plan, Submission to local council, Māori Health Strategy	Yes
Canterbury		9	7		10	0		54	0	Official Information request: Included Briefing of CDHB responsibilities for Environmental Responsibility, MOH Survey, Annual Plan, Climate Change Stocktake, Terms of Reference for the Transalpine Environmental Sustainability Governance Group.	Yes
Nelson-Malborough		152	1		17	0		678	2	Annual Plan, Webpage	Yes
South Canterbury		310	2		24	1		1,679	0	Annual Plan	
Southern		210	0		48	0		10	0	Annual plan identified in 'Climate Action' search term	No
West Coast		10	5		6	1		6	0	Annual plan, Webpage and Official Information Request including the same documents as Canterbury DHB website.	

Variation Across Regions

Using an environmental scan to examine 17 DHBs showcased the variation in DHB responses to climate change across regions. Utilising the scan methodology, I observed regional and national trends in the health response to climate change. In this subsection I will discuss differences in climate change policy across regions, as well as differences in responses to Māori health and climate change and commonly identified DHB responses across regions.

The environmental scan highlighted a substantial lack of cohesion in DHB responses to climate change across regions. DHB responses to climate change will have a direct impact on the health and well-being of communities. Inconsistencies in policy can lead to inequities across regions. I found inconsistencies across regions to be a notable finding of my environmental scan and it is worthy of careful consideration in this research.

Variation in Climate Change Documents

The extent to which DHBs had developed specific sustainability policies was inconsistent across DHB localities.

Those DHBs that had information related to climate change on their website, had easily accessible sustainability policies in place. Whereas those who has limited or no information about climate change on their webpage had no accessible policy and did not mention sustainability or climate change in any of their annual plans or strategies. The available webpage information demonstrated the level to which a DHB was responding to climate change.

For example, Tairāwhiti, a coastal region in Aotearoa, had no information relating to climate change or sustainability listed on their DHB website. This was in comparison to Northland DHB who had an easily accessible sustainability webpage that featured an Action Plan, Carbon Footprint Report and information regarding registration with Toitū Carbon Reduce and membership as a Global Green and Healthy Hospital.

An indication of the level of commitment to responding to climate change was demonstrated across DHB localities through the employment of a sustainability manager. Some DHBs had staff that volunteered to support the area of sustainability. Volunteer groups often working on activities including active modes of transport campaigns, recycling initiatives and small garden projects. In comparison to this, where funding had been committed for a sustainability manager, evidence of strategic level action was evident on webpages.

Māori Health and Climate Change Policy

Within the climate change section of the environmental scan, I established two columns for recording information related to the impacts of climate change for Māori, as well as any Māori health frameworks identified. Throughout the climate change scan, information related to Māori health was variable.

This variability is closely linked to the above theme in that DHBs across localities, did not consistently recognise the interconnection of climate change and Māori health. There were limited DHBs that identified Māori health needs and considered them in relation to climate related health risks. Out of 17 DHBs examined, 14 had documentation relating to climate change and of those, five, made mention of the impacts of climate change on Māori health with an equity lens.

Kaitiakitanga was referred to by four DHBs to describe their level of responsibility in caring for the environment. Some DHBs expanded on their reference of kaitiakitanga by describing how they were supporting Māori to be kaitiakitanga of the environment, while also doing their part to reduce the impact on the environment. For example, Hawkes Bay DHB includes the following statement in their Sustainability Policy “*HBDHB recognises its responsibility to tāngata whenua to act together as kaitiaki in the active management of our operations in an environmentally sustainable way*” (Hawke’s Bay District Health Board, 2018).

In a submission to Whanganui District Council’s long-term plan, the Whanganui DHB included the following:

The protection of these reserves is inextricably linked to better health and wellbeing. Local guardians - Kaitiakitanga - have an active role to play in the health and wellbeing of wetlands and coastal areas. Integrating a Te Ao Māori world should acknowledge the work of local kura and collaborate with those communities already undertaking restorative work (Whanganui District Health Board, 2021).

There is some recognition within these findings of the important role that tāngata whenua have as kaitiaki of the environment. However, neither of these examples provided guidance related to action the DHB was taking to support these statements.

Other than reference to Wai Ora as a part of He Korowai Oranga strategy, there was no reference to Māori health frameworks in the area of climate change throughout this section of the search.

Across the 17 DHBs inclusion of Māori health in climate change strategies was limited. When identified, the inclusion was usually a statement not a well-defined action. Furthermore, these statements were time consuming to access and required knowledge of the documents. Clearly outlining Māori health needs in relation to climate change would support not only the DHB responses, but also communities accessing policy to understand the way that Māori health will be impacted by climate change.

Legislation that Created Cohesive Action Across DHBs

The previous themes described findings indicating considerable difference in climate action across DHBs. Where my findings showed similarities in DHB responses across DHBs, they were most often linked to central government legislation and directives, including the Carbon Neutral Government Programme.

Under the Carbon Neutral Government Programme Government organisations are required to *“measure, verify and report their emissions annually, set gross emissions reduction targets and longer-term reduction plans, introduce a plan to reduce their organisation’s emissions, offset remaining gross emissions from 2025 to achieve carbon neutrality”* (Ministry for the Environment, 2023). Similarities were identified across DHBs in areas of emissions measurement and reduction.

It was common for DHBs to be registered with Toitū Envirocare programmes to measure and report on annual emissions. Across regions, DHBs were also introducing electric vehicles into their fleet cars. This work was partially funded through the Carbon Neutral Government Programme and would significantly reduce hospital emissions. This action aligns to the requirement of reducing the organisations emissions.

Climate Action Outside of Legislative Direction

Outside of legislative direction, the environmental scan highlighted a small number of examples where DHBs were responding to climate change in innovative ways. Examples across regions included community partnerships through waste initiatives as well as plans to work closely with local Iwi to identify the needs of Māori in relation to climate change.

Two DHBs were using health needs assessments to identify possible impacts of climate change for vulnerable populations. Others acknowledged the importance

of indigenous practices as a response to climate change and the desire to collaborate with Māori communities. These examples indicated that select DHBs were thinking about and implementing health responses to Māori health in the context of climate change, however, these kinds of responses were not institutional or consistent across all 17 DHBs.

Summary

The climate change scan identified significant variation in responses across regions. Although there may be benefit in applying unique approaches to respond to the needs of communities, the inconsistencies highlighted within this section, emphasise a lack of cohesion and direction within the health sector in the response to climate change.

As I indicated earlier in this chapter, inconsistencies in DHB climate change policy have the potential to create inequities across regions. Regions where there is considerable vulnerability to the impacts of climate change have no apparent health policy in place. It is therefore essential that there is a consistent response from DHBs across localities to climate change and Māori health.

Where consistent approaches were identified across regions, they were directly linked to the requirements of legislation. This highlights the integral role of considered legislation that influences systemic change across the health sector.

The positive examples identified indicate that it is within the scope of the health sector to respond to climate change in a way that recognises the intrinsic link between Māori health and climate change. Legislation has an influence whereby this recognition can be built into the requirements of the health sector to create a unified, considered response across regions.

Analysis of Themes Drawing on the He Korowai Oranga Framework

In this section of the chapter, I will complete an analysis of findings using selected elements and threads from the He Korowai Oranga Māori Health Strategy discussed in Chapter One. I have drawn on elements from the framework which are closely linked to themes I identified in my findings. Analysis using this framework will support my understanding of the extent to which identified climate policy is responding to the health needs of Māori.

Findings from my scan indicated that when referring to Māori health concepts, DHBs were not capturing the significance of the concepts, particularly Wai Ora within their responses. Examining the way that Māori health concepts were

drawn on throughout DHB climate change documentation, will further inform my answer to research objective two.

In the introduction chapter, I described that within the strategy achieving Wai Ora specifically refers to health sector responses to the impacts of climate change. In the environmental scan, DHB websites or documents mentioned Wai Ora without discussing their planned response to achieve healthy environments for Māori. Similar findings were observed within the Māori Health stage of the environmental scan which will be discussed in Chapter Four.

Wai Ora: Healthy Environments

Within the climate change stage, six DHBs out of 17 mentioned Wai Ora in their annual plan. For four DHBs no follow up actions were listed to achieve Wai Ora as a part of the plan.

Two DHBs considered the concept of Wai Ora alongside actions within their annual plans. Whanganui DHB discussed commissioning kaupapa Māori services and working with them to improve financial and environmental sustainability, as well as ensuring all procurement processes considered environmental sustainability. The DHB also promoted air quality within Wai Ora by committing to and promoting smokefree environments.

In a report describing the Canterbury DHBs sustainable development approach to health improvement, the DHB listed Wai Ora as a key outcome for the Canterbury DHB Māori Health Framework. This was discussed with reference to He Korowai Oranga, and actions included collaborating with an Iwi provider, Te Hā o te Ora Māori and the community to work towards Wai Ora (Canterbury District Health Board, 2017).

A document that was of particular interest was the 2020-2023 Whanganui DHB He Hāpori Ora Thriving Communities Strategy Document. The document started with a mihi to acknowledge the Whanganui River as a significant part of the area “Ko au te awa, ko te awa ko au. I am the river and the river is me” (Whanganui District Health Board, 2020, p.2). The Whanganui River has legal personhood and within the document, the DHB has acknowledged the significance of this. However, throughout the document there was an absence of commitment to supporting the intrinsic link between Māori in the region and the river and natural world. Rather, the focus of Wai Ora was on the immediate hospital environment.

Across 17 DHBs the inclusion of Māori health concepts throughout this search was limited and highlights a significant gap in climate change policy. Those DHBs

that did refer to Māori health concepts did not follow up with key actions the DHB were taking to reach Wai Ora for Māori. These gaps illustrate the extent to which Māori health is considered an important part of the health sectors response to climate change.

Working Across Sectors to Respond to Climate Change

Working across sectors is a key element of the He Korowai Oranga Māori health strategy. This section of analysis will describe any DHBs working with other health sector agencies, Māori health agencies and the community social sector to support Māori health in the context of climate change.

Key partnerships were identified throughout the environmental scan. I have grouped these into three subheadings as follows:

Partnership Across DHBs

From my findings, I identified common areas of partnership where DHBs were working together in the area of sustainability. Most often, these partnerships were listed on the DHB sustainability webpage and in sustainability plans and policies.

Specific areas of collaboration included networking groups, forums and competitions as well as collaborations across DHBs in close proximity that focused on sustainability outcomes. DHBs in the Auckland and Northland regions had created a network to assess the climate related risk for their communities. A similar alliance had been developed between Canterbury and West Coast DHBs who established the Transalpine Environmental Sustainability Governance Group. This group provided leadership and oversight to the two DHBs to guide their response to climate change. The networks mentioned illustrate approaches to working across DHBs to collectively address the impacts of climate change.

DHBs were also a part of climate change networks like the National Sustainable Healthcare Network and Global Green and Healthy Hospitals. Those DHBs that were a part of these networks seemed to have a Sustainability Manager to represent the DHB and contribute to the network.

Northland DHB explicitly outlined their desire for collaboration in their Sustainability Action Plan. Collaboration is listed as one of the five success drivers for achieving sustainability. An action is attached to this driver as "Sign EECA energy collaboration agreement and create short energy plan for support, audits, guidance and funding" "Collaborate with other DHBs on procurement initiatives and criteria in joint in joint contracts and develop a regional

sustainability procurement policy” (Northland District Health Board, 2017, p.16 – 23.).

DHBs within the environmental scan showed positive collaboration across the health sector. The establishment of networks provides a space for those working in health and sustainability to come together and work for a collective goal. Partnerships across DHBs supports one of the He Korowai Oranga pathways to reaching Pae Ora.

External Partnerships

A common theme relating to external partnerships was collaboration in the area of waste. A number of DHBs partnered with community agencies to develop initiatives that reduced the hospital waste ending up in landfill.

In a media release identified on the DHB website, Hutt Valley DHB had collaborated with Matta Products in Ōtaki to use tubing from the hospital as matting for children’s playgrounds. Wairarapa DHB worked with the same company to recycle fluid bags, oxygen masks and tubing to be used for the mats. Wairarapa DHB also worked with a hospital in Samoa to send them old theatre lights when they upgraded to a more energy efficient option.

On the sustainability webpage for Capital and Coast DHB a collaboration was identified with Digital Wings Trust. The DHB had worked alongside Digital Wings to donate IT equipment for repurposing. A media release on the Taranaki DHB webpage described their work with Future Posts to divert 44 tons of soft plastic across all hospital department from going to landfill. Instead, Future Posts used the soft plastics to make fence posts.

These kinds of initiatives provide an example of the way that the DHBs can partner with non-government agencies as they reduce waste in the hospitals while supporting local communities.

A common partnership DHBs had was with Toitū Envirocare. Ten out of 17 DHBs were accredited with Toitū Envirocare, previously known as Carbon Emissions Measurement and Reduction Scheme (CEMARS). DHBs were working with Toitū Carbon Reduce programme to measure and reduce their emissions. This relationship was likely in response to the Carbon Neutral Government programme that requires the state sector to be carbon neutral by 2025. The programme is being managed by the Ministry for the Environment, Energy and Efficiency and Conservation Authority, and the Ministry of Business, Innovation and Employment. According to their website, Toitū receives funding from the Ministry of Business, Innovation and Employment. DHBs have reacted to

government mandates by working with Toitū to measure emissions, and some are working alongside the Ministry of Transport and local councils to reduce their emissions output.

Five DHBs made mention of working with local and regional councils to support a sector wide response to climate change. Work with council included implementing Go Car Free Day, waste initiatives, sharing best practice knowledge and developing submissions to council long term plans.

Across the 17 DHBs the above themes were representative of the collaboration that was happening in the area of climate change. Predominantly, external collaboration occurred through waste initiatives or through work with Toitū or local and regional council.

Whānau, Hapū, Iwi, Community Development

The first stage of the environmental scan identified a significant gap in DHB partnerships with local iwi, hapū and marae as a part of their response to climate change. DHBs sit alongside Iwi Māori Governance boards; however, the support of the board was not referenced when discussing climate change. The only DHB that discussed the influence of local Iwi was Hawkes Bay. The 2020-21 annual plan discussed inclusion of a Ngāti Kahungunu lens in relation to environmental sustainability. Other DHBs did not mention how they planned to partner with iwi as a part of their response to climate change.

There are challenges that exist in establishing these relationships and these are further discussed throughout the interviews in this research. However, my findings suggest that partnering with mana whenua was not a focus area for DHBs responses to climate change.

Chapter Four: Findings and Analysis: Environmental Scan Māori Health

Summary

In this chapter, I will present the findings from stage two of the environmental scan. In stage two of the scan, I used seven Māori health search terms to identify existing Māori health policies related to climate change¹⁰. Through the search, I identified key themes that are presented in this chapter. This section of the scan also identified opportunities to enhance the connection between Māori health and climate related policies. Findings related to this interconnection will be offered.

Comparable to the climate change stage of the environmental scan, accessing documents in the Māori health stage was time consuming. The search produced documents with an overall lack of information that recognised the link between Māori health and climate change.

When each search term was entered, the number of results that appeared could be up to 1,000. Only a small portion of these results were relevant to my search terms. For example, using the term “Māori Health Strategy” in the Taranaki DHB website search resulted in 636 listed links to documents or webpages. Only five of these links included Māori health strategies, frameworks, plans or information related to Māori health that I could use to inform my research.

Within the Māori health stage of this search, Māori health frameworks were more frequently identified in policies and on DHB websites. In this chapter I have described findings related to climate change and Māori health frameworks as well as highlighted where opportunities exist to better utilise the framework to support climate responses.

DHB Relationships with Māori, Iwi and Hapū

The findings from the climate change stage of the scan gave reason to infer that DHB relationships with Māori, iwi, and hapū are not foundational throughout policy related to climate change. The Māori health stage of the scan provided the opportunity to understand the level to which relationships with Māori were foundational in a different range of strategies, plans and DHB documents. This theme will further explore the way DHB relationships with Māori were described

¹⁰ See Māori Health search terms as listed in Table 2 page 34.

in this stage of the scan, and if these relationships were facilitated within climate change or sustainability work.

The key focus of relationships with iwi throughout documents in this stage of the scan was through support received from Iwi Māori Governance Boards. Out of 17 DHBs, six referred to relationships with the Iwi Māori Governance Board. Aside from these relationships, DHBs referred to their work with Māori health organisations or health providers such as Te Piki Oranga in the Nelson Marlborough region.

In my analysis of the documents, there were factors that influenced what I saw to be stronger relationships between the Iwi Māori Governance boards and DHBs. Within documents when DHBs honoured the partnership with their local Iwi they described their important role within the DHB to address the needs of Māori health. Further strength in this area was demonstrated when DHBs outlined the role that local Iwi had in protecting the environment, with the goal of improving Māori health. Those DHBs that appeared to have less established relationships with iwi in work related to climate change did not discuss working alongside iwi to reduce their impact on the environment. Some would mention that Iwi have a role, however, did not describe the way that the DHB planned to work with iwi to address the impacts of climate change on Māori health.

An example of the above was noted within the Waitematā DHB Annual Plan 21/22. This document recognised the relationship between equity and environmental sustainability. A planned response was “connecting with our Iwi and Pacific partners to develop an overarching sustainability vision”. However, the document did not include an explanation of what “connecting” with these partners entailed. There was no explanation of how this relationship would function to ensure equity in the space of climate change. The example from Waitematā DHB differed to the way that Taranaki DHB discussed their relationship with local Iwi.

An explanation was provided within the Taranaki Public Health strategic plan, Māori health plan, Māori health strategy and Green Spaces Document DHB that illustrated work between the Iwi and the DHB was being implemented related to climate change. These plans and strategies also outlined tangible projects to work alongside the board in the space of climate change. The projects included working with iwi to complete a cultural assessment of rivers, streams and catchments within the area, creating green and cultural spaces on DHB grounds as well as implementing Rongoa Māori health practices using gardens on DHB grounds.

There was recognition within these Taranaki DHB documents that the DHB cannot lead projects to respond to Māori health, but rather they needed to support the Iwi to lead responses to Māori health. The difference noted here was that the Taranaki DHB outlined specific projects where they were working alongside iwi to respond to climate change to support Māori health. Importantly, the Iwi had a strong role to play as they had developed a governance body Te Whare Punanga Kōrero to provide this governance support to the DHB and advice for Māori health.

Māori participation within the health sector is a pathway to reaching Pae Ora within the He Korowai Oranga strategy. Therefore, understanding the extent to which this is occurring in the context of climate change is important to understanding the DHBs response to Māori health. Although six DHBs discussed their relationships with iwi, not all their work directly related to climate change. There is a gap in recognition of the holistic nature of Māori health and the importance of engaging with Māori regarding environmental issues. Only small glimpses of potential were identified within the documents as opposed to on-going and coordinated work streams.

Recognition of the Impacts of Climate Change for Māori Health

The introduction section of this thesis describes the intrinsic link between Māori health and the environment, and therefore the link to climate change. Throughout the environmental scan, there was very little recognition of this link. Further, there was limited description of how DHBs would respond to Māori health while ensuring the protection of the environment as an important aspect of Māori health. This theme will present findings related to how Māori health documents recognised the impacts of climate change on health, as well as how they failed to do so.

Throughout the scan, I identified the lack of cohesion in information that referred to the environment, Māori health and climate change. For example, a DHB discussed the use of waka ama to connect Māori people to the environment and therefore improve their health. An initiative such as this provided an example of where the DHB had considered the natural environment as a part of a person's mental and physical health.

A positive example of DHBs recognising the connection was within the Te Matakite – Māori Health Plan 2016-2017. Here, Taranaki DHB discussed a priority under the Pae Ora framework as a cultural and biological assessment of Taranaki streams, catchments and rivers. This was a project that the DHB were supporting the Iwi to complete and that demonstrated their understanding of the intrinsic link between Māori health and the environment.

Aside from the positive work of Taranaki DHB, it was uncommon for the natural environment to be discussed within DHB documents. Therefore, these are areas that could be strengthened to recognise and respond to the impacts of climate change for Māori health. Through the search there were small aspects where the environment and Māori health were connected. However, the information I found in my search appeared to be mismatched and lacked a cohesive approach that recognised the holistic nature of Māori health and therefore the flow on impacts of climate change.

Responding to Climate Change with an Equity Lens

Within the search, equity was a key aspect of DHB policies and strategies. Ensuring equitable health care was included as part of the Letter of Expectations to DHBs from the Minister of Health for 2022/2022 and is a focus area in He Korowai Oranga (Te Hiringa Hauora, Health Promotion Agency 2021/22). Therefore, finding responses to this in my search was expected. However, only a small number of DHBs had recognised the link between climate change and equitable health care for Māori. Previous research has shown strong support for this link and the possibilities for DHBs to address equity in the context of climate change. The lack of consideration for this link identifies a significant gap in DHB Māori health policies.

Enhancing DHB Initiatives to Respond to Māori Health and Climate Change

The following theme describes the overall findings of the way that Māori health initiatives were discussed within the identified Māori health documents. Most often, initiatives were not developed to respond to the impacts of climate change. However, throughout my observation of Māori health initiatives listed in the documents, they encapsulated holistic responses to health. Through holistic approaches to health, the environment was considered and therefore links could be made to climate change. I will draw on examples from the documents to describe this theme below.

The MidCentral DHB 2005 Respiratory Plan stated that environmental factors including air quality are risks for respiratory disease. Further, the document acknowledges that Māori experience asthma at higher rates than non-Māori resulting in inequitable respiratory outcomes for Māori. The plan describes targeted prevention and screening initiatives based within marae and community settings. Furthermore, the DHB plan to work across sectors and partner with Horizons Regional Council to support policy that reduces air pollution and supports improved housing initiatives. This specific example

suggests that DHBs are working in areas to target climate related health risk and further consideration of climate change would support a holistic approach to health.

Similarly, an initiative responding to Māori health needs was identified within the Taranaki DHB Public Health Unit Strategic Plan. The planned initiative addressed environmental health, Māori health and community development for whānau, hapū and Iwi. The specific focus of the initiative was to work with the Parihaka community to enhance sustainable infrastructure. Specifically, to support Parihaka to identify sustainable water supply and wastewater systems. The initiative addresses a specific environmental health need, while also working to improve Māori health. However, as with the previous example, there is no link between how the impacts of climate change for Parihaka could be considered, or the intrinsic link between Māori health and the environment.

These two examples represent common features throughout Māori health initiatives identified in the Māori health scan. Māori health policy, strategies and plans respond to the needs of Māori in a way that does not consider the interconnectedness of each initiative outlined. There are likely to be challenges to ensuring that strategies and policies are aligned however, a well-rounded and considered approach will ultimately benefit the DHB and Māori communities.

Further consideration of barriers and facilitators in enhancing Māori health initiatives to respond to climate change will be discussed in Chapter Five through the analysis of interviews.

Māori Health Frameworks

Throughout the second stage of the scan, Māori health frameworks and concepts were referred to more frequently than within stage one. Identifying Māori health frameworks within the scan, gave the ability to compare DHB action with intended outcomes of identified Māori health frameworks. I will further consider these specific DHB plans and policies against Māori health frameworks in Chapter Six to understand alignment with Māori health outcomes.

Throughout stage two I included Māori health plans and strategies that were not specific to Māori health. This was due to the holistic approach of the plans, which although not explicit, provided insight into how DHBs may be considering the environment alongside the health of Māori.

Documents where Māori health frameworks were identified, included Māori health strategies, plans, equity frameworks, and health needs assessments. Commonly identified frameworks were He Korowai Oranga, Te Whare Tapa

Whā, Treaty Based Frameworks, The Whānau Ora Outcomes Framework and the Pae Ora Healthy Futures Bill.

When analysing the documents, there was considerable variation in the extent to which DHBs included Māori health models in their responses to climate change. Those DHB regions who had included Māori health models in policies and strategies had Māori health models as a foundation for responding to Māori health needs. Others referenced Ministry of Health guidelines without appreciation for the significance and interconnection of the concepts within the Māori health models.

For example, I commonly found that DHBs misrepresented the concepts within the He Korowai Oranga framework. This was often in relation to the concept of Wai Ora. He Korowai Oranga describes achieving Wai Ora to have healthy environments for Māori to live work and play as well as ensuring healthy air quality, water quality and to deal with the impacts of climate change on the natural environment. Within DHB plans and strategies I noted that Wai Ora was frequently discussed as changes to the immediate physical environment. These included environments such as green spaces inside hospitals, creating safe environments for staff, or the need for dry and warm homes. Although these are important environmental aspects within the hospital, I consider the absence of consideration for the natural environment to be as a significant gap within many DHB strategies and policies.

In comparison, other DHBs captured the essence of a holistic response to Māori health and included concepts from the Māori health models mentioned.

In the MidCentral DHB Māori health strategic framework – Ko Ao, Ka Awatea, (2017 – 2022), the links between Whānau Ora, Wai Ora, and Pae Ora, were made through their inclusion of the following statement from the Whānau Ora Outcomes Framework. This statement was also made in the refreshed strategic framework as referenced below.

Whānau cultural, physical and spiritual wellness is inextricably linked by their access to, and engagement with, their natural environment. As Mana Kaitiaki (custodians), opportunities must be encouraged for whānau to be active participants and contributors to their natural environment in ensuring responsible and sustainable Mana Whakahaere (environmental management) (MidCentral DHB, THINK Hauora & Te Tihi o Ruahine Whānau Ora Alliance Charitable Trust, 2020, p. 9).

MidCentral DHB have also developed their own Māori Health Responsiveness Framework, Te Anaga Aroturuki Hauora Māori that was embedded with knowledge from Te Whare tapa Wha. Within this responsiveness framework, the DHB have developed one of their outcomes as – Te Hā O Te Māramatanga – good environment. The framework is comprehensive in that it acknowledges the importance of the environment for Māori health “Healthy living is about harmonising people with their environment” (MidCentral DHB, 2010, p. 23). The framework aims to measure the health of waterways, food sustainability, and conservation as well as level of engagement that Māori have in environmental activities. The framework is designed to be a monitoring framework looking across sectors within the community. The development of this framework demonstrates the key links between Māori health and the environment and how robust policy can complement both the environment and Māori health.

As with the climate change stage of this search, variation in responses across DHBs were notable. Some DHBs had more developed and holistic responses to Māori health policy and strategy, where others simply followed government guidelines. Those that were embedding a holistic response to Māori health based on Māori health frameworks, demonstrated the potential to achieve responses to climate change and the environment within their policy. However, this was not made explicit and could be strengthened to better support Māori health.

Health Needs Assessments

A key trend throughout the Māori health documents I analysed was the use of health needs assessments. DHBs applied health needs assessments as a tool to understand a variety of health indicators within their region. In relation to this research the health needs assessments were used to identify the impacts of climate change, particular how climate change would impact vulnerable communities. It was through these assessments that DHBs were able to identify the risks of climate change for vulnerable communities and approach the issue with a focus on achieving equity. Although the assessment was not a policy development tool, implementing this assessment demonstrated a positive step for DHBs to recognise the impacts of climate change on Māori health and vulnerable communities.

A useful next step following health assessments would be incorporation of assessment findings into strategies, plans and policies. From my observations, I could not see a cohesive link between the needs identified, and the way Māori health policy addressed the impacts of climate change for Māori. However, an encouraging example of how health needs assessments can positively influence Māori health policy was demonstrated by Taranaki DHB.

The Taranaki DHB Whānau Ora Health Needs Assessment was informed by the Whānau Ora and He Korowai Oranga frameworks. Findings from the assessment identified key needs for Māori organisations to achieve Whānau Ora. These included capacity building, strengthen whānau cohesion, increase effective disability services for Māori, and work across sectors to create change. From the assessment, four priorities were developed that later translated into actions within the Te Kawau Maro Taranaki Māori Health Strategy Refresh within the DHB (Taranaki District Health Board, 2020). The strategy included working across sectors, accelerating the delivery of kaupapa Māori services and working closely with iwi, hapū and marae to ensure prevention activities are implemented. These four priorities align with the He Korowai Oranga pathways to reaching Pae Ora.

The example above illustrates how health needs assessments can be used to understand the needs of Māori communities. If used more widely they can ensure DHB climate change policy responds to the needs of Māori communities. The identification of needs assessments in this scan illustrates that this tool is an important part of policy and strategy development.

Chapter Summary

This section of my research supported findings identified in stage one of the environmental scan. Interconnected policies across regions are inconsistent and hard to access on DHB websites.

Key themes identified that Māori health policies take a more holistic view than climate policies, however, they lack explicit links to climate related responses. There are opportunities for these links to be enhanced to ensure equitable Māori health responses are embedded in climate change policy. Further opportunities exist across positive initiatives in the DHB. These include the use of health needs assessments, respiratory plans that recognise the impacts of climate change and working with communities to develop sustainable infrastructure. There is an opportunity for DHBs to build on the existing interlinked policy to develop institutional responses to climate change that are responsive to Māori health.

Although six DHBs discussed their relationship with iwi, there are significant gaps in this area of work to develop the above responses that ensure effective Māori health and climate change policies. He Korowai Oranga explicitly states that Māori participation in the health sector is a pathway to reach Pae Ora. Māori led solutions is an area of work that my findings suggest could be amplified in future work. This will be further discussed in Chapter Six.

Chapter Five: Interview Findings

This research set out three primary research objectives. The first was to examine DHB climate change policy, the second to understand how climate change responds to Māori health and the third to understand the extent to which any identified policies were being effectively implemented within the region.

The above chapters discussed findings from the environmental scan methodology I implemented to identify climate change information on DHB websites. This methodology supported findings within objectives one and two of this research.

To better understand DHB climate change policy implementation within the regions, I used qualitative methods and completed interviews with DHB staff. I interviewed three DHB staff who were linked to DHBs with strong climate change responses, identified through the environmental scan stage of my research. Participants in this research were DHB staff members (2) and Ministry of Health staff members (1). All participants were linked to work related to sustainability and had a wealth of knowledge and experience to contribute to this research. Their positions at the DHB contributed to an understanding of systems perspectives. As discussed in the introduction section of this research, I drew on community psychology values including systems perspectives throughout this research (Institute of Community Psychology, n.d.; Roberston et al., 1989). Participants were intentionally chosen for their experience at the DHB working on strategy and policy related to climate change. This work shaped an understanding of the institutional and systemic responses within DHBs.

Participants were assigned pseudonyms to ensure their contribution remains confidential. Pseudonyms and participants connection to the research topic are presented in the Table 3 on pages 38-39 above.

To ensure the community psychology values of diversity, cultural pluralism and awareness were reflected within this research, Māori voices, perspectives and aspirations were represented in my understandings of DHB climate change policies (Robertson et al., 1989). I have drawn upon research findings from three tāngata whenua interviews I participated in through the Haumanu Hauora project. As these interviews were not a part of this research, I have kept their pseudonyms as Tangata Whenua Interview One, Two and Three. The interviews I have drawn on were two individual interviews and one focus group interview. One participant contributed in their dual role as tangata whenua and a DHB staff member, and the remaining participants shared their perspectives as tāngata whenua.

As described in Chapter Two, I implemented thematic analysis to analyse, and group the themes from my interview transcripts. The phases of thematic analysis are represented in Table 1. This chapter will describe the findings in refined themes I developed from the thematic analysis of the qualitative interviews.

Interview Findings Summary

In this chapter, I have refined the below codes to capture key themes related to my research objectives. In this section, I will outline the key findings, and in Chapter Six I will discuss and draw conclusions based on these findings.

Throughout the coding of my interviews, I identified reoccurring patterns in the interview transcripts. These included:

- Alignment of policy with Māori health
- Māori participation
- He Korowai Oranga
- Political context
- Working across sectors
- Regional difference
- Barrier
- Facilitator
- Equity

My interview findings are organised into five key themes that represent the refined codes from my interviews. Further in the chapter, I will discuss six key themes within an analysis using the He Korowai Oranga framework. The framework will support my understanding of how DHB climate change policy is responding to the health needs of Māori. All findings related to this framework have been discussed at the end of this chapter.

Key findings from interviews with DHB staff suggest that organisational culture and leadership support is key to effective climate change policy implementation. My interview participants highlighted that barriers to climate policy implementation include, a lack of financial commitment and leadership understanding, and facilitators exist when DHBs are committed to working across sectors to ensure wider community involvement in policy.

In this chapter, I have also drawn on the He Korowai Oranga framework to analyse my interview findings against a Māori health framework. The perspectives of my interview participants are strongly aligned to key threads of the framework. This alignment offers solutions for where areas of DHB climate change policy can be strengthened to ensure Māori health responsiveness.

The Influence of Organisational Culture on DHB Climate Change Policy

Across three DHB interviews, it was evident that the organisational culture of DHBs can significantly influence successful implementation of climate change policy. DHBs are complex organisations that have many competing priorities, including financial, patient care and safety, strategy and leadership and importantly medical needs. At times, participants described the barriers they faced in trying to ensure climate responsiveness was prioritised throughout the competing needs of the DHB institution. Nicola shared the ongoing tension within the DHB between critical patient care and financial support for climate change.

Some conversations at DHB should be exempt because it's the bottom line. So if you're taking money from the bottom line, then that's patients that are not getting operations. That's what they're going to say. But like I'm saying, nobody should be exempt because what's going to happen if they're exempt? They're not going to be bothered, are they, about mitigating? They need that. They need that stick. – Nicola

Jennifer and Nicola both described the importance of leadership endorsement to effectively implement climate change policy. Leadership support and endorsement was key to the success of climate policy implementation for their DHB. Both Jennifer and Nicola described a core aspect of their role being to build understanding and convey the financial benefits of climate change responses to their organisational leadership. They experienced significant barriers in being able to talk about climate change in leadership spaces, however navigated this by highlighting the benefits for other parts of the organisation.

I think just a general awareness that there is a bit of a problem is probably a little bit higher. So maybe, as I say, for us it has been a journey on the path and climbing and getting that awareness. – Jennifer

And actually if you look at electricity and energy savings, there's quite a bit of money that can be saved, so if you want to put a few scores and wins on the board, then it's quite good to look at those areas as well – Jennifer

You couldn't mention climate change in meetings with ELT and stuff like that. It was a taboo word because they were climate change deniers, and it would just infuriate them. "Don't mention it." "Right, okay." So what we did talk about was we talked about efficiency. What's good for the environment is good for the finances. What's good for the finances is good for the planet. What's good for the planet is good for health. – Nicola

Jennifer described how the department you work within at the DHB can influence the kind of climate change work you do. For example, if you report to the finance team your work will look different to if you work within the equity team. This provided insight into possible alternatives for climate change health policy to be integrated within different DHB departments that are not solely focused on measurable outcomes such as emissions.

How sustainability is organised within DHBs... Because there's quite a few differences as well, that some of them are more part of the facilities teams. Others are more part of a public health team.... So as I say, if you're part of a public health team, that you probably have more focus and [inaudible 00:42:06] on all your policies and your submissions and your advocacy and statements and things. And if you're part of a facilities team you're probably more likely to be involved in projects that have to do, with buildings and energy and fleets. – Jennifer

At times, participants shared their frustration with organisational culture and how it opposed the needs of climate responsiveness. This was a confronting learning as creating changes within organisations such as the DHB is multi-faceted. Nicola shared her frustrations about how the DHB operates in a way that creates high levels of waste and energy consumption and this directly countered efforts to address climate change.

[I'm] so frustrated by opening up packets upon packets of this pristine packaging, throwing it away, using this gadget which costs \$200 for like five minutes, and then throwing it away. – Nicola

It was so frustrating because they were so... and trying to get into their shoes, they weren't wired to think like that, just wired to have... they've got a budget, they've got massive pressures. They've got people to get through the doors safely and get well. You can see where they're coming from, but you've got to connect the dots. You've got to be a system thinker in this world. You can't just work in your little silo. – Nicola

In summary, organisational culture had a significant impact on participants ability to implement climate change policy in their locality. This was influenced by the competing needs of the organisation, particularly financial and leadership commitment. Participants talked to the ways that they overcame organisational barriers which was most often to sell the financial benefits and create understanding among leadership. However, this was often a journey over time for DHBs. Where sustainability work was located within the DHB was also a key influencing factor in successful implementation described by Jennifer. This has tangible impacts for success and will be further discussed in Chapter Six.

The Influence of Legislation on DHB Climate Change Policy Implementation

In the coding of themes, I identified that the political context was an influencing factor for DHB policy. However, as I have refined the themes from interviews, the key influence on climate policy implementation is the influence of legislation. In this theme I will present findings related to participants discussion of key legislation that has driven change in DHBs.

Participants noted the flow on effects of such legislation through a shift in the way climate change is addressed within the health sector. As awareness of the impacts of climate change on health grow, pressure to respond to the issue is growing on a global scale. Addressing climate change has become more of a priority for those in leadership positions and therefore moved from being a bottom-up approach to one that comes from the top down.

So it's probably been a bottom-up... It used to be a bottom-up thing. And I think now it's more a top-down as well that you have to start doing something. – Jennifer

And I think it's also just more requirements from the top to actually include it. It's only since the last I think, three years ago was the first time that we had to write something in our annual plan, or that there was questions asked... Every year DHBs have to reply to 300 questions on, I think it's for equality purposes, I don't know. But for the first time that they're actually starting to ask questions, do you have a plan? Do you measure your emissions. – Jennifer

It's kind of got better as the governments, as the policies have changed. The government have shown interest. It's a big global movement. It's got a lot better. – Nicola

The Zero Carbon Bill was identified as particularly significant for DHB responses to climate change. Through this Bill, the Carbon Neutral Government Programme was developed which requires DHBs to be carbon neutral by 2025. This has implications for DHBs as they work toward carbon neutral targets.

As a part of the Bill the state sector decarbonisation fund supports DHBs to replace fleet cars with electric vehicles as well as replace boilers, refrigerators, and lighting with more energy efficient options (Energy Efficiency & Conservation Authority, 2024). As described by participants, these initiatives have motivated DHBs to prioritise reducing emissions to meet the carbon neutral

2025 goal. An increase in funding through this legislation has also supported positive shifts in climate action in the health sector.

So the carbon neutral government programme has been really awesome in focusing the public sector on what needs to be done. And so we are very much using that as the next step on the DHBs journey to appropriately reporting our greenhouse gas emissions and putting it in place. – Sue

Well, in the climate change area, everything stems for us in New Zealand from Zero Carbon Bill now, doesn't it? ... So the Zero Carbon Bill sets the direction, and out of that has fallen so many other policies. The national climate risk assessment was part of the policy setting from the Zero Carbon Bill... So we've got the national climate risk assessment. Within that, they also said that we have to have a national adaptation plan... So that has really been an absolute massive lever for us... So we were a little bit slow with our policy, but honestly, it's catapulted us. Because we are small and more agile, it's catapulted as along the way. – Nicola

Although government policy can create significant shifts, there remain challenges with stability in government legislation and policy over time. This makes it difficult for those working on the ground to implement consistent and meaningful change.

It would be fabulous if there was some damn policy in this country that says, actually health and housing and all of these big things, the education. They need to be stable, not bloody swinging around like political... Not political footballs, so that we can get some traction on some of these things. – Tangata Whenua Interview Two

Barriers to Effective Climate Change Responses

This theme describes the barriers that participants identified in being able to implement climate change policy that responds to the health needs of Māori. I have organised this theme using sub themes to clearly demonstrate the unique areas of difficulty faced by both the DHB staff I interviewed and tangata whenua interviews.

DHB Resourcing and Financial Constraints

When participants discussed barriers to implement climate change policy, there were clear links to the theme of organisational culture. This was a barrier for effective policy, as well as the financial constraints of the organisation. The requirements for DHBs to shift to more energy efficient options that effectively respond to Māori health needs demands financial input, particularly when there are tensions between funding for hospital services.

Sue described the way that financial constraints can influence climate change policy implementation.

Number one, it's about money always..... And that's quite a significant amount of money when you are trying to also meet best practices in terms of delivering clinical spaces and clinical equipment. And so there's a trade-off there, unless it is fully funded by the Ministry of Health, there is a potential trade-off. – Sue

One of the main barriers from a decarbonisation point of view, given that our largest element of our footprint is natural gas is the ability to transition to electrical alternatives and the limitations there are around existing infrastructure and electrical capacity....upgrading your electrical capacity potentially putting in new transformers, new switchboards, everything that goes with that is a huge capital cost that hasn't necessarily been included in previous budgets. – Sue

Further, tāngata whenua interviews discussed the ways that whānau are unable to be make use of a natural energy resource due to the financial barriers of access.

And now in my children's generation, they have never, known any of our families to have thermal baths. The infrastructure has broken down so badly on our side of the Pā. And the cost is so high that majority of our families are using gas heaters for heating and have been for the last 15 years. And we've sat on top of a natural resource. – Tangata Whenua Interview One

Limited resourcing has significant impacts on ensuring Māori voices and knowledge inform DHB climate change policy which will have direct impacts on Māori health. There was an overarching message that climate change has not yet been prioritised with adequate resourcing to ensure climate change is approached in a way that is collaborative, and community minded and meets the needs of Māori health. *"It's a full-time job, but it's not resourced-.....I guess they're really good at asking what you want, and not so good at handing over the pūtea and say, can you look after this?" – Tangata Whenua Interview One*

Levels of Understanding

Both tāngata whenua interviews and my interviews with Jennifer, Sue and Nicola identified that a lack of understanding contributes to considerable barriers in implementing climate change policy. If people do not see the impacts of climate

change on health, or consider that this as a health emergency, action is not well supported.

DHB participants Jennifer, Sue and Nicola had experience in seeking buy-in from DHB leadership as well as their community to support new climate change responses and initiatives. A lack of 'buy-in' significantly impacted successful policy implementation. It was difficult to get communities involved in climate change policies like alternative transport to work when this option was not always safe or convenient.

But it relies on the uptake. And that's one of the experiences in the past is really galvanizing people to get involved in that conversation and to see alternatives because an awful lot of people just don't see that they have an alternative to sole occupancy drives to work. Particularly where you have shifts occurring at potentially at unsociable hours if you like. – Sue

Tāngata whenua interviews reflected similar challenges when working with their communities. If people do not have a good understanding of how climate change is impacting them and their whānau now and into the future, it is much more difficult to get people involved and to take action in the area of climate change.

I think one of the challenges is, bringing our people on board, really taking it seriously. Actually, this is a thing. But it's a thing that we can understand. It's not necessarily an iceberg thing. It's happening right here, right now. So there's a way to bring our people into the conversation, because it's going to... And it's, yeah. – Tangata Whenua Interview Two

At a leadership and organisational level, both DHB staff and tāngata whenua reflected challenges in getting leadership to understand the urgent problem that is climate change.

I think there's sometimes a lack of buy-in. So we can't even get a policy signed off at the Ministry of Health because nobody could, first of all, decide which director would own it, own the policy, who it impacts. So there's no buy-in. So there's a lack of buy-in. But there is work going on in the Ministry, in climate change, but it's not joined up. It's not under a strategy or a plan. So a barrier there is, we can't even get it over the line. – Nicola

The government has already said, and Rotorua Council has said that we're in a climate crisis and yet you haven't changed anything at all. And you refuse to. They're not considering systems change. They're trying to green

up the current system, which is causing climate change. And that's the biggest fight. – **Tangata Whenua Interview One**

This theme highlights a key barrier for both DHB staff and tāngata whenua that if communities and decision makers do not understand the urgency of climate change for the health of people, it is difficult to get people involved in the conversation, gain financial support and strategic direction from a leadership level.

I do think that we accept that it is a thing. I just don't think that we are respecting that it is a health emergency. And I think until we start to really understand that it is a health-related emergency, we won't prioritise it in decision making and/or we start paying for it. – **Nicola**

Facilitators

This theme outlines elements of work that support successful implementation of climate change policy. The insights below indicate facilitators to support future policy development and implementation. I have used three key sub themes to describe findings related to this area of focus.

Representation Across Sectors

The presence of health representation across sectors was a facilitator that participants saw as important. This included having health representatives within the council, within transport conversations and within education to ensure that the voice of health is considered in all areas of policy development. Participants also highlighted that working across communities was a key contributor to effective climate change responses.

... and that's probably where healthy families and others came from that, instead of keeping it all in one, or just lifting Jen's job up a bit and keeping their whole programmes, because it involved the whole community. – **Tangata Whenua Interview Two**

To think of what the facilitators are, it's been that openness to engage and collaborate and develop, develop the deliverable in a collaborative way. Think that's been really, really good. That definitely facilitates good policy. Because you're in it, you're part of the team. Speak or don't speak. Don't complain at the end of it if you never did. You've seen it being developed. – **Nicola**

Community Involvement in Climate Responses

To develop effective responses to climate change that were well implemented and supported by the community, interview findings suggested that communities need to be involved with the policies or responses right from the beginning. Engaging from the beginning supports policy that is community led, develops community buy-in and results in more effective implementation.

I think the essence is, you really got to just work with the people in the community that live there, that's going to be affecting and really get to understand what it is that they need as well. Not just go in and say, "Yeah, this is a great policy." Policies are good, but they've got to be meaningful. They've got to be doing something. – Nicola

Regional Difference

Variation between DHB climate change policies across localities was clearly demonstrated within the environmental scan. Qualitative interview findings validated this finding and provided insights about why differences might occur, and the impact on policy development.

It's like when we were writing our environmental sustainable design standards for new hospitals. We didn't put in, we couldn't specify Māori general terms for that because it depends on where the hospital's being built. Regions are so different. – Nicola

As discussed in the environmental scan, the presence of a sustainability manager influenced the action that a DHB took in responding to climate change. A dedicated role enabled clearer strategic direction, coordination, awareness raising and advocacy for climate change responses. Participants also discussed the networks they were involved in that were linked to sustainability roles. These networks encouraged sharing of knowledge and ideas across regions, as well as a platform to advocate at a national level.

You just really notice that difference that only at the moment that DHBs have a permanent role that's when things really start to move and that's still the case. There's different DHBs that only have a few... Or have a sustainability group with some people that volunteer to do something. But you just notice that they don't make the steps that are actually required or they do a lot of things uncoordinated without actually having a plan forward or focusing on the right things. – Jennifer

Differences between regions were discussed in the context of timing. Some DHBs had a strong understanding of the link between climate change and health and had been committed to responding to climate change for a long time. Others had only

just begun the journey prompted by new legislation. It takes time to develop effective policies and responses, so some DHBs were further ahead in their journey than others.

Regional differences also arose in response to the unique needs of communities. Across DHBs, some positive examples of regional responsiveness were discussed. These examples illustrate how DHB policy can be used to positively implement change in the health sector.

Like the new Dunedin hospital, the cultural framework they've used and developed, oh, it's incredible. It really is. And again, Waikato, the new mental health building that they're doing as well. There's some really amazing shining examples of the DHBs working with their communities. And it's not just a tick box. It really is genuine collaboration. Yeah. They've done it really well with their users and consumer groups in the past. – Nicola

There were specific regional differences that required responses based on locality. *“down the coast, part of the whānau lives very close to the shoreline, and we already can see that that's a problem, because we believe we're experiencing more storms and more flooding” – Tangata Whenua Interview Two*

As this quote suggests, the geography of a region will influence a community's experience of climate change, and therefore DHB responses. Jennifer described the way that the DHB is critically considering how patients in their region who live in rural or isolated communities were experiencing greater inequity with healthcare access, and at the same time patient travel contributed to DHB emissions.

So for example, we're working on a project for a CT scanner. There's only one CT scanner here... whenever they need a CT scan, they need to travel all the way....to do a CT scan. So we're looking at, can we put a CT scanner on a truck and drive the truck around and bring the service closer to home? – Jennifer

I also did a mapping of where our patients live so we can divide them between Māori and non-Māori populations, so we see where currently all our patients are coming from, which again can drive a decision on where that truck needs to go if we want to address health inequity. So this is probably quite a cool example where you have new technologies and environmental benefits and health equity. Hopefully a reduction in health inequity, solutions, which are fairly driven to improve the health outcomes – Jennifer

This quote from Jennifer demonstrated how access to healthcare as an equity issue can also be addressed in a way that benefits the climate and reduces patients travelling individually to receive the care they need. In the themes below I will further discuss how participants described equity and climate change as an interconnected issue.

Analysis of Findings Drawing on He Korowai Oranga Themes

In this section of my findings, I will draw on the He Korowai Oranga Māori Health framework to present my findings related to responding to the needs of Māori health. The strategy and framework aim to provide guidance for the Ministry of Health to support optimum Māori health outcomes, with recognition that Māori health is founded in collective wellbeing.

The framework sets out key threads, pathways to action and directions to achieve the overall aim of Pae Ora. In my interviews I identified and coded any findings related to the framework. In this section of my findings, I will refine and present these themes to support my research objectives. Each theme in this section is a key thread or pathway to action of He Korowai Oranga to support the overall aim of Pae Ora.

Equity

Literature presented in the introduction section, highlighted that equity needs to be a foundational consideration of addressing climate change. This was undoubtedly supported throughout the interviews in this research.

Jennifer and Nicola highlighted that in their communities, health inequities will be exacerbated because of climate change. *“we do recognise that those impacts will disproportionately be on our vulnerable populations, which are high Māori percentage”* – **Jennifer**. Nicola shared that in her work at the DHB she makes sure to communicate with her leadership that climate change is an equity issue. *“I reframe everything that I say to our executive under an equity lens, so that it makes sense to them because sustainability and equity actually are the same thing.”* – **Nicola**

Participants worked hard to develop shared understanding of the relationship between climate change and equity across their organisation. This was also a technique employed to seek leadership support and work alongside wider DHB departments to enact change.

In the previous theme, I described Jennifer's analysis that patient travel was an area the DHB could respond to and increase equitable healthcare access while reducing emissions. This issue as interlinked with equity was echoed by Nicola.

So it is 100% within our organisational control the distance travelled. And I use an example of a patient having to travel from Ōpōtiki and this is anecdotal, right? Ōpōtiki to Tauranga Hospital for an orthopaedic outpatients appointment, right? So they are not only as this person on crutches in a car for six hours. So if you want to talk about health equity, let's look at it from that perspective, not to mention the carbon footprint that's been created by this person, this one individual human having to travel from Ōpōtiki to Tauranga and back again, right? – Nicola

These research findings strongly supported that climate change is an equity issue that will impact Māori populations and exacerbate existing health inequities. DHBs currently have a focus on addressing health inequity and climate change needs to be addressed as a part of this issue. As DHBs already have a focus on equity, there is an opportunity that exists in the health sector to implement climate responses that prioritise Māori health.

But it's more driven by, "We know there is health inequities and there is a high priority to reduce those." And for us, that indirectly means to have better health solutions for Māori. And yeah, in this case, especially indeed when we talk about models of care and where we deliver our services. – Jennifer

Māori Participation in DHB Climate Policy

When discussing Māori participation, participants talked about Iwi Māori governance boards as one of the mechanisms to embed Māori voice within the DHB. However, it was also highlighted that there are many challenges related to time constraints and a lack of resourcing. This means that having Iwi Māori governance boards working on climate change policy has not always been well supported or resourced "The Māori Health directives are only quite small, so they can't, and they have to be a bit strategic, I guess, as well in where they put their focus and priorities on." – Jennifer

It's really hard to get those voices at the table. I know that the Māori health rūnanga care about this, because they've told me.... But again, I don't hear from them, they're not requesting updates. I've tried to get on to their agenda for the adaptation planning stuff and haven't heard anything and whether that's the PA or the rūnanga, do you know what I mean? – Jennifer

Participants in this research echoed the importance of designing approaches to climate change that involve Māori right from the beginning. Policy approaches need to facilitate co design and genuine partnership with Māori right from the start. *“It’s about ensuring that the right people are at the table at the right time, which means at inception. So every move that we make in this journey, there should be representatives from our Iwi partners.”* – Sue.

Tāngata whenua interviews supported similar thinking relating to co-design with Māori. *The only way, a systems change, and that’s not going to happen without co-design, co-governance, and co-management.”* – **Tangata Whenua Interview One**

It’s got to be that Mana Whenua and that Iwi for that particular region in that particular time. So what we did, we put in an overarching mention and strongly integrate Te Aranga design principles within that design process. And then in the more detailed advice, it’s like, make sure right at the start, you’ve got a sustainability consultant and you’ve got a Māori consultant right from the start as part of the governance and setting the aims and direction – **Nicola**

Working Across Sectors

In line with what is suggested in the He Korowai Oranga framework, working across sectors was considered an important part of developing and implementing policy. There were positive examples of working across sectors and the benefits of doing this. Due to the widespread impacts of climate change participants talked about climate change requiring a response by many stakeholders with the goal of establishing cohesive work across sectors.

Amplify the voice of the healthcare sector in all decisions around the community. So when you are looking at housing developments, what’s the health representation in the design and implementation of that? When you are looking at applications for new fast food outlets, what’s the healthcare voice in those decisions? So yeah, I mean, I think sitting here within the healthcare sector, the feeling is that that voice needs to be heard and needs to have access to an awful lot of decisions that are made in the community. – **Sue**

Although working across sectors is an important aspect of a response to climate change, there are obvious challenges that come with trying to achieve cohesive work across sectors. This includes a need for ‘buy in’, as discussed in the barriers section above, as well as time constraints and the willingness of staff to work across sectors. *“We do have a mandate. We do have the mandate to build those relationships, it’s part of our targets, but frequently it does come down to individuals driving that”.* – **Sue**

When considering working across sectors, all DHB participants noted the importance of working with local and regional council to ensure health was considered as a part of their climate responses. Participants talked about the pivotal role councils have in their management of community assets and infrastructure including water quality. Therefore, they saw the relationship with council as key point of influence to amplify health needs within climate change. Some work was already being done with the councils; however, interviews suggested these relationships could be amplified.

I think also the regional council is doing more of their vulnerability assessments and try to put the health lens on top of a lot of their work. I mean, they look a lot more at assets, where are the maraes which are at risk. But also for example, the one where we link is more about, water quality, a lot of our bores are on the coastal sides. Of course, a lot of people live in water tanks. So what are all those impacts? – Jennifer

Regional council at the moment is... So we had the national risk assessment completed last year, the year before. And so now the regional council was leading and as DHB, we are actually sitting at the table in this kōrero now, which is around more localised risk assessment and localised adaptation planning. – Nicola

Engaging with multiple stakeholders at a local and national level to develop policy was considered best practice among participants in this research. With mandates to work across sectors, there is also a responsibility for the DHB to uphold genuine relationships with the stakeholders involved with climate change policy. This quote from Tangata Whenua Interview Two shares a call to action for stakeholders working to respond to climate change. It is the responsibility of all people who are doing work that impacts the environment to work closely together with a shared vision. *“So it’s all public health, all of that stuff about water. Even the responsibility of the DHB to work closely with council and those other decision-making places that are impacting on our environment.” – Tangata Whenua Interview Two*

Rangatiratanga

A key thread to achieving Pae Ora within the He Korowai Oranga framework is Rangatiratanga. The framework defines Rangatiratanga in the health sector as “Enabling whānau, hapū, iwi and Māori to exercise control over their own health and wellbeing, as well as the direction and shape of their own institutions, communities and development as people” (Ministry of Health 2014, p.8). Further, Rangatiratanga as a key thread recognises that Māori must be essential decision makers in the health sector.

In my discussions through DHB and Tāngata Whenua interviews, participants emphasised the importance of Rangatiratanga in DHB responses to climate change. Tāngata Whenua stressed that climate responses for Māori cannot be developed without Māori and that mātauranga Māori provides legitimate responses to climate change that need to be honoured and protected.

Nobody would know Horohoro Ngāti Kea Ngāti Tuara lands, significant places, waters, better than the home people. So there would be a huge expectation that anything to do with that area, that the iwi/hapū not only be a part of, but even lead with their own particular knowledge as well, and intergenerationally. So that kaitiaki role restored and activated. That would be a minimum, I would say, of the expectation of our home people
- Tangata Whenua Interview Two

Findings from this research suggests that rangatiratanga is not being exercised within the health sector. As I previously discussed, participants highlighted challenges with ensuring Māori voices are embedded within climate change policy and responses. One of the core mechanisms for Māori voice in climate change policy are Iwi Māori Governance Boards, however they are constrained by capacity to have representation across DHB workstreams. Rangatiratanga as described in He Korowai Oranga, outlines that DHBs must have mechanisms for Māori to exercise their own control over their own health. Findings indicated that the health sector does not consistently have these mechanisms in place to ensure Māori are exercising control over climate change responses for Māori.

And what we're saying is if you're talking about mātauranga Māori, then the first thing that would change if we were actually given the opportunity to co-create a management plan would be, how do we utilise the resource for the benefit of the community that lives here? Not just Tangata Whenua, but the Rotorua community because there was enough resource to heat every home in Rotorua. – **Tangata Whenua Interview One**

Yeah. And it should sit out of a kind of scientific space. It's not science anymore, now. It's kōrero tuku iho to our people, and our people can engage with that much better than a scientific conversation around climate change. Because the tupuna, we're well aware of changing, of change, and captured that. Yeah. – **Tangata Whenua Interview Two**

DHB staff also shared their understanding of the importance of Māori developing their own responses for their people. “But I know that anything that's just been written for Māori, that's not been written by Māori, how's that going to work?” – **Nicola**

Supporting Existing Māori Knowledge as the Foundation for Good Policy

As Nicola highlighted above, to develop policies and responses to climate change that are effective for Māori, they must be written and developed by Māori, using Māori knowledge. This point was supported in discussion about Māori knowledge and traditions throughout participant interviews. Interviewees considered Māori traditions as existing foundations for DHB climate change policy that would effectively respond to the health needs of Māori. The potential of Māori knowledge as the foundation for good policy was considered across both tāngata whenua and DHB interviews.

So the DHB wouldn't need to start from scratch on this stuff, because the strategy, the iwi strategy, has already been developed Te Urunga o Kea, and it's got a beautiful kaupapa, the principles and all of that. And they're built off Te Tuapapa, Te Arawa Lakes Trust lake strategy, and then they're leveraged off that for the climate change stuff. – Tangata Whenua Interview One

So when you asked the question about policy and climate change and Para Kore, we talked about making it easy for people to uptake, Para Kore. Actually what we have to do is make it easy for people to uptake manaaki. – Jennifer

I think, just when you talk about how do we make it happen, is our Matauranga. So bringing that together, finding out what it is, who knows what, and standing that back up again. I don't know if I'm... regenerating that up. So and we do a lot of work with [Maramataka. It's a credible prevention system – Tangata Whenua Interview One

Māori building on the strengths and assets of their knowledge and mātauranga to develop effective responses to climate change will be further discussed in the next theme.

Whānau, Iwi, Hapū Community Development

This theme is drawn from Pathway One of He Korowai Oranga. The pathway describes “building Māori capacity to actively contribute to their own communities” (Ministry of Health, 2014. p.10). Ministry of Health guidance says that “Māori community development approaches use Māori strengths and assets to develop their own initiatives tailored to meet their own health needs. This includes support to develop programmes and interventions that incorporate Māori models of health and wellbeing, rongoā (traditional healing) and innovation” (Ministry of Health, 2014. P.10).

Throughout the research interviews, participants referenced aspirations that they saw to be possible related to whānau, iwi, hapū community development.

So if iwi are out there and hapū are out there looking at their own food security, food sovereignty, and started to bed things down like we used to, then your food positioning statement plus your resources, your funding or whatever, should be able to couple, come in behind it. – Tangata Whenua Interview Two

A key theme that was presented across both DHB and tāngata whenua interviews was the potential for community development related to growing kai and establishing food sovereignty. Participants discussed solutions reflecting how community development could reduce climate risk related to emissions from land use and food shortages as well as address food waste within the hospital. Growing of food was considered as a way in which whānau, iwi, hapū and community development could occur.

Trying to demand that they put parts of our lands into growing our own kai, purely for food security purposes....We want to work to restore our environment and to become more connected and to start living more connected with our environment – Tangata Whenua Interview One

They employ people from their local community, train them up to look after the produce, grow the food and veg, sell the produce in one part of the market. But the rest of the produce goes into the hospital. And guess what? You'd actually cook and serve fresh, beautiful food in a hospital. Go figure. Not the stuff that's reheated in plastic, my god. And then, so you'd have organic, locally grown or spray free food for really delicious, healthy, healing food in the hospital. Staff, patients could get veggie boxes. If it's big enough operation, you could even sell the veggie boxes. People could make good money. – Nicola

Although interview participants talked to the opportunities that exist for whānau, iwi and hapū development related to climate change, these were future focused aspirations. Future DHB policy responses could respond to these aspirations and ensure Māori strengths and assets are supported in this area of work.

Chapter Summary

Throughout this chapter I have presented interview findings from interviews with DHB staff and tāngata whenua interviews that I participated in. DHB interviews provided important understandings of how DHB climate change

policy was being implemented within localities and communities. Further, these interviews offered the opportunity to seek information related to my environmental scan which provided depth to conclusions developed from webpage findings.

The inclusion of tāngata whenua interviews offered integral perspectives about the extent to which Māori health was being considered across DHB climate policy, as well as the facilitators and barriers of developing policy that responds to the health needs of Māori.

Across these interviews, themes and best practice approaches related to effective climate responses to Māori health were shared. Shared perspectives between DHB staff and tāngata whenua infer key facilitators, barriers and understandings that will support Māori health within a DHB context. Where shared views existed across both DHB and tāngata whenua interviews, I have developed important understands that will inform the discussion and recommendations of this research.

Chapter Six: Discussion and Conclusions

Research throughout the world and in Aotearoa, highlights the significant relationship between climate change and health (Royal Society, 2017; Costello et al., 2009). The Intergovernmental Panel on Climate Change have measured global temperature rise over time and infer that the impacts of climate change are significant and increasing. As temperatures rise, these impacts including natural disasters continue to increase and have wide ranging consequences for human health (IPCC, 2021).

Building on the above literature, Bennett & King (2018), highlight that those who are experiencing health inequity will contribute the least to climate change and will experience the worst impacts. Wider literature in Aotearoa, highlights the unique health impacts of climate change for Māori related to intrinsic connections to land and existing health inequity (Russell, 2018; Cram et al., 2019; Awatere et al., 2021). It is vital that health institutional responses to climate change recognise the unique impacts of climate change for Māori and respond through an equity lens.

The findings from this research build on previous research that considers climate change as an issue of equity that will exacerbate the existing health inequities in Aotearoa (Belfer et al., 2017; Green et al., 2009 & Robson, 2007). When considering climate change as an issue of equity, Bennett & King (2018) have taken a blue-sky thinking approach. This approach highlights an opportunity for the health sector to align climate responses with equity. They emphasise the gap in academia that considers this interconnected issue within health institutions.

Findings from participants in this research, strongly support an integration of equity and institutional responses to climate change. Jennifer provided examples of existing opportunities for implementation of these interconnected approaches.

I also did a mapping of where our patients live so we can divide them between Māori and non-Māori populations, so we see where currently all our patients are coming from, which again can drive a decision on where that truck needs to go if we want to address health inequity. So this is probably quite a cool example where you have new technologies and environmental benefits and health equity. Hopefully a reduction in health inequity, solutions, which are fairly driven to improve the health outcomes
- Jennifer

The research findings supporting this integration are timely in that the health sector is currently undergoing reform. Therefore, an opportunity exists to align equitable health responses under He Korowai Oranga and the Whakamaaua: Māori Health Action Plan, with institutional responses to climate change (Ministry of Health 2014; Ministry of Health, 2020).

However, there remain gaps in literature that understand existing health institution responses to climate change and their responsiveness to Māori health. The objectives of this research sought to examine the extent to which DHB climate change policies exist, and how responsive any policies are to the health needs of Māori. In this research, I implemented two research methods to achieve my objectives. The first being an environmental scan of DHB websites to identify the existence of policy, and the second being qualitative interviews with DHB staff and tāngata whenua. These interviews supported my understanding of policy implementation across regions.

The research methods implemented in my research embraced community psychology values. As discussed, I am a community psychology masters student and aimed to reflect the values of systems perspectives, community development and social change within my research (Robertson et al., 1989; Institute of Community Psychology, n.d.). I maintained a focus on macro level policies across DHB institutions throughout the environmental scan methodology. Qualitative interviews supported understanding of how policy could be implemented and developed in a way that ensures equitable outcomes for Māori. The findings from these focus areas will contribute back to the field of community psychology.

In this chapter I will discuss the research findings from both the environmental scan and qualitative interviews, while drawing on supporting evidence from literature in Chapter One. From my research findings I identified key themes across the country that have informed discussion points and conclusions of this research. Having drawn from three sources; webpage information, DHB staff interviews and tāngata whenua interviews, I feel confident that where webpage and interview data supported a similar conclusion, my conclusions are well evidenced across differing sources and perspectives.

In the time of my research, the health system in Aotearoa underwent significant reform. DHBs were disestablished under the Pae Ora Healthy Futures Act 2022 and two health authorities were introduced, Te Aka Whai Ora (The Māori Health Authority and Te Whatu Ora (Health New Zealand).

The development of a dedicated Māori Health Authority is an opportunity to advance climate change policy. This would mean there is system infrastructure to ensure Māori knowledge guides health responses for Māori. My

recommendations are outlined at the end of this chapter and are especially relevant as the health sector develops responses to climate change in a time of institutional change.

Climate Change Policy in District Health Boards

Existence and Access to DHB Climate Change Policy

This research set out three primary research objectives. The first objective was to examine whether there is DHB policy specifically focused on institutional responses to climate change. Previous research has highlighted the interconnected nature of climate change and health (Costello et al., 2009 & Di Napoli et al., 2022; Van Aalst, 2006). Therefore, this objective sought to understand whether existing DHB responses recognised the interconnected nature of climate change and health as a starting point for future recommendations.

An environmental scan was implemented as the primary method to understand this objective. I completed an online search of 17 DHB websites to identify the existence of DHB climate change policy and policy responsiveness to Māori health.

From this scan, I drew findings that indicated climate change information on DHB websites was hard to find, was limited and was most often discovered within wider DHB documents such as an annual plan or strategy. It was uncommon for DHBs to have a dedicated sustainability or climate change policy. Those that did have a specified plan, demonstrated that they were further in their journey toward responding to climate change. The information that was available took time to access and illustrated that DHB climate change policy is variable and difficult for the general public to access and understand.

Limited and difficult to access policy becomes problematic for policy implementation, as there is a lack of community involvement and feedback. Availability of policies will influence how communities can engage with them. It is important that people have access to this information to discuss, review and provide feedback on policies that directly impact them.

Further, access to information supports communities to understand how local health policies might influence their healthcare experiences. The findings from the final report for Haumanu Hauora suggest that currently, there is very limited engagement with vulnerable communities as part of DHB climate policy development. Relationships with vulnerable communities must be established to ensure community voice is part of policy decision making right from the

beginning stages (Masters-Awatere et al., 2022). This thesis research would suggest that if these processes are not developed, persisting inequity will continue to occur for Māori communities.

As discussed in Chapter One of this research, The Ministry of Health have developed the Māori Health Action plan. Priority five of this plan focuses on ensuring “*whānau and communities are better able to access and enjoy healthy environments and get the help they need to take control of the circumstances affecting their health and wellbeing* (Ministry of Health, 2020, p.44). Readily available access to policy information needs to be enabled for DHBs to ensure communities can input into climate change policies that effect their health and wellbeing and impact people in communities.

Institutional Responses to Climate Change Within DHBs

The qualitative interviews I completed, supported my research understandings of institutional climate change policy and responses within DHBs. Throughout the first stage of my research, I observed that DHB policies were closely related to operational aspects of the DHB, not community responses. Most often, climate policies were focused on measurable outputs such as emissions and waste reduction.

In the second stage of the research, participants talked to the way that schemes such as the Carbon Neutral Government Programme had a substantial influence on the DHBs areas of focus, and hence emission measurement was a priority area of work. Although this was a narrow focus, participants concluded that there remained little recognition of the need to respond to climate change within the DHB. Therefore, DHB staff saw that taking action to reduce emissions in the DHB was a step in the right direction. Despite this, they continued to advocate for policy that was holistic, interconnected and responded to community need, particularly the needs of their most vulnerable populations.

Through my environmental scan, I ascertained that climate change was being addressed in small increments. As discussed, this included a focus on waste, or energy reduction. These targets were not being linked to overall health, with a wider holistic view. Participants echoed these same frustrations as the health sector continues to follow a siloed approach that does not recognise the interconnectedness of human health, particular for Māori. Each team or department held their own focus without consideration of the importance of these being considered in the same picture.

These findings support the need for DHBs to ensure climate change policy is embedded throughout the organisations and across departments. Climate change responsiveness needs to be something all departments understand and

respond to as a part of their business-as-usual work programmes. Some DHBs were doing this well, however it was clear that climate change responsiveness significantly varied across regions. As it stands, institutional responses to climate change were not well embedded across all areas of DHBs and require further understanding and awareness. This would need to happen to ensure climate change is embedded in all aspects of DHB operations as well as consistently across regions.

DHB Climate Change Policy Across Regions

The findings from this research indicated considerable difference in DHB climate change policies across regions and DHB localities. As discussed in Chapter One, government agencies are required under the Climate Change Response (Zero Carbon) Amendment Act (2019) to monitor emissions, implement climate risk assessments, and adhere to the actions of the National Adaptation Plan (Climate Change Response (Zero Carbon) Amendment Act, 2019). The influence of this legislation was significant for those I spoke to within this research.

Responses to climate change have been heavily influenced by legislation and national directives. However, it is evident that despite some consistent responses, institutional and embedded responses to climate change do not exist in every DHB locality. As climate change is an issue of equity, that will impact vulnerable populations more significantly, there are considerable risks where DHBs are not implementing effective and holistic climate responses (Bennett & King, 2018; Reid & Robson, 2000). Legislation has potential to influence holistic and embedded responses to climate change across regions.

However, while considering tailored community responses, the environmental scan was a tool that highlighted inconsistencies in the policies in place across regions. This was evident when DHBs had no climate related results appear in their website search, while others had specific sustainability plans that provided examples of implementation in the community. Interview discussions also supported an inconsistency in response from across DHBs. Interviews also provided insight into why variation across regions might be occurring. Possible explanations included the length of time the DHB has been addressing the issue, level of funding, commitment from DHB leadership and resources provided to do the work including staff.

The legislation discussed throughout this research creates a mandate for the state sector to respond to climate change. Although legislation is in place, my research suggests that outside of emissions measurement, there is considerable difference in response between DHBs. This is alarming for those communities where DHBs are not recognising their responsibility to act to address the health

impacts of climate change. Some coastal regions such as Tairāwhiti are particularly vulnerable to the impacts of climate change, however despite Ministry of Health and central government direction, there are significant differences in evidence of climate responses from this region when compared to others. As the literature outlines, climate change will exacerbate experiences of chronic disease including cardiovascular disease, vector and water borne disease, food insecurity, and mental health. It is critical that DHBs are taking action to support those most vulnerable to the health impacts of climate change.

Barriers to Climate Change Policy Implementation

Where climate change policy existed across DHBs, it was important to understand how effectively these policies were being implemented. I sought this understanding through qualitative interviews with DHB staff. In Chapter Five I presented barriers and facilitators as findings from qualitative interviews. In this chapter, I build on these findings and draw conclusions related to my third research objective. The barriers and facilitators are critical actions for DHBs to consider through the development of climate change policy to ensure success in implementation.

Level of Understanding

Findings in this research indicated that there are gaps in knowledge of the impacts of climate change on health, particularly the recognition of the unique impacts of climate change on Māori health. These gaps existed across DHB leadership, DHB staff and communities. This is also evident in the primarily biomedical model employed by the health sector which results in narrow views of health (Engel, 1992; Jones et al., 2014).

This finding closely aligns to findings within the wider Haumanu Hauora project (Masters-Awatere et al., 2022). A research summary from this project called for increased understanding within the DHB of the interconnection between Māori health and climate change to inform policy development. Further, the findings highlighted that DHB staff also had narrow understandings of the interconnection between climate change and Māori health outcomes (Masters-Awatere, Howard & Young, 2023).

For the effective development and implementation of climate change policy across DHBs, there needs to be progress made in understanding the interconnected nature of climate change and Māori health.

The health sector should work to progress knowledge of the relationship between climate change and health, as well as the unique impacts of climate

change on Māori health among both their leadership, staff, and communities. DHBs have the opportunity to ensure policy responses are interlinked to reflect the holistic nature of climate change and Māori health. To develop interlinked policy responses, staff need to understand the relevance of climate responses within their work, in particular those developing policy in areas of Māori health, equity, and sustainability. DHBs also have a role to play in ensuring communities are a part of this knowledge building, and positive experiences of DHBs action in this area.

I discussed earlier in this chapter that climate change policy is hard to access on DHB websites. In my environmental scan findings, Table 4 shows that for one DHB a search term presented up to 310 results, with only two of those results being relevant to the search.

This is a barrier for communities to engage with policy that effects their health and wellbeing. If communities are not engaged with policy from the beginning of development, or before it is implemented, there are barriers for implementation. Communities will not have buy-in and understanding to support effective implementation if they have not been engaged throughout the development process.

I think one of the challenges is, bringing our people on board, really taking it seriously. Actually, this is a thing. But it's a thing that we can understand. It's not necessarily an iceberg thing. It's happening right here, right now. So there's a way to bring our people into the conversation, because it's going to... And it's, yeah. - Tangata Whenua Interview Two

Tāngata whenua interviews supported this argument that Māori communities need to be a part of this conversation. DHBs can enable community engagement through accessible policy and ensuring early community consultation on climate policy.

For effective planning and engagement to occur, leadership must understand the importance of community input into climate policy. Throughout this research, it became clear that one of the most significant enablers to effective climate change policy was leadership support. It is therefore critical that DHB leadership have a strong understanding of their role in responding to climate change through an equity lens.

Organisational Leadership and Financial Priorities

Organisational understanding is a critical barrier or facilitator to effective development and implementation of climate change policy. Where there is a lack of understanding of the impacts of climate change on Māori health, there is a lack

of support for responses. This includes financial commitment to this work. Further, limited leadership support resulted in the lack of direction and cohesive responses across DHBs. A lack of direction was evident throughout stage one of this research where climate change was addressed in small increments in areas of waste reduction or using health needs assessments to identify the impacts of climate change. However, these were not being utilised to inform institutional responses across the organisations.

Interview participants validated that without organisational commitment, progressing climate change policy was not institutional or strategic in nature.

It was so frustrating because they were so... and trying to get into their shoes, they weren't wired to think like that, just wired to have... they've got a budget, they've got massive pressures. They've got people to get through the doors safely and get well. You can see where they're coming from, but you've got to connect the dots. You've got to be a system thinker in this world. You can't just work in your little silo. - Nicola

Through the environmental scan, evidence of a sustainability manager was linked to further information on the DHB website about climate responses. The commitment to funding the work programme of a sustainability manager demonstrated financial commitment from the DHB which progressed this work across the organisation. Without this dedicated role, DHB staff were volunteering their time for sustainability projects without the institutional strategic influence and support. Interview participants talked to the way that a dedicated role was a facilitator to effective climate change policy development and implementation.

Although volunteer teams had implemented important sustainability initiatives, volunteer groups are not provided with the resource, and commitment from DHB leadership that demonstrates they are dedicated to acting against climate change. My understandings from this research are that having an employed team to understand the issue, and work to action sustainability plans is an important part of being able to implement meaningful action in response to climate change. A well-resourced team has the potential to work across sectors, in a way that supports the DHB to address the impacts of climate change on health, as well as implement their own in-house measures to reduce their impact on the environment. Financial commitment from government and DHB leadership is required for this to happen.

Commitment from leadership was influenced by wider DHB priorities that were shifted through central government and Ministry of Health directives. Interview participants talked to the way that governments have been reactive in this space

and were responding to national and international circumstances as part of requirements.

I think there's sometimes a lack of buy-in. So we can't even get a policy signed off at the Ministry of Health because nobody could, first of all, decide which director it would own it, own the policy, who it impacts. So there's no buy-in. So there's a lack of buy-in. But there is work going on in the Ministry, in climate change, but it's not joined up. It's not under a strategy or a plan. So a barrier there it's, we can't even get it over the line.

– **Nicola**

However, this reactive way of working lead to an absence of future planning across DHB institutions. DHBs are only responding where they are required under legislation. Without an intentional and well planned to climate change, there remains a gap in interconnected climate change policies that respond to the health needs of Māori.

Facilitators to Climate Change Policy Implementation

Pathway two of He Korowai Oranga – Māori participation in the health and disability sector, highlights that Māori involvement in health policy decisions will ensure better responses for Māori communities (Ministry of Health, 2014).

Partnership with Māori from the very beginning of policy development is a facilitator for successful policy implementation that will support equitable responses. Partnering with Māori is more likely to ensure DHB policies are equity centred, protect the health and wellbeing of Māori and ensure holistic views of health are considered. Nicola echoed these sentiments in her discussion of facilitators for effective climate policy.

*It's got to be that Mana Whenua and that Iwi for that particular region in that particular time. So what we did, we put in an overarching mention and strongly integrate Te Aranga design principles within that design process. And then in the more detailed advice, it's like, make sure right at the start, you've got a sustainability consultant and you've got a Māori consultant right from the start as part of the governance and setting the aims and direction – **Nicola***

Through my interviews, I identified positive examples like Nicola's above where DHBs are ensuring Māori involvement from the beginning of policy development.

The work of Bennett & King (2018) has been raised several times in this research. This is due to the aspirational nature of their work which brings attention to the opportunities that exist within the DHB to align climate change

with equity responses. I was excited by an example shared by Jennifer, that displayed these opportunities in action in her DHB locality.

So for example, we're working on a project for a CT scanner. There's only one CT scanner here... whenever they need a CT scan, they need to travel all the way....to do a CT scan. So we're looking at, can we put a CT scanner on a truck and drive the truck around and bring, bring the service closer to home? – Jennifer

This approach is an example that considers the benefits of both Māori health equity and responding to climate change. Jennifer sought approval for this approach by advocating to leadership, that a mobile CT scanner would be beneficial for health equity as well as reducing carbon emissions. DHBs could amplify these approaches to integrate equity driven climate policy into their institutional responses to climate change.

Further, my environmental scan findings captured positive examples where DHBs are working across sectors. As discussed, climate change and Māori health are interconnected in nature. Climate change is an issue that spans multiple sectors and communities including both central and local government, regional councils, and communities. Where work can be done together, integrated, and holistic responses to climate change can be achieved. The findings from this research strongly support that integration of climate policies across sectors will achieve the best policy implementation for communities.

Participants also saw that legislation was an avenue to facilitate DHB responses to climate change. Legislation mandated DHBs to report on climate or emissions reduction actions, and therefore required leadership to act. The benefits and improvements to legislation will be further discussed below.

The Influence of Legislation

In Chapter One, I outlined legislation that has influenced action at a national level in response to climate change. Throughout this research I observed the pivotal role that legislation has had in shining a light on the importance of responding to climate change. The Climate Change Response (Zero Carbon) Amendment Act (2019) has created significant shifts in the state sector responses to climate change. The legislation has mandated climate responses from DHBs and therefore influenced health institution leadership to support this area of work.

So the carbon neutral government programme has been really awesome in focusing the public sector on what needs to be done. And so we are very

much using that as the next step on the DHBs journey to appropriately reporting our greenhouse gas emissions and putting it in place. – Sue

Where consistent approaches to climate change were identified across regions, these approaches were linked to legislation. This highlights the integral role of legislation in ensuring approaches are consistent across regions, and therefore communities are experiencing the same support and commitment from their DHB in areas of climate change and health.

Currently, the Climate Change Response (Zero Carbon) Amendment Act (2019), is focused on emissions measurement for the state sector. My environmental scan identified that DHBs were most commonly reporting on the following areas: waste reduction, sustainable procurement, energy use, transport, and water management. Effective legislation creates opportunities to build on these reporting areas by recognising climate change as a holistic issue that spans across multiple areas of health, while being intrinsically linked to Māori health. This spreads across to national directives from those such as the Ministry of Health who have the mandate to direct responses from DHBs. However, with an emissions focus, reporting based on the recognition of holistic responses in the legislation is currently a gap in Aotearoa.

Although participants in my research saw that legislation and central government policy was a lever for change, they maintained concerns related to consistent commitment to climate change over time with successive governments. *It would be fabulous if there was some damn policy in this country that says, actually health and housing and all of these big things, the education. They need to be stable, not bloody swinging around like political... Not political footballs, so that we can get some traction on some of these things. – Tangata Whenua Interview Two*

Therefore, there is a call for cohesive and consistent action across governments responses to climate change. Without sustained commitment to this issue, there will remain significant barriers to policy implementation. Effective implementation of climate change policy takes time and involvement of key stakeholders. The absence of ongoing commitment to holistic climate change policy from successive governments, creates challenges for policy implementation. In the time of this thesis, there has been significant shift between central government directives with the disestablishment of DHBs, then followed by the development of two new health authorities, and the now disestablishment of Te Aka Whai Ora, the Māori Health Authority.

Central government have an opportunity to support cohesive, holistic and consistent responses to climate change through policy and legislation.

Te Aka Whai Ora has incorporated Wai Ora into their vision which is;
“Acknowledging the crucial connection and impact of the whenua and living environment to the health and wellbeing of whānau, hapū, iwi and communities.”
 (Te Aka Whai Ora, 2023).

Having a dedicated the Māori Health Authority, Te Aka Whai Ora in place created a real opportunity for government to effectively implement legislation that moves the health sector to respond to the intrinsic link between Māori health and climate change. There continue to remain challenges in support for this approach across successive governments.

Developing Interconnected and Holistic Responses to Māori Health and Climate Change

As discussed, throughout the implementation of two research methods, I identified that across DHBs climate related policies, the key focus was on emissions measurement and reduction. Māori health policies were in place that talked to holistic responses to health but lacked an analysis of the impacts of poor environmental health related to climate change.

A body of research was discussed in the literature scan in Chapter One, that evidenced the intrinsic connection of a healthy natural environment with the health of Māori communities (Cram et al., 2003; Mark & Lyons, 2010; Harmsworth & Awatere 2013, Manning et al., 20145). Based on this evidence, I would suggest that robust DHB policy would recognise the interconnection of the two through the development of holistic policy responses.

The environmental scan in this research was a tool to observe the current state of DHB climate change and Māori health policies. The scan findings in chapters three and four, highlighted significant disconnection whereby neither climate change nor Māori health policies were addressing the interconnected nature of this issue.

Interviews with DHB staff further emphasised this disconnection in the challenges they experienced gaining leadership support. They saw opportunities to enhance equitable responses while addressing climate change, however, a lack of understanding from leadership impacted uptake of these approaches.

Where there is strength in both Māori health and climate related policy, there is considerable work to be done to create interconnected policy across these workstreams in the health sector. In Chapter Four, I noted that health needs assessments were being utilised to understand the connection of Māori health

and the environment. The use of this tool could be strengthened to inform future strategies, planning and policy development.

He Korowai Oranga and the most recent Ministry of Health Māori Health Strategy Pae Tū could also be utilised to strengthen the connection (Ministry of Health, 2014; Ministry of Health, 2023). Both strategies highlight the need to develop holistic responses to Māori health.

Working across sectors is also an integral element of developing interconnected policy. This is well supported by the interviews in this research as well as the key thread of He Korowai Oranga (Ministry of Health, 2014).

Participants discussed that equity is a focus area for the health sector. This focus is also an opportunity to integrate policies by addressing the health impacts of climate change through an equity lens.

Addressing Climate Change as an Issue of Equity in Aotearoa

In Chapter One of this research, I discussed the relationship between Māori health and climate change. There is substantial research that outlines how climate change will disproportionately impact those experiencing inequity, in particular indigenous populations (Belfer et al., 2019; Bennett et al., 2014; Johnson et al., 2012; Ford, 2012). Indigenous populations are intrinsically connected to land and are experiencing the ongoing impacts of colonisation through a health system centred around western medicine.

Based on the research and known existing health inequity, academics have advocated for an approach to climate change that is driven by equity (Bennett & King, 2018; Ford, 2012; Green et al., 2009). This would mean ensuring indigenous understandings are foundational in climate policy, as well as approaching climate change with a holistic lens that recognises the benefits of integrated emission reduction and equity policies.

As discussed, the work of Bennet and King (2018), highlights the opportunities that the health sector have for blue sky thinking and to employ innovative solutions. The sector must think differently to align the benefits of emissions reduction and climate responses with health equity.

The notion of climate change being an issue of equity was overwhelmingly supported through the environmental scan and interviews in this research. DHBs are already focused on equity, and this is driven through the Ministry of Health

directives. Further, equity is a key thread in the He Korowai Oranga Māori Health framework (Ministry of Health, 2020).

Equity was evident throughout my environmental scan as a key aspect of DHB policies and strategies. However, there was an absence of weaving both climate change and equity into policy responses. Nicola shared how she was employing techniques to grasp opportunities to weave climate responses into conversations about equity. *I reframe everything that I say to our executive under an equity lens, so that it makes sense to them because sustainability and equity actually are the same thing.* – **Nicola**. Although this was something participants wholeheartedly believed in, they described challenges in embedding equity to the conversation about climate change.

The Pae Ora Healthy Futures Bill (2021), was introduced to reduce health inequity for Māori. This is a significant opportunity for DHBs to align their work through a dedicated Māori Health Authority to respond to both equity and climate change and ensure they are not isolated efforts.

Addressing climate change as an issue of equity requires systemic change whereby DHBs commit to ensuring Māori are involved and driving climate change policy right from the beginning.

Supporting Māori Led Solutions as the Foundation for Good Policy

In the introduction section of this thesis, I presented research that describes the historical importance of connection to land and the natural world for indigenous peoples (Durie, 2004). In Aotearoa, Māori as tāngata whenua hold these same historical connections and genealogy to land and the natural world. Historical understandings and research have told us that Māori knowledge has a vital role in informing the approach to climate change (Harmsworth & Awatere, 2013; Nakashima et al., 2018).

Māori knowledge exists that reflects historical ways of being and honouring whakapapa to encourage protection of land and ensure holistic views of health are prioritised (Macinnis-NG et al., 2021; Abbott, 2021; Hikuroa, 2016).

Priority area seven of the Ministry of Health, Whakamaua: Māori Health Action Plan (2020- 2025), outlines the priority of the health sector to use kaupapa Māori insights to inform decision making while affirming Māori solutions and Mātauranga Māori.

Throughout the environmental scan there was a substantial gap in policy that reflects the above needs related to protection of land for the benefit of health, and kaupapa Māori insights to inform decision making related to climate change.

In Chapter Four, I discussed DHB relationships with Māori, iwi and hapū. These relationships were limited to work with DHB Iwi Māori governance boards. A reliance upon Iwi Māori governance boards to inform all DHB policy limits the capacity for Māori insights to inform decision making.

Māori health cannot be responded to in isolation. Tāngata whenua interview participants talked to the evidence and knowledge that already exists within the Māori world and their aspiration for this to be foundational in climate change policy.

*I think, just when you talk about how do we make it happen, is our Mātauranga. So bringing that together, finding out what it is, who knows what, and standing that back up again. I don't know if I'm... regenerating that up. So and we do a lot of work with [Maramataka. It's a credible prevention system – **Tāngata Whenua Interview One***

Across the world, indigenous ways of being and connection to land provides historical knowledge that elicits responses for climate change adaptation (Nakashima et al., 2018). As tāngata whenua interviews evoked, DHBs do not have to start from scratch. Mātauranga Māori can have a vital role in informing the approach to climate change (Macinnis-Ng, et al., 2021).

However, it was highlighted that the embedding of indigenous knowledge into climate responses remains a significant gap. This gap will remain unless the health sector ensures that tāngata whenua and local Iwi and hapū are co-creating climate responses, policies, and strategies.

As discussed, there are solutions to climate change that already exist within indigenous Māori knowledge. This research highlights a significant gap in DHBs inclusion of Māori led solutions to climate change. This has resulted in a narrow focus of existing policies to respond to emissions, not to the holistic health needs of Māori.

To address this gap, the health sector needs to strengthen connections with iwi, and hapū as well as develop infrastructure to ensure the prioritisation Māori knowledge and health concepts as solutions to climate change. My environmental scan findings identified that out of 17 DHBs, only six referred to relationships with their Iwi Māori Governance board. Although this finding is

limited to what is publicly available, it is an indication of the frequency of the board's involvement.

Iwi Māori are already responding to climate change and these learnings could be supported within health responses. Māori health strategies and research highlight the importance of ensuring Māori solutions are foundational in decision making. These strategies can be drawn on to mandate that climate responses are informed by Māori to ensure better responsiveness to Māori health needs.

Applications of Research to Pae Ora – Healthy Futures, Te Whatu Ora and Te Aka Whai Ora

During the time this research was completed, the New Zealand Government implemented Health Reforms under the Pae Ora – Healthy Futures Bill (2021). These reforms resulted in the disestablishment of District Health Boards and the development of two health authorities. These being, Te Whatu Ora Health New Zealand and Te Aka Whai Ora, the Māori Health Authority. Health reform in Aotearoa New Zealand is ongoing and quickly changing. A recent bill has now introduced the disestablishment of Te Aka Whai Ora, the Māori Health Authority (Pae Ora (Disestablishment of Māori Health Authority) Amendment Bill, 2024).

At a time of reform and change, the health sector has the opportunity to implement and transform climate policy. As part of reform, there could be transformation in policy to address climate change as an integral element of health, that has unique impacts for Māori. Bennett & King (2018) developed blue sky thinking and advocate for a climate change response that is founded in health equity. The time is now for these approaches to be implemented in the health sector. My research has identified the current state of health sector policy, as well as highlighted areas for building on the gains and bolstering existing integrated equity and climate responses.

Te Whatu Ora now has the chance to implement a co-ordinated response to climate change. Based on existing literature and findings from my research, I have developed the future recommendations. These recommendations provide a foundation for the health sector to address the impacts of climate change on the health of New Zealanders, with consideration for the health impacts for Māori.

Future Recommendations

Develop a coordinated approach to climate change across regions that outlines minimum standards for localities.

As was evident in my stage one of my environmental scan, there was variation in climate responses across DHBs. Literature suggests that climate change is an issue of equity (Bennett et al., 2014). If inconsistency continues to exist, there will remain inequity in health responses to climate change. With a newly established health authority that has oversight across regions, there is an opportunity to develop increased consistency in health sector climate responses. This will ensure a minimum standard is met for communities across Aotearoa New Zealand.

Ensure all policies, strategies or plans related to sustainability or climate change, consider the impact of climate change on communities and human health.

As Durie (2004), would suggest, Māori health is multifaceted and does not exist in isolation. Holistic approaches are required to ensure the health needs of Māori are met. Further, He Korowai Oranga and themes discussed by DHB staff in Chapter Five, suggest that working across sectors is a facilitator to developing and implementing climate change policy. Therefore, when developing sustainability and/or climate change policies across the health sector, it is necessary to consider the critical impacts of climate change on health. Without this consideration, policies will remain narrowly focused on emissions measurement and eliminate the critical impacts of climate change on human health.

Where possible, build on the good work that exists to develop interconnected responses to climate change. Ensure this interconnection acknowledges the intrinsic relationship between Māori health and the environment.

A key thread of the He Korowai Oranga strategy is to 'Build on the Gains' (Ministry of Health, 2014). This thread is focused on building on the success of a Whānau Ora approach to health. My research findings across both the environmental scan and qualitative interviews, suggests that there are elements of valuable climate policy responses that exist within the health sector. These particularly exist in areas of equity responses. They require leadership understanding and endorsement to be institutionally developed. Future policy responses can use this research to understand elements of existing, connected policy responses and build on these gains.

Develop solutions that are equity driven and recognise that equitable responses to climate change will benefit health in the long term.

Through my literature scan in Chapter One, I presented a body of literature specifically focused on highlighting the links between equity and climate change. In relation to those existing findings, participants in this research shared that that DHBs already have a focus on ensuring health equity. They see opportunities to interconnect emissions reduction, financial commitment and ensuring health equity as one.

An existing equity focus provides the opportunity to connect and build on these approaches. If climate change is not addressed with an equity lens, literature presented in Chapter One suggests that existing Māori health inequities will be

exacerbated through climate change (Bennett & King, 2018; Manning et al., 2014; Masters-Awatere, et al., 2022).

Ensure that Māori are involved in policy development right from the beginning stages and have the autonomy to develop health responses to climate change that meet the needs of Māori communities.

Māori health statistics highlight that health inequity continues to persist within Aotearoa New Zealand. The Wai 2575 tribunal found that DHBs were failing to uphold Treaty of Waitangi obligations to ensure Māori health equity. This indicates that the essential threads of He Korowai Oranga, including Māori participation were not being upheld (Waitangi Tribunal, 2019).

To prevent future breaches of Treaty of Waitangi obligations, the health sector requires mechanisms for Māori decision making at all levels of health policy development that will affect Māori communities. My research would suggest that these mechanisms would include the development of close working relationships with local Māori, to ensure that Māori have decision making power at the very beginning of climate policy development.

A quote from Tangata Whenua Interview One, summarises this recommendation with a call for systems change. *The only way, a systems change, and that's not going to happen without co-design, co-governance, and co-management.* – **Tangata Whenua Interview One**. Ultimately, our health system requires significant reform to ensure co-design, co-governance and co-management are institutional realities within the health sector. I will continue to hold hope that through health reform, the health sector will embrace the recommendations of existing research to implement systemic change.

Recognise, include and protect the intrinsic knowledge of Māori to effectively respond to climate change through Mātauranga Māori.

In Chapter One of this research, literature was presented related to historical connections between indigenous peoples and the natural world. This history yields intrinsic understandings for the future development of climate policy (Nakashima et al., 2018; Macinnis-Ng, et al., 20021; Abbott, 2021; Hikuroa, 2016).

Tāngata whenua interviews in this research, aligned with the recommendations of academics noting that DHBs do not have to start from scratch to develop climate responses. Mātauranga Māori is a knowledge base for building effective responses to climate change. *I think, just when you talk about how do we make it happen, is our Mātauranga. So bringing that together, finding out what it is, who knows*

what, and standing that back up again. I don't know if I'm... regenerating that up. So and we do a lot of work with [Maramataka. It's a credible prevention system – Tangata
Whenua Interview One. The inclusion and protection of Mātauranga Māori in health responses to climate change, is a recommendation from this research for future exploration.

Conclusion

The impacts of climate change are significant and increasing. Many researchers have discussed the way that climate change will have negative effects on human health. These are likely to be increased for vulnerable populations, including indigenous people who are already experiencing health inequities. In response to this, it is critical that the health sector in Aotearoa is responding to the impacts of climate change by prioritising Māori health needs as tāngata whenua.

My thesis research aimed to examine existing DHB climate change policies and how these policies respond to Māori health. Overall, accessing climate change policies through DHB websites was a time-consuming task that required knowledge of DHB language, and documentation. Most often, information regarding DHBs response to climate change, or sustainability was located within annual plans, strategies or reports. Having information on webpages that takes time and knowledge to access, creates barriers for public access to policies that will impact their health and wellbeing.

Interview findings and environmental scan data suggested that sustainability was primarily focused on areas including waste reduction, procurement, energy use, transport, and water management. As with many of the DHB responses, these key areas were primarily motivated by government responses and legislation regarding climate change. The focus areas listed above were important responses for DHBs to reduce their impact on the environment. However, they displayed a focus on measurable outputs rather than responses that focused on the needs of the community. A wider, holistic focus is required.

Implementation of sustainability initiatives were at times mentioned in interviews and DHB website documents, however, did not appear to be consistent across DHBs. Examples provided through interviews created an understanding of how climate change initiatives within DHBs could be strengthened to address multiple needs, such as equity, climate change and health. Alongside the use of Māori health strategies like He Korowai Oranga, there is potential to develop climate change policy that aligns with the needs of Māori health. By ensuring DHB climate change policy strives to support Māori health, DHBs could take a step closer to reaching the overall aim of Pae Ora, Healthy Māori futures.

My research identified difficulties in layperson access to DHB climate change policies, as well as multiple gaps in the way climate change policy responds to Māori health. There was significant inconsistency in policy across regions, while the policies identified failed to capture the significant health impacts that climate change will have for Māori already experiencing health inequity. There is

potential for Māori cultural values and strategies to lead a positive shift in policy. This requires recognition of the importance of a holistic approach to the issue of climate change and health.

There are benefits to applying an equity approach to climate change policy within the health sector. This approach demands leadership support and understanding, working across sectors to implement policy and solutions that are led by Māori for Māori.

Māori knowledge exists that can provide solutions for climate change adaptation and policy. These understandings can be enhanced by DHBs through ensuring local Māori, iwi and hapū have a central role in the development of health sector climate change policy. These solutions would ensure better responsiveness of climate change policy to Māori health.

To implement the solutions discussed, system change is required and can be achieved through current health reforms if leaders are brave enough to create these shifts. The findings of this research advocate for approaches that embrace community psychology values. Particularly, approaches that are founded on health equity, are interconnected system responses and amplify cultural awareness within policies developed that effect Māori health.

Future research could prioritise identification of Māori solutions and how the health sector can devolve power for Māori communities to implement responses to climate change that meet the health needs of Māori.

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Appendices

Appendix A – Human Research Ethics Approval Letter

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Human Research Ethics Committee
Roger Moltzen
Telephone: +64021658119
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9 August 2021

Elisha Powell
School of Psychology
DALPSS
By email: elishapowell703@gmail.com

Kia ora Elisha

HREC(Health)2021#51: An examination of DHB Climate Change Policy and Implementation: Institutional Responsiveness to Māori Health

Thank you for your responses to the Committee feedback.

We are now pleased to provide formal approval for your project.

Please contact the Committee by email (humanethics@waikato.ac.nz) if you wish to make changes to your project as it unfolds, quoting your application number with your future correspondence. Any minor changes or additions to the approved research activities can be handled outside the monthly application cycle.

We wish you all the best with your research.

Regards,

Emeritus Professor Roger Moltzen MNZM
Chairperson
University of Waikato Human Research Ethics Committee

Appendix B: Participant Recruitment Email

Recruitment email for interviews with selected DHB staff:

Tēnā koe,

Your name has been provided to me by “insert name of appropriate DHB member” who has said that you hold an interest in climate change policy within the “insert name of selected DHB”.

I am a Master’s student at the University of Waikato and am currently researching DHB climate change policy implementation in relation to Māori Health. Associate Professor Bridgette Masters Awatere and Dr Trish Young are supervising my research.

As an identified member of the DHB involved with policy development, I would like to invite you to share your knowledge on climate change policy implementation within your community. This would involve being a part of an interview where we will have a conversation about your understanding of effective policy implementation with respect to climate change and responsiveness to Māori health.

The interview would be around 45min – 1hr long and your participation is entirely voluntary. I have attached an information sheet that outlines further details about the research and interview process.

Your knowledge and contribution to this research would be invaluable, however I do understand that you will have a busy work schedule. I am more than happy to work around your schedule if you are interested in participating.

This research project has been approved by the Human Research Ethics Committee (Health) at the University of Waikato. Any questions or concerns about the ethical conduct of this research may be sent to the Secretary of the Committee, email humanethics@waikato.ac.nz, postal address, Human Research Ethics Committee (Health), University of Waikato, Te Whare Wānanga o Waikato, Private Bag 3105, Hamilton 3240.

Please contact my supervisors or myself if you have any further questions.

Nāku iti noa, na,

Elisha Powell

Masters Student

elishapowell703@gmail.com

Bridgette Masters-Awatere (Research Supervisor)

Email: bridgette.masters-awatere@waikato.ac.nz

Trish Young (Research Supervisor)

Email: trish.young@waikato.ac.nz

Appendix C: Participant Information Sheet



Information Sheet for DHB Policy Staff

Title of Project An examination of DHB Climate Change Policy and Implementation: Institutional Responsiveness to Māori Health

Approval statement:

This research project has been approved by the Human Research Ethics Committee (Health) at the University of Waikato as HREC(Health)2021#51. Any questions or concerns about the ethical conduct of this research may be sent to the Secretary of the Committee, email humanethics@waikato.ac.nz, postal address, Human Research Ethics Committee (Health), University of Waikato, Te Whare Wānanga o Waikato, Private Bag 3105, Hamilton 3240.

An Invitation

As an identified member of DHB staff, I would like to invite you participate in this research to share your knowledge of DHB policy implementation relating to climate change and responsiveness to Māori health.

Purpose

The aim of this Masters research is to examine existing DHB Public Health Policies in regard to climate change and their connectedness to Māori health. The purpose of the interviews will be to understand the extent to which these policies are being effectively implemented to meet the health needs of Māori in your community. The interviews will involve exploring barriers and facilitators to engaging with Māori in a health context. This may also involve discussion regarding relationships with community stakeholders that support the implementation of policy.

This research is being completed as a part of a wider research project titled Haumanu Hauora: Strengthening health institution Māori responsiveness to climate change. This is a project funded by the Deep South National Science Challenge and will contribute to the development of a policy framework. This framework will assist two DHBs (Lakes and Waikato) to better prepare for the impacts of climate change and be more responsive to the needs of Māori within this context.

Associate Professor Bridgette Masters-Awatere is the Principal Researcher for the Haumanu Hauora project and Dr Trish Young is the Research Coordinator. Both Bridgette and Trish will be supervising this masters research project.

Requirements

Taking part in an interview will involve discussion regarding your understanding of DHB climate change policy implementation and Māori responsiveness. I am interested in understanding the ways in which you see that the DHB can effectively implement climate change policy within the community. An important part of this conversation will be to discuss the ways that the DHB in which you are located, is effectively implementing policy to respond to the health needs of Māori in the context of climate change. Following the interview I will send you a transcript of your

interview to review. You will have two weeks from the date you receive the transcript to make any changes to your transcript or withdraw from the research completely.

Confidentiality

All of your information will remain confidential and your name will not be attached to the information you share. Any identifying information in your interview will be removed at your request. The information you share with us will be used as a part of a master's thesis report. It will also be used as a part of the wider Haumanu Hauora Strengthening health institution Māori responsiveness to climate change research.

Information storage and Dissemination

Your information will be securely stored within the University of Waikato by my research supervisor. The information gathered within the interview will be used to formulate a report that will then be published on the University of Waikato research commons. It will also be used to inform aspects of the wider Haumanu Hauora project. The research from the Haumanu Hauora project will be published and developed into a policy framework. You will have access to this publication upon its completion.

If you have any further questions or concerns regarding participation in this research please contact:

Elisha Powell (Researcher)

Email: ep49@students.waikato.ac.nz

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Bridgette Masters-Awatere (Research Supervisor)

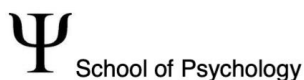
Email: bridgette.masters-awatere@waikato.ac.nz

Trish Young (Research Supervisor)

Email: trish.young@waikato.ac.nz

!

Appendix D: Participant Consent Form



Consent form for DHB Interviews

Research title: *An examination of DHB Climate Change Policy and Implementation: Institutional Responsiveness to Māori Health*

- The researcher has explained to me the purpose of the research and I have had the chance to ask any questions about the research
- I know that taking part in the research is voluntary and I can withdraw at any time during the interview process, and up to two weeks after I have received my interview transcript
- I understand that my data will be removed from the research if I withdraw from the project within two weeks of receiving my transcript. If I decide to withdraw from the project after this time, I understand that what I said may not be able to be identified and removed from the data
- I understand that all information will be kept confidential and will only be used for research purposes. What I say may be included in a research report, and the development of a policy framework.
- I understand that any digital recording of interviews will be deleted, and any other data destroyed after five years.

Please complete the following checklist	YES	NO
I agree to be interviewed for this research study		
I agree that the interview may be digitally recorded		
I agree for my views to be linked to my role as agreed		

Approval statement:

This research project has been approved by the Human Research Ethics Committee (Health) at the University of Waikato as HREC(Health)2021#51. Any questions or concerns about the ethical conduct of this research may be sent to the Secretary of the Committee, email humanethics@waikato.ac.nz, postal address, Human Research Ethics Committee (Health), University of Waikato, Te Whare Wānanga o Waikato, Private Bag 3105, Hamilton 3240.

Declaration by participant

I agree to participate in this research project and I understand that I may withdraw at any time up to two weeks after I have received my interview transcript. If I have any concerns about this research, I may contact the Human Research Ethics Committee (Health) via email: humanethics@waikato.ac.nz

Participant:

Researcher: Elisha Powell

Signature:

Signature: 

Date:

Date:

Contact:

Contact: ep49@students.waikato.ac.nz

Appendix E: Interview Guide

Interview Guide for DHB Policy Staff Interviews

An examination of DHB Climate Change Policy and Implementation: Institutional Responsiveness to Māori Health

Introduction:

Whakawhanaungatanga. Spend time getting to know each other and establishing connections/rapport.

Introduce the project

First discuss the wider Haumanu Hauora: Strengthening health institution Māori Responsiveness to Climate change project. Then explain the role this masters research has within the wider project. Explain the reasons for the interviews with these participants.

Open the interview with a karakia to create a safe space for the conversation.

The focus of these interviews is on understanding climate change policy **implementation**. The questions will be related to your views regarding of climate change policy implementation in your region.

1. Establishing the participants connection to the environment and position on climate change

Prompts

- Can you describe your connection to the environment and the ways in which you notice climate change having an impact on this environment?
- What is your understanding of DHB Policy around Climate Change?
- Are there particular ways that you see DHB Climate Change Policy as linked to Māori health?

2. Climate change policy implementation

Questions specific to the implementation of the policies in the DHB that have been identified through stage two of the research. Discuss and make reference to these specific policies as appropriate.

Prompts

- In what ways do you see that the policies the “*selected DHB*” have developed are being effectively implemented in your region?
- Prompts (what are the key facilitators and barriers to implementation, are there any particular challenges you have encountered)
- Are there key relationships that need to be in place to support implementation of these policies?

3. Policy implementation in relation to Māori health

Questions related to understanding DHBs responsiveness to Māori health in the context of climate change.

- Are there key differences for implementation of these policies within Māori communities?
- Are there specific relationships with iwi/hapū that need to be in place to support successful implementation of these policies?
- Can you describe any effective implementation strategies for this region in relation to climate change and Māori responsiveness?

Closing the interview

Close the interview by asking the participant if they have any further questions or comments. Answer any questions the participant has. Inform them of what will happen following the interview. Explain that a copy of the transcript will be sent to them for review and a summary of the research findings will be sent via email once the research has been completed. Ensure that the participant has a copy of the information sheet and my contact details as well as my supervisors.

Close the interview with a closing karakia.

Appendix F: Royal Society Te Apārangi Visual Representation



Appendix G: He Korowai Oranga Framework Visual Representation

