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An Exploration of the Māori Housing-Health Nexus During the Mid-Twentieth Century

He Hōpara I Te Raupapa Hononga I Waenga I Te Hauora Me Ngā Whare Noho O Te Māori I Te Pokapū O Te Rautau Rua Tekau

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Abstract

Māori died at seven times the national rate during the 1918–1919 influenza pandemic. Government officials noted what they described as the shocking housing conditions experienced by Māori. Despite the connections between Māori health and housing being apparent, the interwar years saw little government response. After World War Two, Māori housing outcomes improved dramatically. Similarly, Māori physical health indicators positively trended. This paper will explore these two trends by examining the entwining of Māori housing conditions, government housing policies, and the physical health indicators associated with poor housing.

Keywords: New Zealand, Māori housing, Māori health, state housing policy, mid-20th century housing policy

Whakarāpopotonga

E whitu whakareanga ake te pāpātanga mate o te Māori i ērā atu taupori i te urutā rewharewha o 1918–1919. He mea whakaahua ā-tuhi e ngā āpiha o

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te kāwanatanga ngā āhuatanga whare noho tino kino rawa atu o te Māori. Ahakoa e mārama ana ngā hononga i waenga i te hauora Māori me ngā āhuatanga whare noho, he iti te urupare a te kāwanatanga i ngā tau i waenga i ngā pakanga e rua o te ao. Muri mai i te Pakanga Tuarua o te Ao i tino nui te pikinga ake o ngā otinga whare noho ki te Māori. I takatika hoki ngā ia e pā ana ki te hauora ā-tinana o te Māori. Ka tūhurahura tēnei pepa i aua ia e rua mā te ārohi i te kōtuituinga o ngā āhuatanga o ngā whare noho Māori, ngā kaupapahere whare noho a te kāwanatanga, me ngā tohu hauora ā-tinana e pātahi ana ki ngā whare noho kāore i te pai.

Ngā Kupumatua: Aotearoa, whare noho Māori, hauora Māori, kaupapahere whare noho a te kāwanatanga, kaupapahere whare noho i te pokapū o te rautau 20

The Māori death rate during the 1918–1919 influenza pandemic was seven times that of the general populace. This brought a wave of officials into the mostly rural Māori kāinga (villages), who noted what they saw as 'shocking' living conditions (Wanhalla 2006). "Houses," Wanhalla (2006) explains, "were repeatedly described as 'hovels' and communities as 'slums'" (p. 102). The influenza pandemic made the connection between Māori housing and health apparent to the Department of Health, yet in the interwar years little was done to improve Māori housing. However, in the decades following World War Two (WW2), Māori housing outcomes improved significantly. Similarly, in the same time frame, many Māori physical health indicators trended positively. Bierre et al. (2007) state that "the period during and immediately after WW2 was a critical juncture in housing history" (p. 44) in New Zealand. For Māori, it was a critical juncture in both housing and physical health which mitigated the housing and health declines driven by colonisation.

This paper will explore the potential connection between the improving trends in housing outcomes and physical health indicators from the 1930s to the 1960s – a period hereafter referred to as the 'mid-century'. Because of the complicated potential interconnections at the nexus of housing and physical health, it is difficult to ascribe any direct association or relationship. The Māori population experienced numerous changes that would help to explain improving

physical health, including increased access to health care, targeted health policies and medical advances, alongside improved housing. While this paper will not attempt to make causational attributions, it aims to examine these connections between housing and health by building up a number of threads of circumstantial evidence. To do this, it will describe Māori housing conditions across the mid-century, outline the state housing policies that improved Māori housing outcomes during this period, analyse the connection between housing and physical health associated with poor housing over the course of the mid-century, and provide the available relevant physical health statistics.

It needs to be emphasised that this paper is exploratory. It is based on scoping research conducted during the first year of the research project Huaki undertaken within the Building Better Homes, Towns and Cities National Science Challenge. Huaki aims to harness data to improve Māori housing outcomes. The scoping research has highlighted that housing and physical health data available around Māori is frequently inconsistent, with many of the collected statistics changing over time in terms of how they are labelled, categorised, measured and presented. Notwithstanding, that data are the only option to probe the housing–health nexus during the mid-century from a quantitative perspective. The paper focuses on the 1930s onwards. Much of the available data begins in 1936, so the 1930s was a natural starting point, and the way Māori were categorised by Statistics New Zealand was relatively consistent until the 1970s (Statistics New Zealand, 2001). Changes after this date make already difficult cross-time comparisons even more difficult, so this time span provides a comparatively cohesive era in terms of data, even though issues, which will be outlined where relevant, remain. The analysis is focused on the national scale. Data for regional levels do exist, though it is not comprehensive or consistent. A more granular analysis was excluded from the paper due to the preliminary nature of the project, considerations of space for the paper, and because it would have added even more data

complexities, particularly around changing jurisdictional boundaries. The paper also focuses more on the history of Māori housing and relevant policy, largely because this is the key focus of Huaki.

It is also important to note that even as Māori physical health indicators improved during the mid-century, many Māori mental and social health indicators trended negatively. In their pioneering study, the Beagleholes (cited in Gassin, 2019) posit that the lower rates of mental illness among Māori in the 1940s was at least in part due to "the tremendous value to the Maori of possessing a psychological security that comes from tribal and family membership" (p. 6). While the data used by the Beagleholes have been questioned, the general trend in mental and social health is less controversial. Gassin's (2019) Waitangi Tribunal report notes that during mass urbanisation, Māori mental health went from being better to worse than non-Māori, with rates rising significantly in the 1960s. Likewise, across what might be called 'social health', a variety of negative indicators relating to crime, drug use, youth issues and family cohesion all increased during the mid-century (Department of Corrections, 2007; Hill, 2010; Williams, 2019). Urbanisation improved material living conditions and increased access to health care, but it also saw Māori leave the protective buffer of their kāinga, where they were still able to exist in relative continuity with traditional ways and close proximity to whānau (family). After moving into settler towns and cities, Māori were exposed to the full brunt of institutional and individual racism in the settler state without the support of their culture or whānau (Reid et al., 2017). The isolation and alienation of life in settler cities and towns, along with the assimilation pressures and stresses of urban life, saw Māori mental and social health thrown into increasing conflict (Reid et al., 2017).

Māori housing conditions

At the start of the mid-century, Māori housing conditions typically provided neither a healthy living environment nor matched the condition and amenities of housing accessed by the non-Māori populace. Many Māori dwellings lacked basic amenities, such as running water, insulation, raised floors and sealed windows, and were overcrowded and unsanitary (Krivan, 1990; Orange, 1977). Before examining the surveys that provide these insights, a brief discussion of both the driving forces for this substandard housing and the rural-urban divide is needed.

Māori housing at the time could be considered rudimentary and reflected processes of land loss and poverty caused by colonisation (Krivan, 1990; Reid et al., 2017). Māori were left with small sections of some of the worst land, and where settlements had once been on elevated sites with ample space, they were now squashed into often damp, low-lying areas (Krivan, 1990). Māori housing access was shaped by low incomes associated with working in low-paid, tenuous jobs in the settler economy (Reid et al., 2017). Māori poverty was exacerbated by the Great Depression, which, as Durie (cited in Reid et al., 2017) explains: "impacted heavily on Māori, adding immeasurably to the existing poverty. As overseas markets collapsed and small-scale farming became unsustainable, the Māori economy was unable to support the now growing population; Māori unemployment soared" (p. 37). While the Depression pushed Māori from the provinces, the need for a manufacturing workforce during World War Two pulled Māori into the cities (Reid et al., 2017). In 1936, 17 per cent of Māori lived in urban areas; by 1945, this had increased to 26 per cent; and by 1966, 62 per cent of Māori were living in cities (Pool, 1991). This demographic shift is further contextualised by the significant increase in the Māori population, which went from 94,053 in 1936 to 249,237 in 1966 (Statistics New Zealand, 2007).

In her Waitangi Tribunal report on Māori health, Robinson (2011) concludes that "it is clear that in the 1920s and 1930s, and probably before, Māori housing was generally unhealthy. It was inadequate not only compared to the housing of non-Māori… but also in objective terms" (p. 101). Largely driven by concerns over the physical health issues created or exacerbated by poor housing, in the 1930s and 1940s several surveys of Māori housing conditions were conducted.

One of the first surveys of Māori housing conditions was conducted in 1933 by Doctor Harold Turbott, then Medical Officer of Health (Krivan, 1990). He surveyed Waiapu county, a district on the North Island's East Coast where Māori housing conditions were better than the norm (Krivan, 1990). He found that 60 per cent of the houses were overcrowded, "'a large proportion' were dark, damp and not well ventilated, 50% had an unsafe water supply, 50% had such bad toilets that they were no better than a house without a toilet and 33% had no toilet" (Krivan 1990, p. 22). It should be noted that Turbott found that less than 9 per cent of the houses "were dirty, and some, including some of those with earth floors were 'scrupulously clean'", concluding that a "lack of facilities did not necessarily equate to lack of hygiene" (Robinson, 2011, p. 97). These substandard conditions were not exclusive to Māori, with poor non-Māori also living in similar housing (Ferguson, 1995; Orange, 1977; Robinson, 2011). While many poor non-Māori had equally substandard housing, because Māori were disproportionately poor, they were disproportionately affected. Māori were particularly disadvantaged as land loss had reduced their subsistence capacity while urbanisation had cast Māori into an "industrial economy, largely as labourers and often at the unskilled end" (Durie, quoted in Reid et al., 2017, p. 40), and the state provided less housing assistance for Māori than the general populace (Krivan, 1990; Orange, 1977).

In 1937, the Department of Native Affairs (DNA) conducted a national housing survey (Ferguson, 1995).[1] Of the thousands of mainly rural Māori dwellings surveyed, 59 per cent were

overcrowded, 36 per cent were unfit – dark or damp, 45 per cent had unsafe water, and 44 per cent had widely spread rubbish (Ferguson 1995, p. 35). Furthermore, while the Department's survey found that rural housing conditions were poor, urban Māori "tended to exist in slum conditions" (Krivan 1990, p. 23). An Auckland City Council housing survey in 1937 reinforced this, finding that "a strikingly large number of the inhabitants of Auckland's slums" were Māori (Krivan 1990, p. 23). By 1944, the DNA commissioned the newly appointed Chief Welfare Officer, Rangi Royal, to survey Māori housing in Panmure (a suburb of Auckland, New Zealand's largest city) (Orange, 1977). His report notes:

> They comprised tents, galvanised iron shacks, portions of stables and manure sheds, and dwellings of packing cases, rough timber and rubberoid. Overcrowding is prevalent and the sanitary arrangements most primitive… Cooking is done… mostly on open fires and in the majority of cases, they sleep, cook, store and eat food in the one room. (Orange, 1977, p. 183)

Royal estimated that 1200 homes were needed to house the Māori families living in Auckland, with 500 required immediately (Orange, 1977). Māori living conditions were so dire in the immediate post-World War Two era, and of such variance to wider society, that "it was initially intended that the Housing Improvement Regulations (1947) would not apply to Māori housing" (Bierre et al. 2007, p. 56). The reason for this was that "local authorities felt that the regulations would be too difficult to enforce" as so few Māori houses would comply (Bierre et al. 2007, p. 56). This is symbolic of the state's lack of engagement with the Māori housing crisis during the early and mid-twentieth century. Rather than improve Māori dwellings, it was considered easier to simply excluded Māori from mainstream housing legislation.

The 1936 and 1945 censuses enable comparisons in housing types between Māori and non-Māori to be made (Tables 1 and 2).

Table 1: Māori and non-Māori housing types from the 1936 and 1945 censuses

	1936		1945	
Housing Type	**Māori %**	**Non-Māori %**	**Māori %**	**Non-Māori %**
House	52.8	86.5	69.4	85.5
Flat	—	3.6	—	6.8
Bach/Hut	33.9	4.2	26.3	3.2
Temporary	11.0	2.9	2.7	2.4
Other	2.3	2.3	1.6	2.1

Source: Krivan (1990, p. 56).

Table 2: Percentage of permanent private dwellings with amenities for Māori and non-Māori from the 1945 Census

Amenity	Māori % dwellings with	Non-Māori % dwellings with
Water Supply	33.5	79
Hot Water	20	75.2
Bathroom Facilities	35.9	91.6
Flush Toilet	13.5	69.8

Source: Krivan (1990, p. 56).

There were improvements in permanent Māori dwellings matched by a decline in temporary or insubstantial housing between 1936 and 1945. Nevertheless, Māori housing conditions were still considerably worse than non-Māori, with almost a third living in dwellings other than houses in 1945. The 1936 and 1945 censuses also show that Māori experienced greater overcrowding, with the average number of occupants per dwelling at 5.8 and 5.7, respectively, while for non-Māori it was 3.9 and 3.6, respectively (Krivan, 1990). The 1945 Census recorded data on a range of amenities in permanent private dwellings that are critical to physical health (Cram et al., 2019), and showed that most Māori houses had fewer amenities than most non-Māori houses.

By the 1960s, Māori housing type had improved significantly, with near parity with non-Māori by 1966, as shown by data from the two censuses presented in Table 3.

Māori permanent private dwellings were also approaching parity regarding amenities by 1966, as presented in Table 4.

Table 3: Māori and non-Māori housing types from the 1961 and 1966 censuses

	1961		1966	
Housing Type	**Māori %**	**Non-Māori %**	**Māori %**	**Non-Māori %**
House	84.8	87.9	87.2	87.5
Flat	7.5	8.4	8.4	10.5
Bach/Hut	7.1	1.1	0.8	0.8
Temporary	2.5	1.5	1.1	1.1
Other	0.3	1.1	0.1	0.1

Source: Krivan (1990, p. 119).

Table 4: Percentage of permanent private dwellings with amenities for Māori and non-Māori from 1966 Census

Amenity	Māori % dwellings with	Non-Māori % dwellings with
Water Supply	99.4	99.9
Hot Water	92	98.9
Bathroom Facilities	91.9	98.6
Flush Toilet	78.5	93

Source: Krivan (1990, p. 121).

Māori housing conditions – Summary

The quality of Māori housing improved dramatically during the mid-century, both in terms of the type of dwelling and the amenities in permanent private dwellings. From 1936 to 1966, the percentage of Māori in permanent dwellings went from 52.8 per cent to 87.2 per cent . Proportions of Māori living in baches, huts, temporary or other dropped from a combined 47.2 per cent to 2 per cent (Table 5). Similarly, access to amenities in Māori dwellings improved significantly during the mid-century across all four metrics. This data only includes permanent dwellings – and these went from 52.8 per cent to 87.2 per cent, so the increase is very significant (Table 6).

Table 5: Percentage of different types of Māori dwelling from 1936, 1945, 1961 and 1966 censuses

Housing Type	1936	1945	1961	1966
House	52.8	69.4	84.8	87.2
Flat	–	–	7.5	8.4
Bach/Hut	33.9	26.3	7.1	0.8
Temporary	11.0	2.7	2.5	1.1
Other	2.3	1.6	0.3	0.1

Source: Krivan (1990, p. 119).

Table 6: Percentage of permanent private dwellings with amenities for Māori from 1945 and 1966 censuses

Amenity	1945	1966
Water supply	33.5	99.4
Hot water	20	92
Bathroom facilities	35.9	91.9
Flush toilet	13.5	78.5

Source: Krivan (1990, p. 121).

Compared with the housing conditions of Māori at the outset of the mid-century, dwelling type and access to amenities had improved substantially by 1966. Many Māori experienced internal plumbing, electricity, carpeted floors and other trappings of 'modernity' for the first time during the mid-century (Ferguson, 1994; Labrum, 2013). The state housing stock from 1940–1960 was "very progressive compared to the bungalows and villas that preceded them" (Leardini & Manfredini, 2015, p. 235). As Leardini and Manfredini (2015) explain:

> The new types [of houses] were usually orientated to the north to allow maximum sun penetration into the main interior living areas in winter, and fitted with eaves for protection from the summer heat. Windows were larger to increase sunlight and fresh air, which were deemed very important to avoid the recent outbreak of tuberculosis and diphtheria. (p. 235)

While there had been significant improvements, there were still major issues. Overcrowding was still a problem for Māori, with 5.3 people per dwelling on average in 1966 compared with 3.3 for non-Māori (Krivan 1990, p. 120). Also, in 1966 a large survey of 5111 Māori houses found 1231 houses were 'unsound', 2492 houses were 'overcrowded' and 1388 houses were both 'unsound' and 'overcrowded', the latter making up 27 per cent of households surveyed (Krivan 1990, p. 122). Despite these persistent issues, there were tangible advancements in Māori housing type and amenities over the period.

Government housing policies

During the mid-century, there were many Māori-specific as well as mainstream state housing policies. Mapping these out is a critical if complex endeavour. This section details specific and targeted government policies relating to both state rental housing and private home ownership. Before examining these, it needs to be stated that while there were successes in state housing policies and Māori housing outcomes, there were also failures. While the mid-century saw policy driving positive trends in Māori housing, it was still

characterised by a relative failure to meet demand and need. Ultimately, even at the end of the mid-century, Māori never achieved equality of outcome with the non-Māori populace. Nevertheless, while the overarching history of the government's support for Māori housing is one of insufficiency, including recent history, the end of the mid-century can be considered a relative high point (Krivan, 1990; Rout et al., 2019). The 1970s, a high point for Māori housing, is not covered in the paper for two reasons: the way Statistics New Zealand categorised Māori changed during this decade, which makes it difficult to directly compare outcomes and, as will also be shown, most of the physical health indicators had already improved by the 1970s.

Soon after the election in 1935, the first Labour Government implemented New Zealand's largest state housing programme. Between 1936 and 1949, around 32,000 state rental houses were built under this programme (Ferguson, 1995). The Labour Government also passed the Native Housing Act in 1935, which provided house construction loans to Māori, as long as they had land held under single title (Wanhalla, 2006). The conditions of the finance, including an 8–10 per cent deposit, 4.5 per cent interest, proof of long-term employment, and an expectation the loan would be paid off in 20 years (Ferguson, 1995), were so strict that Orange (1977) believes it "was obvious from these regulations, that Government had decided that Maori housing should be a business venture" (p. 85). The Labour Government, and most of the non-Māori populace, imagined Māori remaining in rural areas and the Act was designed with this in mind – though as outlined above, this would change when the need for factory workers grew during World War Two (Ferguson, 1995). The Native Housing Act was amended in 1938 to provide funding for landless Māori who had no security for their loan (Ferguson, 1995). Within months the allocated funding was exhausted, with hundreds of applicants missing out, and yet still the criteria were too strict for many, indicating the scope of the problem (Orange, 1977).

The funding and political motivation directed at Māori housing were insufficient to meet demand or need during the 1930s

and 1940s (Wanhalla, 2006). In 1939, the Department of Native Affairs (DNA) noted that it had about 3 per cent of the necessary stock to house Māori (Bierre et al., 2007). The minister in charge of the DNA stated in 1943 that "Māori housing is the worst blot on the administrative system of New Zealand" (cited in Bierre et al., 2007, p. 56). During the war, the already limited Māori housing loan scheme had been curtailed and the poor housing situation declined further (Krivan, 1990). By 1940, only 368 houses had been built with funds from the Native Housing Act compared with almost 12,000 under the mainstream housing programme (Wanhalla, 2006). Even more telling was the percentage of total government housing expenditure (TGHE) dedicated to Māori housing, who at the time made up about 6.3 per cent of the total population (Krivan, 1990). Table 7 shows the percentages of TGHE accounted for by the DNA between 1938 and 1950.

Table 7: Percentage of TGHE dedicated to Māori housing between 1938 and 1950

Year	Percentage of TGHE
1938	0.2
1939	1.0
1940	1.0
1941	2.8
1942	0.5
1943	1.8
1944	0.7
1945	1.4
1946	0.9
1947	1.4
1948	1.7
1949	2.6
1950	3.2

Source: Krivan (1990, pp. 38, 53).

The Māori-specific housing policies were not equivalently funded and failed to meet demand or need. Between 1935 and 1949, a total of 2324 houses were built under the Māori Housing Act, or just under a 155 a year on average, compared with the 32,000 state rental houses, or 2133 per year on average, constructed in the same time period (Statistics New Zealand, 1950). It is evident that government housing support for Māori during the 1930s and 1940s was underfunded and insufficient (Krivan, 1990; Orange, 1977).

Compounding this problem, the "provision of housing for Maori in the 1930s existed outside of the mainstream state housing programme" (Wanhalla, 2006, p. 103). "Although Maori theoretically had access," Ferguson (1995) explains, "in reality they were effectively excluded in any numbers from mainstream housing assistance until the 1950s" (p. 1). In a similar fashion, Bierre et al. (2007) note that it "was evident that Māori were effectively excluded from state housing and State Advances loans through a policy of referring all Māori to the Department of Native Affairs" (p. 55). This exclusion can be partly explained because the Māori populace was largely rural and government housing was largely urban, but there were also other factors. Orange (1977) has argued that the Labour Government had a segregationist agenda, with housing as one of its most significant manifestations. Furthermore, few Māori met the required mainstream housing criteria, which included both financial and Euro-centric 'suitability' measures, such as that Māori live a "respectable life… in the European manner" (Ferguson 1995, p. 4). Exclusion was also driven by the systemic and individual racism, particularly within the DNA and the State Advances Corporation (SAC), the organisation charged with housing allocation (Ferguson, 1995; Krivan, 1990; McAllister et al., 2019). In 1943, the DNA Under-Secretary (cited in Bierre et al., 2007) noted with regard to housing, "There are still many Māoris who appear content to remain as they are" (p. 55). As Bierre et al. (2007) explain, "These statements are in direct contrast to the stories told in numerous letters to the Minister of Health or to the Minister of Native Affairs" (p. 55).

Māori were slowly and unevenly integrated into the mainstream housing programme from the 1940s (Krivan, 1990; Orange, 1977). The government created a separate pool of state rentals specifically for Māori in 1944; however, only 97 houses were placed in the pool between 1948 and 1954 nationwide and allocation of these houses was slow (Schrader, 2013). In 1949, after negotiations between the now Department of Māori Affairs (DMA) and SAC, the allocation of all state rental houses was extended to include Māori (Krivan, 1990). As well as being able to apply for state rental housing, Māori could still access loans from the DMA, meaning that by the 1950s they were catered to by both general and Māori-specific state housing policies (Krivan, 1990; Orange, 1977). There was one exception to this integration into mainstream housing: with the election of the first National Government of 1949, state rental houses became available for tenants to purchase; Māori, however, had to wait until 1961 to be able to buy state houses (Woods, 2002). The shortage in Māori housing remained an issue at the start of the 1950s, with the DMA estimating in 1950 that in excess of 2000 houses per year would be required over the next three decades to meet demand (Krivan, 1990). The DMA aimed to provide 800–1000 houses per year over the next decade but never met this target, with 5662 new houses built between 1951 and 1961 and an additional 1650 purchased, repaired or renovated (Krivan 1990, p. 92). The DMA did not deliver the numbers needed, though at 7312 over the decade, it was not too far from its lower target.

There were two key mainstream policies in the late 1950s that can be seen together as providing a stimulus to Māori housing outcomes: 3 per cent government loans to households to support owner occupation and Family Benefit Capitalisation (FBC). They were both introduced by the second Labour Government – a brief red blip between 1957 and 1960 in two decades of National rule. The 3 per cent loans and FBC were introduced to solve two specific issues: a lack of affordable finance and people struggling to provide the deposit, respectively. In the mid-1950s, there were few sources of

finance. The five trustee savings banks were not permitted to finance housing, and main sources of private housing finance were life insurance providers and building societies, who only loaned around two-thirds of the cost at a rate of 5.5 per cent (Keating, 2002). The 3 per cent concessionary loans for families earning less than a £1000 per annum were introduced in February 1958. The loans were state-subsidised, with interest rates less than the SAC rates (Ferguson, 1994). During the mid-1950s there were signs of "a vast body of home seekers who are unable to find the difference between the amount State Advances can reasonably lend and the cost of a house and section" (Keating, 2002, p. 49).

Labour's solution was to allow the capitalisation of the Family Benefit, which had been introduced in 1946 and provided a weekly stipend to all families while their children were under sixteen years (Baker & Du Plessis, 2011). The policy enabled families to access 15 years of each child's benefit to obtain a deposit after a child turned one (Keating, 2002). For most of its history, the FBC could only be used to purchase a new home and applicants needed a specific housing proposition when they applied (Keating, 2002). The majority of FBC applicants applied for both the FBC and the 3 per cent loan, the two working in tandem to enable owner occupation and stimulate housing construction (Keating, 2002). Māori who still did not meet SAC requirements for a loan could apply to the DMA for other forms of finance (Keating 2002). The DMA "was administering a parallel process to that provided by the State Advances Corporation" (Ferguson, 1994, p. 53).

In 1961, government lending peaked "when 52% of all residential buildings were funded by the state" (Ferguson 1994, p. 49). The 3 per cent loans and FBC helped to drive Māori home ownership over the next decade (Ferguson, 1995; Krivan, 1990). As Ferguson (1995) notes, "it was during this period (following the 3% loans and FBC) that urban Māori families were to make the greatest gains in terms of home ownership" (p. 50). There were just over 90,000 applications for FBC loans approved during the 1960s

(Statistics New Zealand, 1965, 1969, 1975). Although data for Māori uptake of the FBC is difficult to find, two references in the Hansard record provide some information. Māori Labour MP Eru Tirikitene noted in 1964 (p. 232) that 6149 whānau had purchase a new home and specifically attributed this to the FBC. While there is certainly some political interest involved, as Labour introduced the capitalisation scheme, the number was not challenged in the record. Then in 1967, the Māori Labour MP Whetu Tirikitene-Sullivan, and daughter of Eru, "recalled from her work [for the DMA] on Maori housing in the Wellington and Hutt areas that over 90 percent of Maori loan applications were facilitated by capitalisation of the family benefit, so undoubtedly capitalisation had accelerated the provision of houses for Maoris" (p. 2400).

In 1961, the Hunn Report, a wide-ranging review on Māori population, housing, education, employment, health, crime and land titles by the temporary head of the Department of Maori Affairs (DMA), Jack Hunn, concluded that the DMA's house construction programme was not keeping up with the demand, and that a major backlog of unsatisfied applicants existed (Huddleston, 2008). The report estimated the need for 13,000 extra dwellings between 1961 and 1971 (Moteane, 1984). Based on the findings of the report and driven by National's Minister of Māori Affairs concerns of 'racial conflict', Hunn was able to "wrest from the government a greater share of the available housing resource" (Krivan, 1990, p. 103). As well as fears of racial conflict, there was an explicit assimilationist agenda behind this drive to increase Māori housing outcomes (Krivan, 1990).

Based on the findings of the report, Hunn developed a programme that spanned 12 years, which was to "reach a peak of 2000 houses per year in 1966" (Krivan, 1990, p. 107). Though well-intentioned, these targets were not adopted and even the lower targets that were set were not met (Krivan, 1990). As Krivan (1990) remarks, "The Maori housing programme did not reach the levels it had anticipated following the publication of the Hunn report" (p. 113).

However, between 1961 and 1971, a total of 12,903 dwellings were provided to Māori, nearly the exact number that Hunn had identified were needed (Krivan, 1990; Moteane, 1984). To be clear, Krivan's (1990) criticism was based both on his own projections of demand and because the DMA only delivered 5483 of the 12,903 houses built during the decade. The 12,903 houses include both state rentals and houses constructed by loans through the DMA and SAC, with 940 from a pool of underutilised state houses, 1622 from SAC loans, 3044 rented from the SAC, and DMA/SAC housing construction programmes providing the remainder (Krivan, 1990; Moteane, 1984). DMA spending as a percentage of TGHE in the 1960s was far higher than the TGHE dedicated to Māori housing in the 1950s (see Table 8), which is even more significant as the Māori populace accounted for 9.3 per cent of the population in 1966 as opposed to 6.3 per cent the decade before (Krivan, 1990, p. 114).

There were a number of important components to the DMA housing programme during the late 1950s and 1960s. In 1958, the DMA introduced no minimum deposit on home construction loans and increased their mortgage duration from 25 to 30 years, both of which made accessing finance much easier for Māori (Ferguson, 1995; Krivan, 1990). These two changes brought the Māori-specific finance criteria into line with mainstream state finance, where previously Māori loans had been made under much stricter criteria (Ferguson, 1995). For the first half of the 1960s, Ministry of Works houses were diverted to the DMA housing programme, though these were more expensive, which is why this was stopped in 1965 (Krivan, 1990). Vacant state houses were also sold to Māori through the DMA, though due to location and size issues, only 138 of the projected 400 were acquired (Krivan, 1990). Another policy introduced in 1963 allowed young couples who did not qualify for the FBC to obtain a second mortgage through a Māori Trustee (Krivan, 1990). While the overall trend for Māori housing numbers was positive during the 1960s, even if it never met the demand, there was shift from ownership to renting as the number of rentals the DMA and SAC

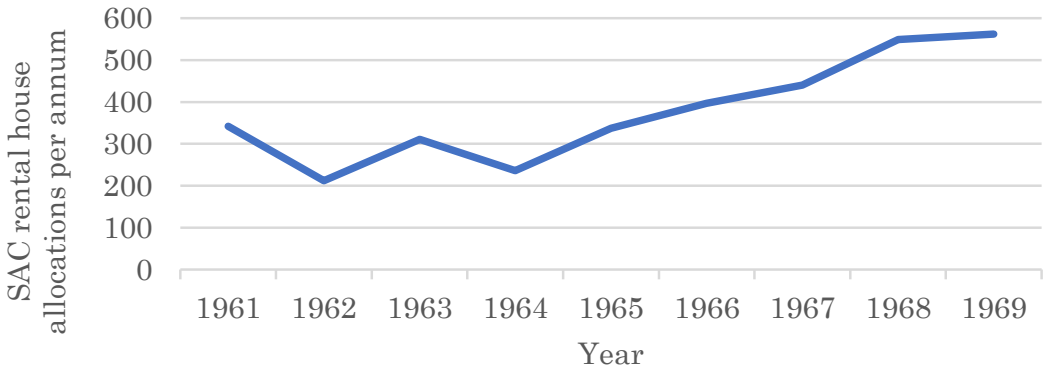
provided increased while the number of housing loans provided dropped (Krivan, 1990). At a critical point during this period, Māori had access to both mainstream and Māori-specific housing schemes, and it is this dual track provision that is seen as particularly significant for outcomes. As the report by the Māori Women's Housing Research Project (1991) critically notes of more recent history, "the belief has been that if everyone is treated the same then equality of access will achieve equality of outcome" (p. 62).

Table 8: Percentage of TGHE dedicated to Māori housing between 1962 and 1967

Year	1962	1963	1964	1965	1966	1967
Percentage	4.7	5.8	6.8	7.9	8.0	3.1

With respect to state rental tenancies, the early mid-century was relatively flat. Allocations to the Māori pool of rentals peaked at 102 in 1961, before the pool was abolished in 1965, when only 37 houses were allocated (Krivan, 1990, p. 145). While the Māori-specific provision of state rentals was weak throughout the 1950s and into the 1960s, the allocation of SAC state rentals reveals a different trend during the 1960s, with numbers increasing each year throughout the decade. Krivan (1990, p. 146) provides data on the number of SAC rental allocations to Māori between 1961 and 1969, as shown in Figure 1.

Figure 1: State rental tenancies allocated to Māori per annum through the SAC between 1961 and 1969

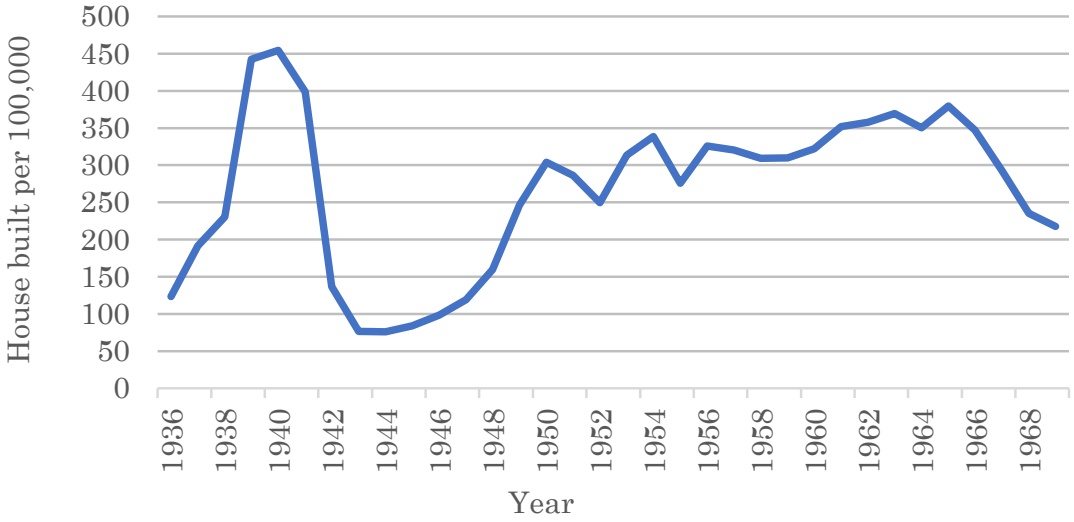


Government housing policies – summary

There are several data sets that help to illustrate the impact of government housing policy over the mid-century. First is the number of new houses constructed by the DMA per annum, shown as per 100,000 to account for population change (Krivan, 1990) (Figure 2).

Reviewing the DMA construction against population, the results are somewhat varied. While 1939 and 1940 are the highest, with construction peaking at 454 houses per 100,000 in 1940, the 1950s and 1960s can be seen as considerably more consistent in delivery. Also the data for 1939–1945 are not as clearly categorised, leaving these figures in question. Still, it seems that while the DMA was partly responsible for the improvement in Māori housing outcomes, it is likely that the 3 per cent loans from the SAC and the FBC were significant drivers of improved housing conditions, though more data is required to examine this in full.

Figure 2: New DMA houses constructed per annum between 1936 and 1970

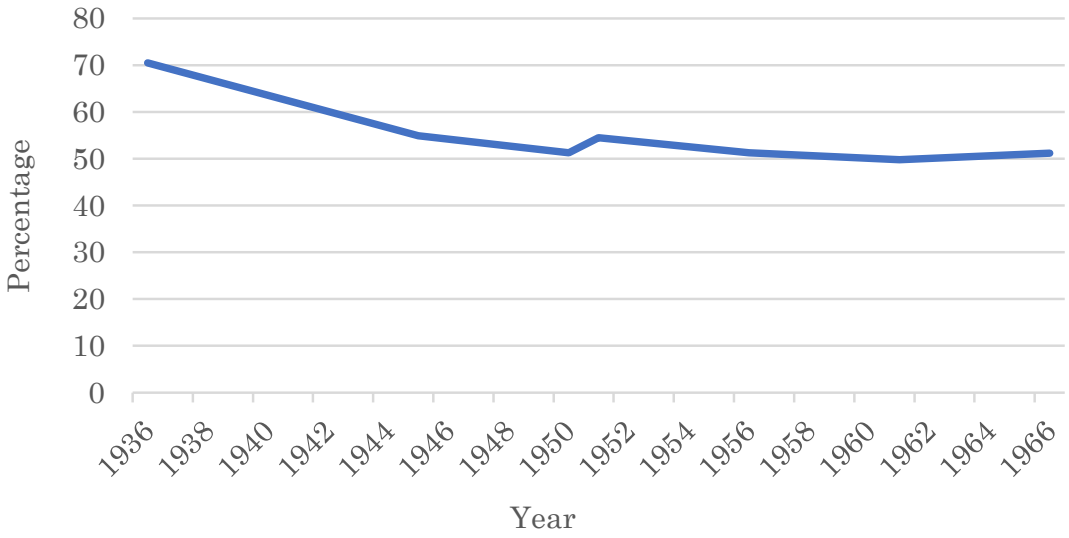


Note: The data between 1939 and 1945 does not differentiate between new and additions, repairs, and renovations to existing houses so the total figure is provided. This may contribute to the large spike. All other years are for new builds only as constructed with housing finance from the Māori Housing Act 1935, its 1938 Amendment, the Māori Land Scheme, the Māori Trustee or Māori Land Boards and World War Two Rehabilitation Loans administered by the DMA.

The percentage change of Māori dwellings owned by occupants over time ostensibly shows less improvement, as Figure 3 shows (Statistics New Zealand, 2016).

While not trying to romanticise government housing policy outcomes for Māori during the mid-century, as shown in the previous section Māori housing conditions over the three decades improved and state housing policy contributed some part in this considering its significant involvement in housing in both mainstream and Māori-specific initiatives. That said, it appears that while the DMA programme did contribute somewhat, it seems likely that Māori were accessing a wider range of housing options, such as the FBC and 3 per cent loans via SAC. Certainly, there are many ways to negatively describe Māori housing policy in the 1960s, as a tool of assimilation, as insufficient for demand, and as culturally inept (Ferguson, 1995; Krivan, 1990). However, this section aims to show how state policy

Figure 3: Percentage of Māori dwellings owned by occupants from 1936 to 1966



helped to increase the number of higher quality state rentals and houses built through state loans for Māori. One final point is thatwhile the material quality of Māori housing improved during the mid-century, the houses and wider urban planning schemes were intrinsically Western, with no consideration for Māori ways of living or respect for Māori values (Ferguson, 1995; Labrum, 2013). This contrast between material improvement and cultural decline echoes and probably amplifies the converse trends of physical versus mental and social health during the mid-century.

Housing and physical health

Linkages between housing and health are manifold. As well as physical health benefits, a positive housing situation can have non-physical benefits, including providing ontological security and a sense of belonging (Saville-Smith, 2019). These are particularly critical for Māori because of the ontological insecurity caused by colonisation and the enduring importance of connection and identity with whenua (land) (Saville-Smith, 2019). However, of primary interest here is the connections between housing quality and physical health. The importance of housing quality to physical health outcomes is

frequently identified, though less easily proven. Lamenting the issues of making causal connections, Rolfe et al. (2020) explain:

> Housing is often cited as an important social determinant of health, recognising the range of ways in which a lack of housing, or poor quality housing, can negatively affect health and wellbeing. However, the causal pathways from housing to health are inherently complex, as with all the social determinants of health, so many of these pathways are neither fully conceptualised, nor empirically understood.

Likewise, Rauh et al. (2008) state that the "importance of adequate housing for the maintenance of health and well-being has long been a topic of scientific and public health policy discussion, but the links remain elusive" (p. 276). Gibson et al. (2011) identify three main pathways through which the connection between housing and physical health is made in their systematic overview of the literature: (1) internal housing conditions, (2) area characteristics, and (3) housing tenure. They conclude that while there is relatively strong evidence for interventions for the first two, the same evidence is not available for housing tenure (Gibson et al., 2011). Matte and Jacobs (2000) outline how demonstrating a causal relationship in developed Western countries has been difficult for several reasons:

> One is the strong relationship between social disadvantage and living in poor quality housing, making it difficult to disentangle the contribution of social factors and housing conditions… Still another methodologic challenge is that minimally adequate housing is available to the majority of households in Western societies. (p. 9)

It is their second point that is of interest here. They note that there is "limited variation in access to basic housing amenities" (Matte & Jacobs, 2000, p. 9) within Western states, yet the variation in Māori housing outcomes compared with non-Māori provides a stark difference.

Wanhalla (2006) points out that the "history of official intervention into Maori housing in New Zealand prior to World War II is intimately tied to the question of health" (p. 101). New Zealand's Ministry of Health has a Healthy Homes Initiative, which states:

> Cold, damp, crowded homes can increase the risk of respiratory issues and other preventable health conditions, such as rheumatic fever and skin

> infections. There is strong evidence, nationally and internationally, of improved health outcomes resulting from warmer and drier homes.[2]

In a Ministry of Health publication, Howden-Chapman and Wilson (1999) note that "infectious diseases such as meningococcal disease, rheumatic fever, tuberculosis, respiratory infections, *Haemophilus influenzae* and *Helicobacter pylori* infection have been identified as more prevalent and difficult to contain in overcrowded households" (p. 133). In her literature review for the Ministry of Social Development on overcrowding and health, Gray (2001, p. 19) lists many of the same diseases and conditions: dysentery, asthma, bronchitis, influenza, diarrhoea, meningococcal disease, tuberculosis, *Helicobacter pylori* and hepatitis. The Ministry of Health monitors environmental health through a set of Environmental Health Indicators (EHI), which includes indoor environment indicators. Of interest here are those focused on household crowding and cold and damp housing. The EHI note that household crowding can increase the risk of "lower respiratory tract infections (including pneumonia, bronchiolitis and bronchitis), meningococcal disease, gastroenteritis, *Haemophilus influenzae* (Hib) disease, Hepatitis A, *Helicobacter pylori* infection, and tuberculosis". Cold and damp housing increases the risk of respiratory infections, including pneumonia, bronchitis and bronchiolitis, stresses the cardiovascular system, and exacerbates asthma.[3] Along with Howden-Chapman and Wilson's and Gray's lists, these provide a relatively comprehensive set of physical health indicators that can serve to illustrate the relationship between changing housing and physical health outcomes including meningococcal disease, rheumatic fever, tuberculosis, pneumonia, bronchiolitis, bronchitis, *Haemophilus influenzae, Helicobacter pylori,* gastroenteritis, dysentery, asthma and Hepatitis A.

Influenza, one of the first diseases to bring considerable state attention to Māori housing, is not referenced in any of the above literature. This suggests that contemporary concerns regarding the health–housing connection are not adequate for exploring the mid-century. Schrader (2013) lists typhoid and influenza alongside

tuberculosis, noting their "spread was aided by poor nutrition, and insanitary and overcrowded living conditions". Krivan (1990) likewise notes that "poor housing also contributed to higher rates of tuberculosis, chronic rheumatic heart disease, and infant mortality amongst Maori" (p. 88). Thus, influenza, typhoid and infant mortality have been added to the list of indicators to provide a more relevant set for examining the housing–health nexus in the mid-century.

Māori physical health statistics

There is a relative paucity of reliable statistical data available, with official sources often changing how the statistics are labelled, categorised, measured and presented, making the job of collecting reliable data difficult. The following data have been taken from Statistics New Zealand Yearbooks, but some clarity and caveats need to be given:

- The crude death rates (CDR) of Māori have been calculated from the raw death rates rather than using the CDR provided in the yearbooks. This was done for several reasons. First, during the 1950s, the reporting changed from CDR per 10,000 to per million. Secondly, in the mid-1960s, Māori were reported as an adjusted rate rather than CDR as the population was too dissimilar to non-Māori. The population data for Māori was sourced from Statistics New Zealand (2007), which also provided the physical health data, meaning the categorisation of 'Māori' was the same for both during the mid-century. The *1978 Yearbook* notes that "for statistical purposes, all persons of half or more Maori ancestry have, in the past, been defined as Maoris. This differs from the wider definition introduced in the Maori Affairs Amendment Act 1974" (Statistics New Zealand, 1978). The data are taken to be relatively consistent in terms of the categorisation of Māori, up until the 1976 Census (Statistics New Zealand, 2001).
- The labelling and categorisation of data changed over time. For example, up until 1953, yearbook rates are given for "pulmonary

tuberculosis" while from the 1954 Yearbook onwards, it is labelled "tuberculosis of the respiratory system". These changes will be noted as each indicator is presented. Third, throughout the period, there were several Revisions to the International Classification of Causes of Death which prevent accurate comparisons. For example, the *1955 Yearbook* notes that the introduction of the Sixth Revision in 1950 prevents accurate comparisons "being made between the 1950 and subsequent mortality tabulations and those for earlier years" (Statistics New Zealand, 1955). While no accurate comparisons can be made, there is no other available data across this period of time, leaving these raw figures – and the changing Māori population data provided with them – as the only way of gaining insight into physical health trends.

- Historical data on Māori health needs to be seen as less reliable. There are several reasons for this, the first being that as a rural and marginalised group, health care was simply not as accessible for Māori. Secondly, "Māori were reluctant to attend hospitals", with Cram et al. (2019) explaining how during the typhoid epidemic in the 1910s, "Māori afflicted with typhoid concealed their illness in order to avoid hospitals" (p. 63). These two reasons indicate that the data cannot reliably indicate the extent of Māori health or illness due to inaccessible care and avoidance of hospitals. In contrast, recent data should be considered to be more reliable due to greater accessibility and better collection of data. This also suggests that historical data prior to urbanisation, at a minimum, should be viewed circumspectly.
- There was no data for five of the indicators: bronchiolitis, *Haemophilus influenzae, Helicobacter pylori*, Hepatitis A and asthma. As such, these are excluded from the following discussion.

Over the mid-century, Māori physical health generally showed a marked improvement. In their review of Māori health for the Waitangi Tribunal, Cram et al. (2019) quote Pool, who describes the Māori population between 1945 and 1966 as undergoing "a transition in every demographic variable" (p. 86). Cram et al. (2019) expand on this, explaining:

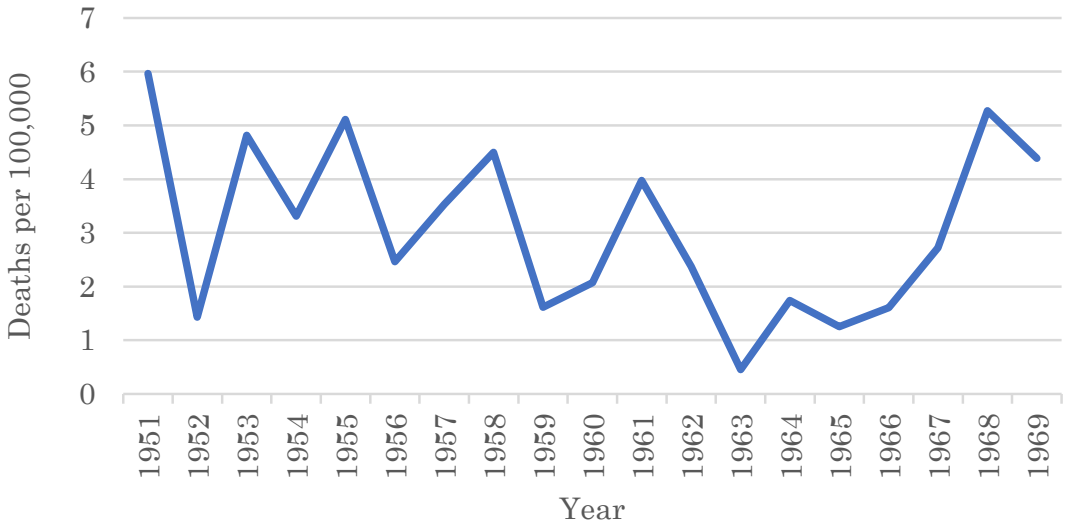
> This included a decline in mortality due to an 'epidemiological transition' from diseases affecting the young: infectious, tubercular, respiratory, and diarrhoeal diseases, to diseases affecting older people: long-term conditions… cardio-vascular, cerebro-vascular (strokes), and cancer. (p. 86)

It should be noted that while Cram et al. (2019) conclude that "good gains in Māori health and its indicators were made during this period", they also note that "health equity and the broader aim of 'universal welfare' in New Zealand… failed to transpire" (p. 86). Still, in general terms and with regard to some of the above outlined physical health indicators, Māori physical health did improve over the mid-century.

The following indicators will be presented without comparison to non-Māori mainly to simplify the process, though it should be noted that for almost every indicator, Māori outcomes were worse at the start of the mid-century and remained worse than non-Māori at the end of the mid-century in question (Department of Health, 1962; Pomare, 1980). The following statistics, with one exception that will be explained below, have been taken from Statistics New Zealand yearbooks (1942, 1946, 1950, 1954, 1955, 1958, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1971). If the indicator label or the way in which diseases and conditions have been grouped together has changed during the period, it will be highlighted below. All data are for deaths per year from the specific disease or condition and are presented as a CDR of 100,000.

Meningococcal disease

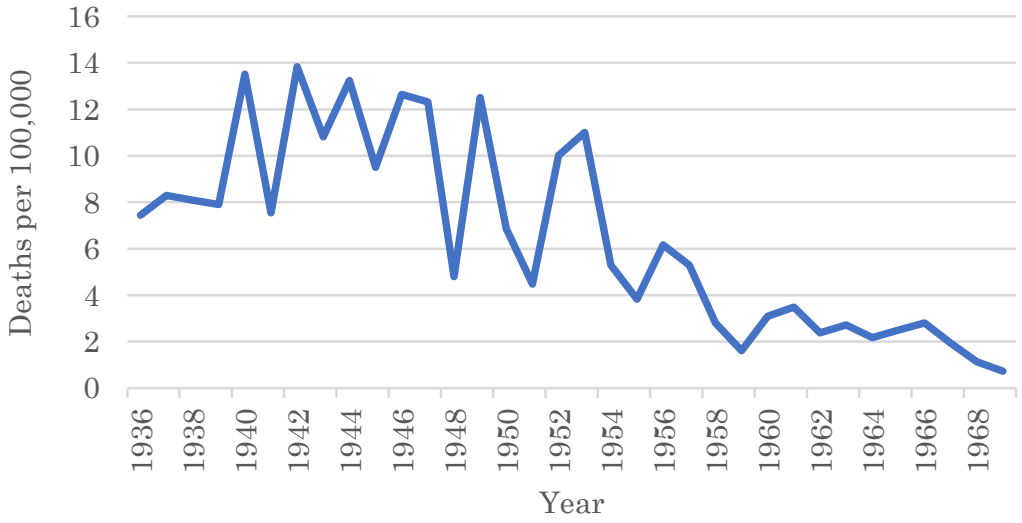
Figure 4: Māori death rates per annum from meningococcal disease from 1936–1969



Note: Data for meningococcal disease was not collected until 1951, and in 1968 the label changed from meningococcal disease to meningitis.

Rheumatic fever

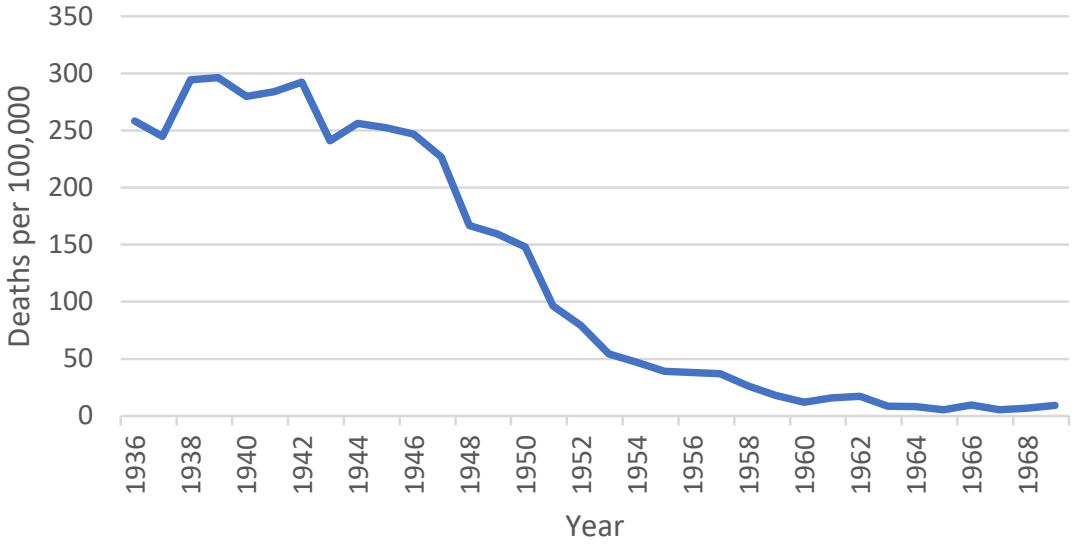
Figure 5: Māori death rates per annum from rheumatic fever from 1936–1969



Note: Data for rheumatic fever were only collected in the yearbooks from 1950, and death rate numbers before then were taken from the Department of Health (1962).

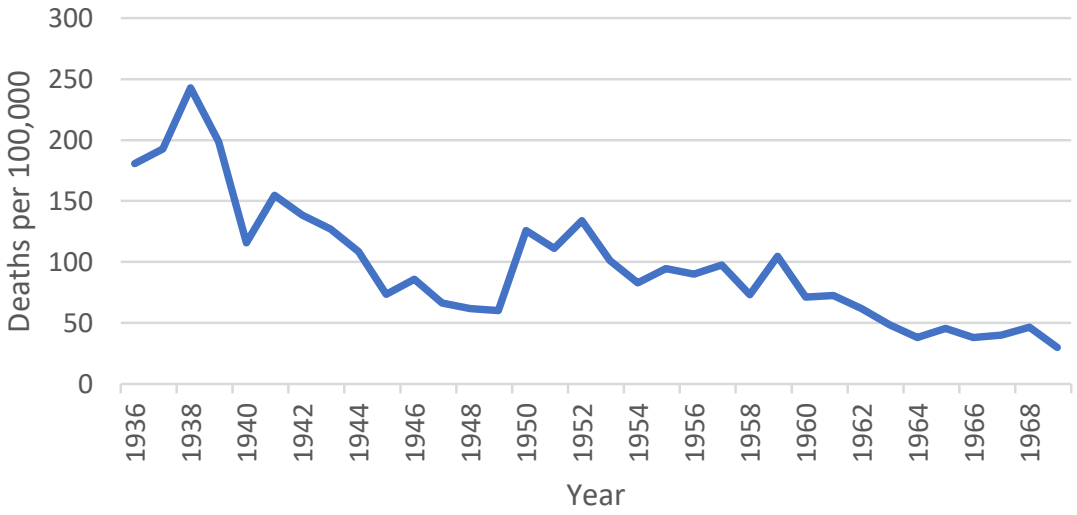
Tuberculosis

Figure 6: Māori death rates per annum from tuberculosis from 1936–1969



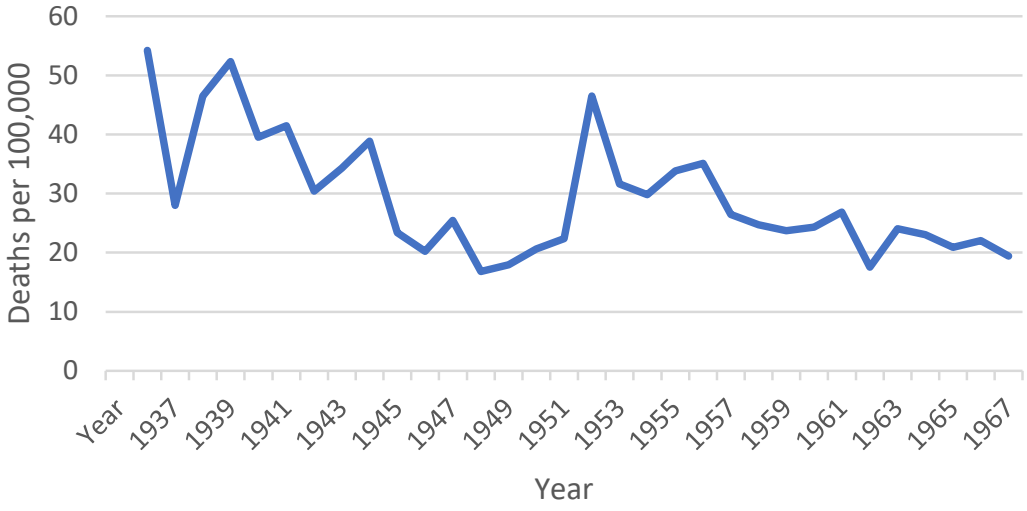
Pneumonia

Figure 7: Māori death rates per annum from pneumonia from 1936–1969



Bronchitis

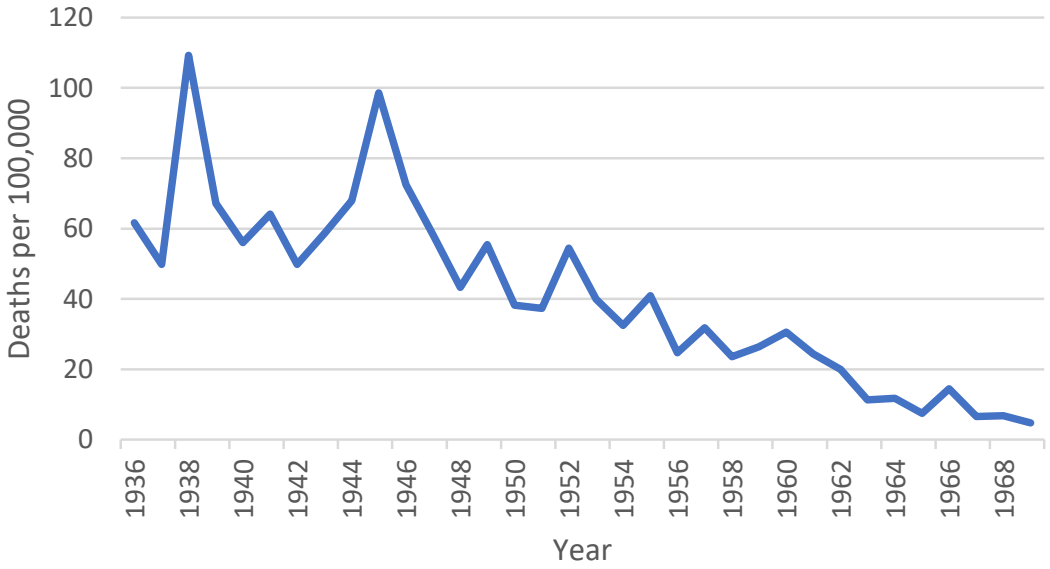
Figure 8: Māori death rates per annum from bronchitis from 1936–1969



Note: In 1968, the category for bronchitis was expanded to included emphysema and asthma, so these two final years have not been included.

Gastroenteritis

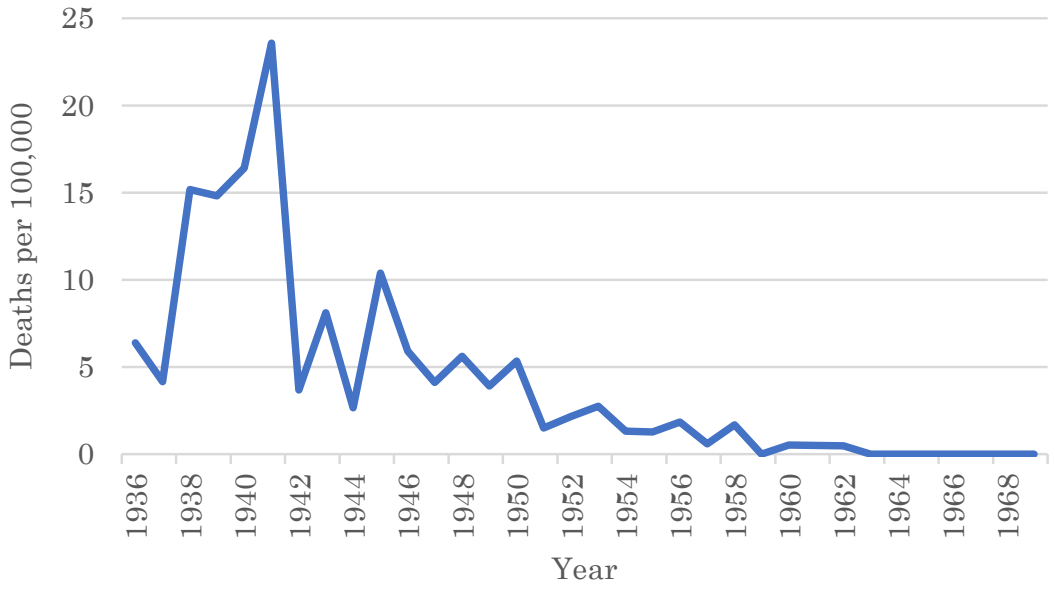
Figure 9: Māori death rates per annum from gastritis and enteritis from 1936–1969



Note: From 1936 to 1949, this category included both "diarrhœa and enteritis", then from 1950 to 1967 it covered "gastritis, duodenitis, enteritis, and colitis, except diarrhoea of the newborn", and from 1968 it was "enteritis and other diarrhoeal diseases".

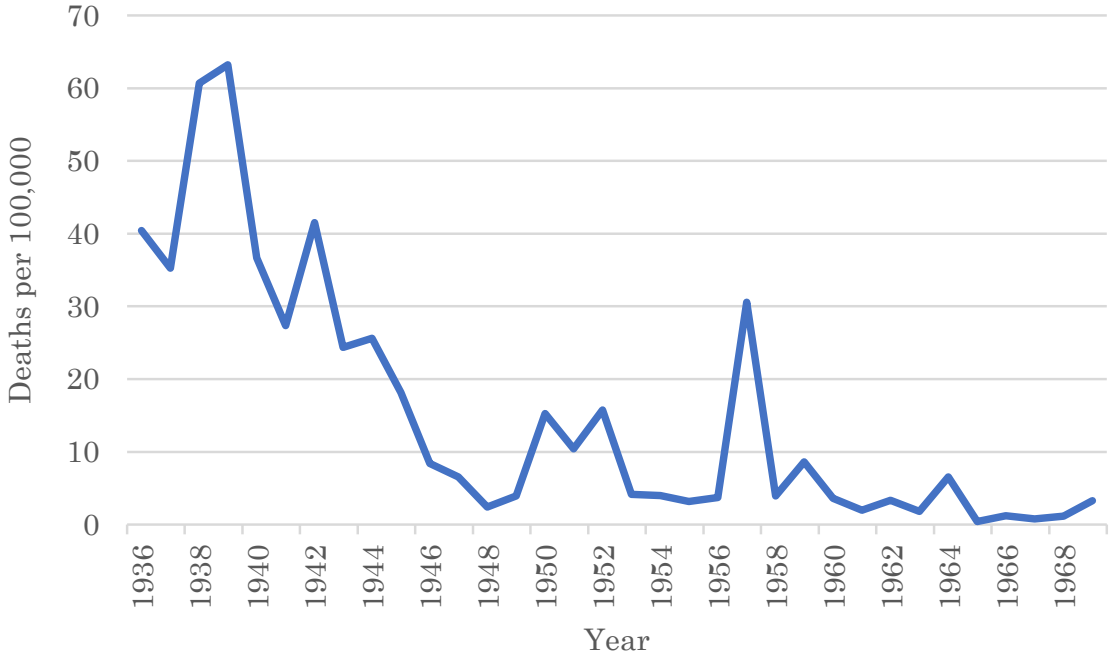
Dysentery

Figure 10: Māori death rates per annum from dysentery from 1936–1969



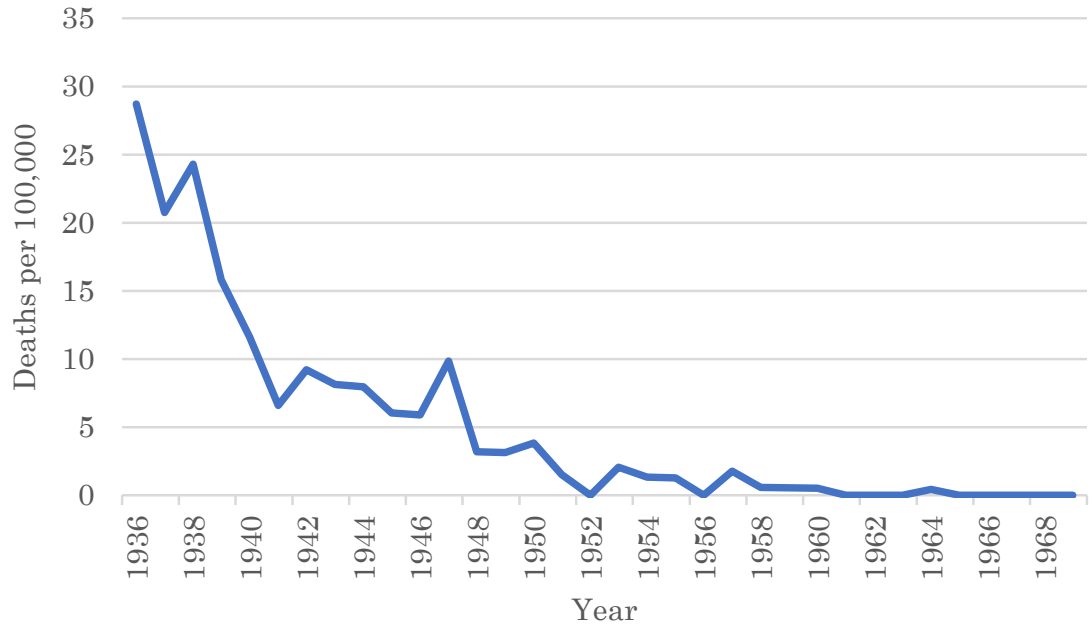
Influenza

Figure 11: Māori death rates per annum from influenza from 1936–1969



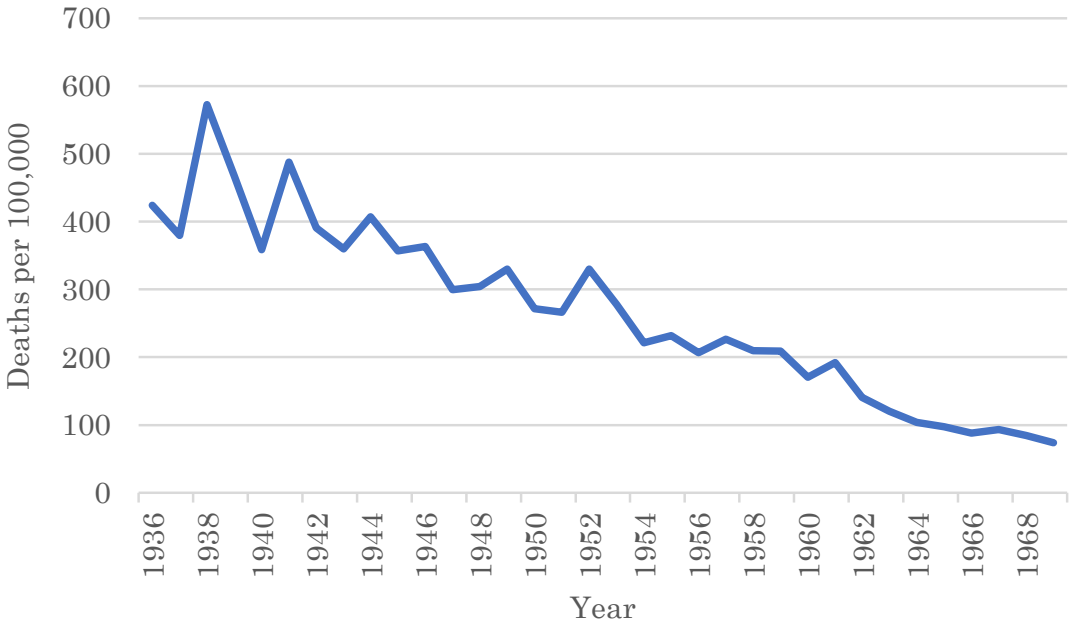
Typhoid

Figure 12: Māori death rates per annum from typhoid from 1936–1969



Infant mortality

Figure 13: Māori death rates per annum from infant mortality up to one year old from 1936–1969



Physical health – summary

There were no data for five of the 15 indicators, while eight of the remaining 10 showed a decline in incidence over the mid-century. While these results are not unambiguous, there are several factors that suggest an improvement in physical health with regard to housing. Firstly, not only did four-fifths of indicators with available data show a clear improvement over the mid-century, but also those specifically noted as being connected to housing and physical health for Māori in the early twentieth century – tuberculosis, typhoid, influenza and infant mortality – all saw a decline. That said, other than the interlinkages noted by international academics and generations of state experts and officials between housing and these physical health indicators and the matching trends in the data between Māori housing outcomes and those physical health indicators, there remains no 'smoking gun' to prove a causal connection.

Conclusion

Even with conclusive evidence regarding the substandard state of Māori housing, the state did not act in an appropriate manner until the late 1950s – though it could justifiably be argued the state has never fully met its housing obligations toward Māori during the mid-century or at any other period. From the late 1950s and through the 1960s, Māori were able to access both mainstream and Māori-specific housing programmes which enabled them to acquire a state rental or purchase a new home in increasing numbers. These houses, while far from perfect, were of a far higher quality than those Māori had lived in previously. During this same period, Māori physical health also improved across a number of indicators, including those specifically identified as being connected to the low quality of Māori housing in the first half of the twentieth century. Finally, while material housing conditions and physical health improved during the mid-century, mental and social health declined, and Māori increasingly lived in

Western-centric housing and suburbs that did not facilitate traditional patterns of life and were not built with consideration for Māori values. This tempers the apparent success of some of these policies, and also provides a path forward where both material and cultural housing outcomes and physical as well as mental and social health are considered in a holistic fashion.

While it is undoubtable that the improvements in Māori physical health were caused by a range of factors (e.g. increased access to medical care with urbanisation, targeted health policies, and medical advances), it seems probable that the improvements in housing outcomes played a role in the positive trending of at least some of the physical health indicators. That said, due to the inconsistency and inaccessibility of historical data as well as the complexity of mapping the social determinants of health, no definitive causational connections can be made between housing and physical health from the above analysis. To some, this may be viewed as a limitation; however, in the absence of better data or enhanced statistical methods, it is the only means of quantitatively examining the nexus between housing and health for Māori during the mid-century. Rather than discard the data, this quantitative analysis should be viewed as one of many tools that provide information and insight which will inform the larger project.

The Huaki Project will continue this work, examining more recent housing and health data as well as obtaining more historic data, including data from both the DMA and SAC. It will seek ways to compare and contrast the data collected over different periods, such as meta-analytic techniques, as well as drilling down into different statistical boundaries and meshblocks to enable comparative analysis. In particular, it will attempt to gauge how the various Māori-specific and mainstream policies from previous decades might be adopted and adapted in the contemporary context to deliver holistic outcomes across housing as well as physical, mental and social health. While not all issues regarding reliability, compatibility and comparability of data from across Aotearoa New

Zealand's history are surmountable, this should not stop these data from being used to inform insights into trends, so long as it is done with care and caveats.

Notes

1 The Department of Native Affairs, sometimes referred to as the Native Department, changed its name to the Department of Māori Affairs in 1947. The macron was not added until later; however, unless in a direct quote, the macron will be used here. References to this entity will use the contemporaneous name. For example, any event or policy before 1947 will use Department of Native Affairs, while any event or policy after 1947 will use the Department of Māori Affairs.

2 https://www.health.govt.nz/our-work/preventative-health-wellness/healthy-homes-initiative

3 https://www.ehinz.ac.nz/indicators/indoor-environment/lower-respiratory-tract-infections/

References

Baker, M., & Du Plessis, R. (2011). Family welfare – A model welfare state, 1946–1969. *Te Ara – The Encyclopedia of New Zealand.* http://www.TeAra.govt.nz/en/family-welfare/page-4

Bierre, S., Howden-Chapman, P., Signal, L., & Cunningham, C. (2007). Institutional challenges in addressing healthy low-cost housing for all: Learning from past policy. *Social Policy Journal of New Zealand*, *30*, 42–64. https://www.msd.govt.nz/about-msd-and-our-work/publications-resources/journals-and-magazines/social-policy-journal/spj30/30-institutional-challenges-healthy-low-cost-housing-pages42-64.html

Cram, F., Te Huia, B., Te Huia, T., Williams, M. M., & Williams, N. (2019). *Oranga and Māori health inequities 1769–1992.* Ministry of Health. https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_152096130/Wai%202575%2C%20B025.pdf

Department of Corrections. (2007). *Over-representation of Māori in the criminal justice system: An exploratory report.* Policy, Strategy and Research Group, Department of Corrections. https://www.corrections.govt.nz/__data/assets/pdf_file/0014/10715/Over-representation-of-Maori-in-the-criminal-justice-system.pdf

Department of Health (1962). *Annual report of the medical statistician on the medical statistics of New Zealand for the year 1960.* https://www.moh.govt.nz/notebook/nbbooks.nsf/0/B45C3D696FD0C08F4C2565D7000E0BE3/$file/1960.pdf

Ferguson, G. (1994). *Building the New Zealand dream.* Dunmore Press with the assistance of the Historical Branch, Department of Internal Affairs.

————. *Background report for the WAI 60 Claim*. Ministry of Justice. https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_94029549/Wai%2060%2C%20A002.pdf

Gassin, T. (2019). Māori mental health: A report commissioned by the Waitangi Tribunal for the Wai 2575 Health Services and Outcomes Kaupapa Inquiry. Waitangi Tribunal. https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_153087514/Wai%202575%2C%20B026.pdf

Gibson, M., Petticrew, M., Bambra, C., Sowden, A. J., Wright, K. E., & Whitehead, M. (2011). Housing and health inequalities: a synthesis of systematic reviews of interventions aimed at different pathways linking housing and health. *Health & Place*, *17*(1), 175–184. https://dx.doi.org/10.1016%2Fj.healthplace.2010.09.011

Gray, A. (2001). *Definitions of crowding and the effects of crowding on health (*A literature review prepared for the Ministry of Social Policy). https://www.msd.govt.nz/documents/about-msd-and-our-work/publications-resources/archive/2001-definitionsofcrowding.pdf

Hill, R. (2010). Maori and the State: Crown–Maori Relations in New Zealand/Aotearoa, 1950–2000. Victoria University Press.

Howden-Chapman, P., & Wilson, N. (1999). Housing and health. In P. Howden-Chapman & M. Tobias (Eds.), *Social inequalities in health: New Zealand*, pp. 133–145. Ministry of Health.

Huddleston, C. (2008). *The Negotiation of Takapuneke: A study of Maori-State relations and the investment of value in tapu lands* [Doctoral dissertation, University of Canterbury]. http://dx.doi.org/10.26021/3698

Keating, D. (2002). *A security plan for the family man? Capitalisation of the family benefit and the Second Labour Government* [Master's dissertation, Massey University]. http://hdl.handle.net/10179/7104

Krivan, M. (1990). *The Department of Maori Affairs Housing Programme, 1935–1967* [Master's thesis, Massey University]. http://hdl.handle.net/10179/6503

Labrum, B. (2013). Not on our street: New urban spaces of interracial intimacy in 1950s and 1960s New Zealand. *Journal of New Zealand Studies, 14*, 67–86. https://doi.org/10.26686/jnzs.v0i14.1748

Leardini, P., & Manfredini, M. (2015). Modern housing retrofit: Assessment of upgrade packages to EnerPHit Standard for 1940–1960 state houses in Auckland. *Buildings*, *5*(1), 229–251. http://dx.doi.org/10.3390/buildings5010229

Maori Women's Housing Research Project. (1991). … *for the sake of decent shelter.* Housing Corporation of New Zealand.

Matte, T. D., & Jacobs, D. E. (2000). Housing and health—current issues and implications for research and programs. *Journal of Urban Health*, *77*(1), 7–25. https://doi.org/10.1007/bf02350959

McAllister, J., St John, S., and Johnson, A. (2019). *The Accommodation Supplement: The wrong tool to fix the house.* Child Poverty Action Group.

Moteane, M. N. (1984). Maori Housing Programme in New Zealand: Its history, services currently offered and issues of major concern [Doctoral dissertation, Victoria University of Wellington].

Orange, C. (1977). *A kind of equality: Labour and the Maori people 1935–1949* [Master's thesis, University of Auckland].

Pomare, E. (1980). *Maori standards of health: A study of the 20 year period 1955–75* (A report prepared for the Medical Research Council of New Zealand). https://www.moh.govt.nz/notebook/nbbooks.nsf/0/95759724D80DAA604C2565D700185F59/$file/Maori%20standards%20of%20health.pdf

Pool, I. (1991). *Te iwi Māori.* Auckland University Press.

Rauh, V. A., Landrigan, P. J., & Claudio, L. (2008). Housing and health: Intersection of poverty and environmental exposures. *Annals of the New York Academy of Sciences*, *1136*(1), 276–288. https://doi.org/10.1196/annals.1425.032

Reid, J., Rout, M., Tau, T., & Smith, C. (2017). The colonising environment: An aetiology of the trauma of settler colonisation and land alienation on Ngāi Tahu whānau. Ngāi Tahu Research Centre.

Robinson, H. (2011). *Te Taha Tinana: Maori health and the Crown in the Rohe Potae inquiry district, 1840 to 1990.* Waitangi Tribunal. https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_807563/Wai%20898%2C%20A031.pdf

Rolfe, S., Garnham, L., Godwin, J., Anderson, I., Seaman, P., & Donaldson, C. (2020). Housing as a social determinant of health and wellbeing: Developing an empirically informed realist theoretical framework. *BMC Public Health*, *20*(1), 1–19. https://doi.org/10.1186/s12889-020-09224-0

Rout, M., Reid, J., Menzies, D., & MacFarlane, A. (2019). *Homeless and landless in two generations – Averting the Māori housing disaster.* Building Better Homes, Towns and Cities.

Saville-Smith, K. (Ed.). (2019). Revitalising the production of lower value homes: Researching dynamics and outcomes. Building Better Homes, Towns and Cities.

Schrader, B. (2013). Māori housing – te noho whare – Urbanisation. *Te Ara – The Encyclopedia of New Zealand*. http://www.TeAra.govt.nz/en/maori-housing-te-noho-whare/page-3

Statistics New Zealand. (2001). *Review of the measurement of ethnicity: Background paper*. http://archive.stats.govt.nz/~/media/Statistics/browse-categories/population/census-counts/review-measurement-ethnicity/background.pdf

————. *Demographic trends.* http://m.stats.govt.nz/~/media/Statistics/browse-categories/population/estimates-projections/demographic-trends/2007/demo-trends-07-full-report.pdf

Stats NZ. (2016). *Changes in home-ownership patterns 1986–2013: Focus on Māori and Pacific people*. http://archive.stats.govt.nz/browse_for_stats/people_and_communities/housing/changing-maori-pacific-housing-tenure.aspx

————. (multiple dates). *Yearbooks –1942, 1946, 1950, 1954, 1955, 1958, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1971, 1975.* http://archive.stats.govt.nz/browse_for_stats/snapshots-of-nz/digital-yearbook-collection.aspx#gsc.tab=0

Te ao Hou. (1955). *New housing schemes.* http://teaohou.natlib.govt.nz/journals/teaohou/issue/Mao11TeA/c14.html

Tirikitene, E. (1964). Address in reply. *New Zealand Parliamentary Debates, 338.* https://babel.hathitrust.org/cgi/pt?id=uc1.a0001745561&view=1up&seq=3

Tirikitene-Sullivan, W. (1967). Appropriation Bill – estimates. *New Zealand Parliamentary Debates, 352.* https://babel.hathitrust.org/cgi/pt?id=uc1.b2940058&view=1up&seq=1

Wanhalla, A. (2006). Housing Un/healthy bodies: Native housing surveys and Maori health in New Zealand 1930–45. *Health and History, 8*(1), 100–120. https://doi.org/10.2307/40111531

Williams, D. V. (2019). The continuing impact of amalgamation, assimilation and integration policies. *Journal of the Royal Society of New Zealand, 49*(Sup. 1), 34–47. https://doi.org/10.1080/03036758.2019.1677252

Woods, M. C. (2002). *Integrating the nation: Gendering Maori urbanisation and integration, 1942–1969* [Doctoral thesis, University of Canterbury]. https://ir.canterbury.ac.nz/handle/10092/4352