Te Rohe Potae Maori: Twenty-first century socio-demographic status

Helen Robinson

A report commissioned by the Waitangi Tribunal for the Te Rohe Potae (Wai 898) district inquiry

May 2012

The author

Dr Helen Robinson has been a Research Analyst / Inquiry Facilitator at the Waitangi Tribunal Unit since April 2009. She has a PhD in history from the University of Auckland, and has published articles in academic journals in New Zealand and overseas, the most recent being 'Simple Nullity or Birth of Law and Order? The Treaty of Waitangi in Legal and Historiographical Discourse from 1877 to 1970' in the December 2010 issue of the *New Zealand Universities Law Review*. Dr Robinson has written two previous Waitangi Tribunal commissioned research reports for the Rohe Potae inquiry, on health (Wai 898 A31) and, with Dr Paul Christoffel, on political engagement in the 1886 to 1913 period (Wai 898 A71).

Abbreviations

CAU	Census Area Unit
DHB	District Health Board
NCEA	National Certificate of Educational Achievement
TPK	Te Puni Kokiri
TRP	Te Rohe Potae

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WAITANGI TRIBUNAL

CONCERNING the Treaty of Waitangi Act 1975

AND the Te Rohe Pōtae District Inquiry

DIRECTION COMMISSIONING RESEARCH

1. Pursuant to clause 5A of the second schedule to the Treaty of Waitangi Act 1975, the Tribunal commissioned Dr Sarah Hemmingsen, a member of the Tribunal's staff, to prepare a research report giving a contemporary socio-demographic profile of Māori of the Rohe Pōtae inquiry district (Wai 898, #2.3.38). The author has left the Tribunal, and the report will be re-commissioned.

2. Dr Helen Robinson, a member of the Tribunal's staff, is now commissioned to prepare this research report.

3. The purpose of the project is to provide an analysis of the contemporary socio-demographic status of Te Rohe Pōtae Māori from the 2006 census and other contemporary statistical sources. The report should address the following issues:

    a) Comparisons should be made with non-Māori in the district and with national Māori and non-Māori profiles.
    b) Variables to consider include *inter alia* population, labour force, housing, education, income and health.
    c) Data collection and analysis should be made at the level of 'Māori' for the Te Rohe Pōtae region, and to the extent that the data permits, at hapū or iwi level.

4. A complete draft of the report will be circulated to claimants and the Crown for comment prior to the report being finalised.

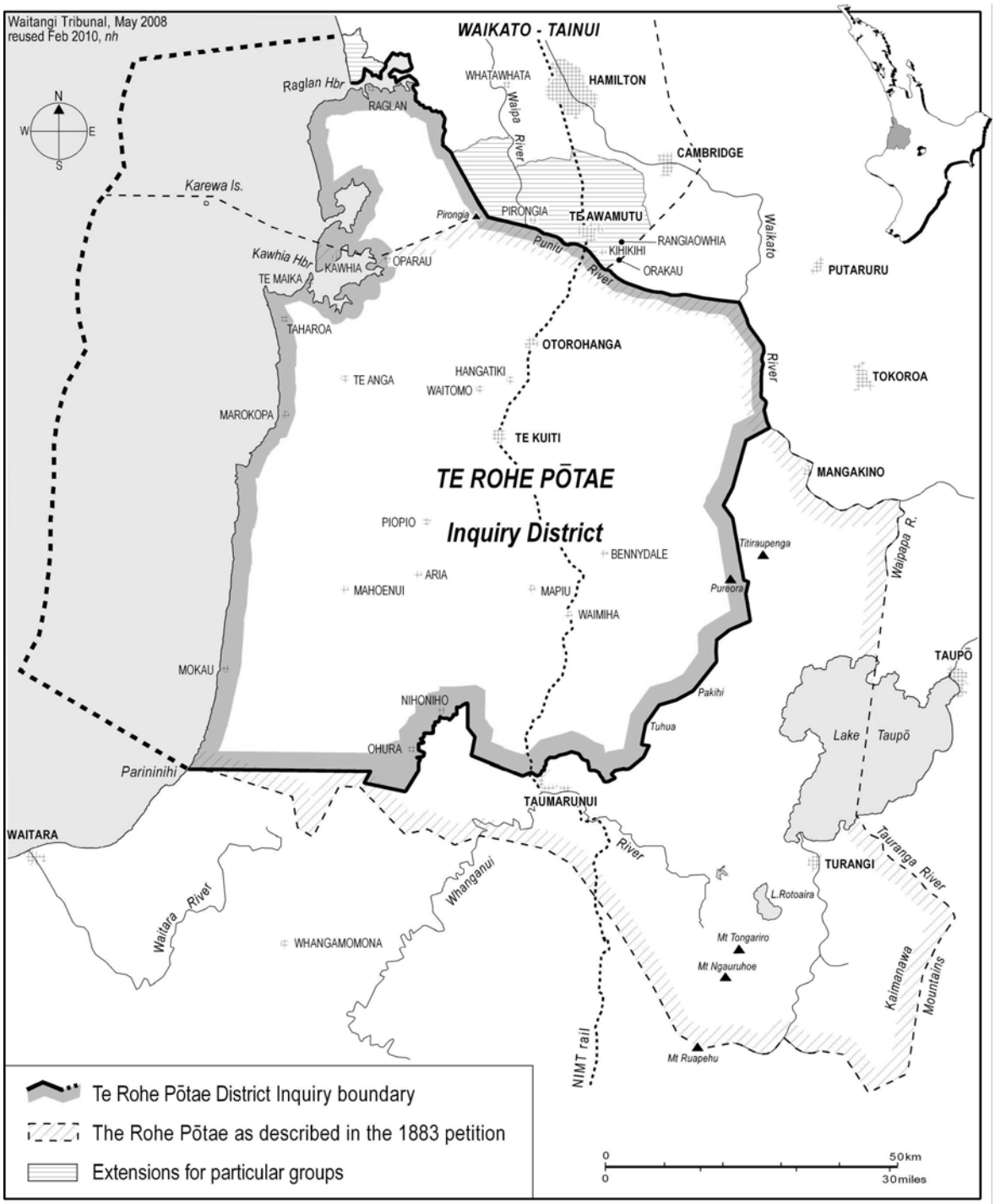
5. The commission ends on 17 February 2012, at which time one copy of the final report must be submitted for filing in unbound form. An electronic copy of the report should also be provided in Microsoft Word or Adobe Acrobat format. Indexed copies of any supporting documents are also to be provided as soon as it is practicable after the final report is filed. The report and any subsequent evidential material based on it must be filed through the Registrar.

6. The report may be received as evidence and the author may be cross-examined on it.

7. The Registrar is to send copies of this direction to:
   Dr Helen Robinson
   Claimant counsel and unrepresented claimants in the Te Rohe Pōtae district inquiry
   Director, Waitangi Tribunal
   Chief Historian, Waitangi Tribunal
   Manager – Research/Report Writing Services, Waitangi Tribunal
   Inquiry Supervisor, Waitangi Tribunal
   Inquiry Facilitators, Waitangi Tribunal
   Solicitor-General, Crown Law Office
   Director, Office of Treaty Settlements
   Chief Executive, Crown Forestry Rental Trust
   Chief Executive, Te Puni Kōkiri

DATED at Whangarei this 3rd day of October 2011.

Judge D J Ambler
Presiding Officer
WAITANGI TRIBUNAL



Map 1: Te Rohe Potae inquiry district.

Introduction

The need for a report on contemporary socio-economic data for the Rohe Potae inquiry district was identified in the Waitangi Tribunal Unit's Agreed Casebook Research Programme for the Rohe Potae district inquiry, produced in January 2008.[1] The following year, Dr Nicholas Bayley completed a scoping report on aspects of socio-economic development in the Rohe Potae inquiry district. This recommended 'a brief outline and discussion of the findings of the 2006 census concerning the socio-economic status of Maori in the Te Rohe Potae district'.[2] This would 'indicate to what extent official sources confirm the existence of remaining socio-economic issues directly affecting Maori living in the Te Rohe Potae inquiry district.'[3] In June 2010, Dr Sarah Hemmingsen was commissioned to produce such a report.[4] However Dr Hemmingsen subsequently left the Tribunal Unit and the report was not completed. In October 2011 the report was re-commissioned with Dr Helen Robinson as the researcher, and the commission end date as 17 February 2012.[5] This was subsequently modified in order to respond to extensive feedback.[6]

The commission states that 'the purpose of the project is to provide an analysis of the contemporary socio-demographic status of Te Rohe Potae Maori from the 2006 census and other contemporary statistical sources'. Variables to consider were named as 'inter alia [amongst other things] population, labour force, housing, education, income and health'. These six topics form the basis for the structure of this report. The only topic to be added is te reo Maori, which has been included in the education chapter. Te reo Maori was included due to its high cultural importance, its presence in similar socio-economic reports for other Tribunal district inquiries, and the availability of statistical information.

Numerous claims in this inquiry allege that Crown actions or inactions have resulted in Maori disadvantage in various socio-economic areas. For example, the Generic Statement of Claim on Health for this inquiry alleges that the health of Rohe Potae Maori has, as a result of Crown actions and omissions, been 'consistently worse than that of non-Maori, in Te Rohe

[1] Wai 898 #6.2.7, p25.
[2] Nicholas Bayley, 'Aspects of economic and socio-economic development in the Te Rohe Potae inquiry district (Wai 898)', a report commissioned by the Waitangi Tribunal, 2009, Wai 898 #A18, p30.
[3] ibid.
[4] Wai 898 #2.3.38.
[5] Wai 898 #2.3.78.
[6] Wai 898 #2.3.82.

Potae as well as in New Zealand generally'.[7] A similar allegation is made in the Generic Statement of Claim on education.[8] Some socio-economic issues have been examined historically in other reports for this inquiry. This report will take a statistical approach to determine the current or recent socio-economic state of Rohe Potae Maori. It will thereby serve parties to this inquiry, and the Tribunal itself, in showing the extent to which Maori are represented in the negative range of socio-economic indicators for the inquiry district.

Some attention will be given to proximate causes of disparities: for example smoking is discussed in the health chapter as a major cause of ill health, and links will be made between educational attainment and income levels. The inclusion of such topics and links should not be taken as implying that they are the sole or primary cause of any disparity between Maori and non-Maori.

This introduction consists of an explanation of terminology, then a brief discussion of the sources used in the report, followed by discussions of some of the problems with definitions of ethnicity and iwi, concluding with an explanation of the geographical units from which data was drawn.

This report consists of six chapters: on population demographics, work, income, education, health and housing. These topics and chapter titles were derived from the report's commission. Each chapter concludes with a summary of its findings.

Terminology

The terms 'inquiry district' and 'Rohe Potae inquiry district' refer to the inquiry district as indicated in map 1 of this report, including the extension area around and north-west of Te Awamutu. The term 'Rohe Potae' refers to the general inquiry district area, but generally does not correspond exactly to it. Other geographical terms, such as those referring to Census Area Units (CAUs) and districts, are explained in the geographical units section below. 'Rohe Potae Maori' and 'Rohe Potae non-Maori' refer, depending on context, either to Maori and non-Maori living in the inquiry district, or to those living in an area or group of areas centring on the inquiry district, such as the local government districts or CAUs overlapping the Rohe Potae. 'Rohe Potae Maori' therefore includes all Maori living in the inquiry district, whether

[7] Wai 898 #1.5.9, p6.
[8] Wai 898 #1.5.10, p11.

tangata whenua of the district or not. The term 'Rohe Potae' is derived from the name of the inquiry district and is not intended as any statement about the historical Rohe Potae.

This report uses the term 'Pakeha', although much of the source data (particularly census data) uses the term 'New Zealand European'. These terms should be treated as interchangeable. As will be explained in detail in the ethnicity section below, 'Maori' generally refers to people who have self-identified as such, and 'non-Maori' to people who have not chosen to identify as Maori.

Data sources

The commission for this report required analysis using 'the 2006 census and other contemporary statistical sources'. Consequently, the 2006 census will be the main source of data for this report. Much of this information is available via the Statistics New Zealand website, specifically its Table Builder tool, which allows the extraction of customised data sets.[9] Not all information collected in the 2006 census is available via the website, and some important data was purchased from Statistics New Zealand for this report. All data not readily available to the general public will be included as supplementary documents to this report.

It was clear that the information from the 2006 census would be inadequate to fulfil the commission brief with regard to some topics, especially health and education. In these cases data has been used from other sources, particularly the Ministries of Health and Education. In some cases the 2006 census data has also been supplemented by data from other sources such as the New Zealand Deprivation Index 2006 and recent New Zealand Income Surveys.

Occasionally, census and other data dating back as far as the early 1990s have been used to show trends over time, or to indicate that the most recent data are consistent with general trends. In general, however, only the most recent data have been used. For census information this is 2006. Other information is more recent, while some data sets, particularly those which use the average of several years, go back as far as the late 1990s.

It should be noted that there is a gap of about six years between the 2006 census and the completion date of this report. In this time it is likely that there have been significant demographic changes. In particular, the New Zealand and world economies went into serious

[9] http://www.stats.govt.nz/tools_and_services/tools/TableBuilder.aspx. Accessed 5 January 2012. All census data used in this report is derived from Table Builder unless otherwise stated.

downturn, resulting in, amongst other things, significant increases in unemployment. Much of the data in this report therefore reflects the situation in 2006 rather than the contemporary situation. It is likely that some negative social indicators have increased, particularly those relating to unemployment and poverty.

Most data in this report are presented in the form of graphs within the text, as it was felt that this was usually the most effective means of illustrating patterns and trends. Where this was not the case, in-text tables have been used. The supporting figures for each graph are presented, in table form, in the appendix to this report. It should be noted that all census figures are randomly rounded to base 3.[10] This means that in many cases census data in tables will contain minor mathematical inconsistencies. Other problems with census figures are discussed in the sections below.

Ethnicity

The question of how to determine who does and does not belong to a specific ethnic group is a long-standing problem for demographers in New Zealand and elsewhere. Statistics New Zealand currently defines an ethnic group as a group of people who have some or all of the following characteristics:

- A common proper name
- One or more elements of common culture which need to be specified, but may include religion, customs, or language
- Unique community of interests, feelings and actions
- A shared sense of common origins or ancestry, and
- A common geographic origin.[11]

Ethnicity is 'self-perceived and a cultural concept', and is in contrast to other concepts such as race (a biological indicator and ascribed attribute), ancestry (a biological and historical concept), and citizenship (a legal status).[12]

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[10] Statistics New Zealand, *Introduction to the Census: 2006 Census of Population and Dwellings*, (Wellington: Statistics New Zealand, 2006), p55.
[11] Statistics New Zealand, 'Statistical Standard for Ethnicity 2005', available at http://www.stats.govt.nz/surveys_and_methods/methods/classifications-and-standards/classification-related-stats-standards/ethnicity.aspx, p2, accessed 5 January 2012.

In the past, definitions of ethnicity have tended to be based mostly on geographic origin and ancestry, although cultural factors such as lifestyle have also been used. Until 1986, New Zealand census ethnicity statistics were based on 'blood quantum', with people stating less than half Maori ancestry not classified as Maori (although some information on them was compiled).[13] It appears that many Maori overstated their degree of Maori ancestry in claiming to be 'full-blooded' Maori, and were therefore basing their response on self-identification.[14] From 1986, census respondents were simply asked which ethnic group they belonged to, could specify more than one, and were classified according to their self-identification regardless of ancestry.[15] This meant that everyone who saw themselves as Maori was recorded as such. As of 2005, New Zealand was the only country collecting ethnicity data based purely on self-identification; other countries asked questions based on factors such as nationality, ethnic origin, race, citizenship, and language.[16]

Self-identification creates its own set of problems, one of which had a particularly strong impact on the 2006 census. Prior to that census, there was considerable public debate about the usefulness and appropriateness of ethnic classifications, with many people advocating that census respondents state their ethnicity as 'New Zealander'.[17] This response had been a feature of censuses since 1986 but, at least partly as a result of the public debate, 11.1% of respondents stated their ethnicity as New Zealander.[18] In previous census returns 'New Zealanders' had been classified as 'New Zealand European' but, following the 2006 census, a decision was made to include 'New Zealanders' in the 'other ethnicities' category. As well as a significant enlargement of the 'other' category, the census returns also showed a shrinking of the New Zealand European category.[19] Statistics New Zealand research suggests that more than 90% of those who identified as 'New Zealander' in the 2006 census had identified solely

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[12] Statistics New Zealand, 'Statistical Standard for Ethnicity 2005', p4.
[13] R.J. Lowe, 'Te Puaitanga o nga Iwi 1874-1951 / Iwi in Demographic Change 1874-1951: A Working Paper of the Department of Maori Affairs', June 1989, p9.
[14] Bridget Robson and Papaarangi Reid, *Ethnicity Matters: Maori Perspectives* (Wellington: Statistics New Zealand, 2001), pp 10-11.
[15] Ian Pool, *Te Iwi Maori: A New Zealand Population Past, Present and Projected* (Auckland: Auckland University Press, 1991), p19.
[16] Statistics New Zealand, 'Statistical Standard for Ethnicity 2005', p19.
[17] Statistics New Zealand, 'Final Report of a Review of the Official Ethnicity Statistical Standard', October 2009, available at http://www.stats.govt.nz/browse_for_stats/people_and_communities/Households/review-of-the-official-ethnicity-statistical-standard-2009.aspx, p6, accessed 5 January 2012.
[18] Statistics New Zealand, 'Profile of New Zealander Responses, Ethnicity Question: 2006 Census', 2007, available at http://www.stats.govt.nz/Census/about-2006-census/profile-of-nzer-responses-ethnicity-question-2006-census.aspx, p1, accessed 5 January 2012.
[19] Statistics New Zealand, 'Profile of New Zealander Responses', p7.

as New Zealand European in the previous census.[20] The 'New Zealander' response also reduced the number of people who identified as Maori, but by less than half a percent.[21]

Non-census ethnicity statistics have often been problematic, with serious under-representation of ethnic minorities being common in the past.[22] This had a range of causes, the main ones being the use of outdated blood quantum definitions, and people such as funeral directors or hospital staff guessing subjects' ethnicity when recording data. Recognition of these problems has led to their reduction in recent years. For example, the Ministry of Health's ethnicity data protocols state that subjects must identify their own ethnicity unless they are too young, incapacitated, or dead, in which case it should be done by the next of kin, and explicitly forbid data collectors from guessing ethnicity.[23]

Many people have more than one ethnic identity, and there are three ways of organising data to allow for this: sole/combination, total response, and prioritised.[24] Sole/combination output presents combinations of ethnicities as separate categories, for example 'Maori and European', or 'Maori and Asian'. While this method has the advantage of not changing the responses, it quickly becomes impractical due to the number of ethnicity combinations. Total response output includes people with multiple ethnicities in each of their ethnic categories, so that a person with three ethnic identities will be counted three times. This is useful because it easily shows how many people have a specific identity, but has the problem that the total numbers recorded add up to more than the total population. This is the usual form in which census data is presented, along with a total population figure showing the number of actual people rather than the sum total of ethnic identities. Prioritised output assigns multiple-ethnicity respondents to an ethnic group according to a priority system. The Ministry of Health uses this method, stating that 'the aim of prioritisation is to ensure that where some need exists to assign people to a single ethnic group, ethnic groups of policy importance, or of small size, are not swamped by the NZ European ethnic group'.[25] The Ministry of Health priority system order is: Maori, Pacific Peoples, Asian, other groups except New Zealand

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[20] Statistics New Zealand, 'Final Report of a Review of the Official Ethnicity Statistical Standard', p11.
[21] Statistics New Zealand, 'Final Report of a Review of the Official Ethnicity Statistical Standard', p34.
[22] Pool, *Te Iwi Maori*, pp 20-2.
[23] Ministry of Health, 'Ethnicity Data Protocols for the Health and Disability Sector', February 2004, available at http://www.health.govt.nz/publication/ethnicity-data-protocols-health-and-disability-sector, pp 8-10 , accessed 5 January 2012.
[24] Ministry of Health, 'Ethnicity Data Protocols', pp 18-20.
[25] Ministry of Health, 'Ethnicity Data Protocols', p19.

European, New Zealand European. This system is also used by the Ministry of Education, using a similar order list.[26] Prioritised output has the effect of under-estimating the numbers in non-Maori ethnic groups, and is no longer used by Statistics New Zealand.[27]

The commission for this report specified that it 'should include comparisons with non-Maori in the district and with national Maori and non-Maori profiles'. Therefore, wherever possible, the point of comparison with Maori is 'non-Maori' rather than Pakeha or the total population. Different data sources used in this report use different organisational methods, but using non-Maori as a point of comparison means that these differences essentially become irrelevant. Where sole/combination output has been used, this report has calculated the Maori population by adding up all the categories which include Maori ethnicity, and the non-Maori population determined by subtracting the Maori population from the total population. Where total response output has been used, this report has used the Maori population figure, and calculated the non-Maori population by subtracting the Maori population figure from the total population, as opposed to the sum total of all ethnic populations. Where prioritised output has been used, this report has used the Maori population figure and calculated the non-Maori population by subtracting the Maori population figure from the total population. All of these methods come to the same result, which is to put everyone who nominated Maori as an ethnicity into one category and everyone who did not do so into another. While arguably inflating the Maori population somewhat (by including people for whom 'Maori' is one of their ethnicities but not their primary one), it does make statistics from a range of sources comparable, and avoids leaving out anyone who identifies at least partly as Maori from the Maori statistics.

As stated above, the commission for this report required comparison with non-Maori in the inquiry district and with national Maori and non-Maori profiles. This means that, whenever possible, statistics will be presented with regard to at least four groups: Maori living in the Rohe Potae or some other regional area, approximating the inquiry district as much as possible; non-Maori living in the same area; the national Maori population; and the national non-Maori population. Comparisons will be made between Maori and non-Maori in the same area, and also between the Rohe Potae and national populations. A problem with this is that

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[26] Ministry of Education, Priority report, available at http://www.educationcounts.govt.nz/data-services/collecting-information/code_sets/ethnic_group_codes, accessed 5 January 2012.
[27] Statistics New Zealand, 'Final Report of a Review of the Official Ethnicity Statistical Standard', p15.

the Rohe Potae non-Maori population is quite different from the national non-Maori population, as will be shown in the population chapter. Amongst other things, it is significantly more ethnically homogenous. In some cases this may have the effect of making it appear that the gap between Maori and non-Maori is larger in the Rohe Potae than in New Zealand as a whole, since in the Rohe Potae Maori are being compared with a largely Pakeha group, whereas for New Zealand as a whole the comparison is with a group which includes larger percentages of sometimes socially and economically marginalised ethnic minorities. This issue will be noted in individual chapters where it appears to be affecting the data.

In some cases it was not possible to extract non-Maori figures, for example where median figures are provided. In these cases the points of comparison used are the Pakeha or non-Maori, non-Pacific, and total populations. Socio-demographic reports by non-Treaty agencies frequently include Pacific peoples as a separate group in their figures. In some cases their socio-economic indicators are worse than those of Maori. The exclusion of Pacific peoples as a separate group in this report may create the sometimes false impression that Maori are the ethnic group with the worst socio-economic indicators. The decision not to include separate statistics on Pacific peoples was made for two reasons. Firstly, in 2006 only 1.7% of the Rohe Potae CAU population were Pacific peoples, making statistical comparisons unhelpful. Secondly, the purpose of this report, as stated by its commission, is to determine the socio-economic condition of Rohe Potae Maori in relation to Rohe Potae non-Maori, and to Maori and non-Maori nationwide. A comparison with Pacific peoples, whether the few hundred who lived in the Rohe Potae in 2006, or the national population, does not advance this goal.

There can be other problems with comparing data from different sources, including censuses in different years. For example, the way a question on ethnicity is worded may influence the answers given.[28] Data collection agencies generally try to avoid these problems by using set standards; for example the Ministry of Health uses the ethnicity question from the 2001 census when collecting ethnicity data.[29] Statistics New Zealand uses an ethnicity classification standard which means that all of its contemporary data are comparable, and other data collection agencies have tended to adopt this.[30] The standard was revised in 2005,

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[28] Robson and Reid, p12.
[29] Ministry of Health, 'Ethnicity Data Protocols', p7. The same question was used in the 2006 census. Statistics New Zealand, 'Statistical Standard for Ethnicity 2005', p2.
[30] For example, see http://www.stats.govt.nz/browse_for_stats/income-and-work/employment_and_unemployment/HouseholdLabourForceSurvey_HOTPDec08qtrRebase/Technical%20N

and it is not clear whether it had been adopted by other agencies when information used in this report was collected; however none of the changes made appear to have any serious implications for this report.[31] There is some variation between sources; for example, Ministry of Health data includes those who state their ethnicity as 'New Zealander' as New Zealand European, whereas the 2006 census data includes 'New Zealanders' in the 'other ethnicity' category.[32] In general, the number of people stating 'New Zealander' as their ethnic identity was much higher in the 2006 census than it is in other statistical sources.[33]

As well as self-identified ethnicity, the census also records Maori descent as a separate statistic. As the population chapter will show, a minority of people of Maori descent do not identify as Maori (although nearly all self-identified Maori are of Maori descent). Because Maori descent statistics are not comparable with self-identification statistics, these have generally not been used in this report. For this reason, the term 'Maori' in this report generally refers to people who have self-identified as Maori. People of Maori descent, who may or may not identify as Maori, are referred to using terms such as 'Maori descendants'. The term 'non-Maori' therefore refers to people who have not chosen to self-identify as Maori, and includes some people of Maori descent.

Iwi and hapu

The commission for this report specified that 'data collection and analysis should be made at the level of "Maori" for the Te Rohe Potae region, and to the extent that the data permits, at hapu or iwi level'. It has not been possible to find any statistics which indicate respondents' hapu, and so no hapu information is included in this report. Some census information is available by iwi, and has been included wherever useful.

As with ethnicity, iwi statistics can be problematic, although this is not a topic which has been studied in any great depth.[34] Most crucially, a significant minority of Maori (nearly 15% of people stating Maori descent in the 2006 census) do not know their iwi. Others may know

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otes.aspx, accessed 5 January 2012. For the standard, see Statistics New Zealand, 'Statistical Standard for Ethnicity 2005'.

[31] Statistics New Zealand, 'Profile of New Zealander Reponses', p2.

[32] Ministry of Health, 'Ethnicity Data Protocols', p16.

[33] Statistics New Zealand, 'Final Report of a Review of the Official Ethnicity Statistical Standard', p7.

[34] Julie Walling, Desi Small-Rodriguez and Tahu Kukutai, 'Tallying Tribes: Waikato-Tainui in the Census and Iwi Register', *Social Policy Journal of New Zealand*, 36 (August 2009), p4.

their iwi but do not want to give the information to the Crown.[35] In a paper on iwi census statistics, Walling, Small-Rodriguez and Kukutai note that present-day iwi organisations require reliable data on their members in order to administer their affairs, and therefore want census iwi data to be as accurate as possible. This contrasts with historical resistance to and suspicion of official data collection, particularly in areas such as the Rohe Potae in which Maori have had particularly troubled relationships with the state.[36] These recent developments do not necessarily mean that all Maori are comfortable with sharing whakapapa information with the state, however.

For census purposes, iwi membership is based on self-identification. This is in contrast with other measures of iwi membership such as formal registration with an iwi organisation, which can require a demonstration of whakapapa and confirmation by a kaumatua or similar authority.[37] Although the latter measure has more stringent requirements, a comparison of Waikato-Tainui's official register with those recorded in the 2006 census as belonging to Waikato iwi shows that the former group is substantially larger.[38] A possible explanation for this is that membership of an official iwi organisation does not necessarily indicate identification with that iwi, regardless of whakapapa. This is particularly the case when there are material benefits associated with membership, such as scholarships.[39] However, it also seems probable that there was some under-counting of iwi members in the census.

Again in common with ethnicity, difficulties arise from iwi self-identification because it allows respondents to use whichever terms they feel are most appropriate, regardless of whether they fit recognised definitions of iwi, and Statistics New Zealand must work out how to define such responses. In 2009, Walling et al. noted that 'coding of New Zealand census iwi data is due for a substantial review', but as of late 2011 no such review had been carried out.[40] In addition, no information could be found on how Statistics New Zealand treated iwi responses which they did not recognise as names of iwi, hapu or waka. For example, Walling et al. mention that 'names of places that are within the Waikato-Tainui rohe (e.g. Kawhia) [given as responses to the iwi question] are coded as Waikato iwi, though residence within

[35] Robson and Reid, 'Ethnicity Matters: Maori Perspectives', p7.
[36] Walling, Small-Rodriguez and Kukutai, pp 4-6.
[37] ibid., pp 7-8.
[38] ibid., p11.
[39] ibid., p13.
[40] Walling, Small-Rodriguez and Kukutai, p8.

the Waikato-Tainui rohe does not necessarily indicate descent from Waikato iwi'.[41] The 2006 census returns indicate that 54% of the Maori descent population of the Kawhia Community census area unit belonged to the Waikato iwi. The above quote suggests that this figure may have been inflated by an unknown number of respondents who wrote 'Kawhia' as a response to the iwi question, rather than 'Waikato'. It is possible that other Rohe Potae iwi statistics may have been affected in this way, for example by inflating the number of Maniapoto in the central Rohe Potae areas, if people giving places within the Maniapoto rohe as iwi responses were coded as Maniapoto.

Exactly which groups can and should be regarded as iwi is a highly contested topic, and one which has been a major theme of past Waitangi Tribunal inquiries.[42] As Robson and Reid note, concepts of iwi and hapu are not fixed, but have evolved and continue to evolve in response to societal changes, the needs of Maori, and the demands of the Treaty settlement process and iwi corporate development.[43] When deciding whether to classify a group as an iwi, Statistics New Zealand considers whether the group has:

- had a separate classification in earlier iwi classifications;
- been identified by respondents in previous surveys or censuses;
- a history of operation as a separate iwi in a business or resource management capacity, with legal and/or administrative recognition as such;
- been identified as distinctive in historical and genealogical tradition; and/or
- been (as hapu of a larger iwi) moving to acquire or petition for iwi status.

Statistics New Zealand also consults with the larger iwi to obtain their views.[44] As of late 2011, Statistics New Zealand recognised 100 groups as iwi, with iwi affiliating to different regions being counted separately.[45] In addition, there were 17 waka or iwi confederations, 11 groups of people who had identified their region but not their iwi, 10 groups which had

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[41] ibid., p8.
[42] For example the East Coast Settlement Inquiry (Wai 2190).
[43] Robson and Reid, p8.
[44] Statistics New Zealand, Statistical Standard for Iwi, 2009, available at http://www.stats.govt.nz/surveys_and_methods/methods/classifications-and-standards/classification-related-stats-standards/iwi.aspx, p1, accessed 5 January 2012.
[45] Statistics New Zealand, 'Classification – Iwi, complete', available at http://www.stats.govt.nz/surveys_and_methods/methods/classifications-and-standards/classification-related-stats-standards/iwi.aspx, accessed 5 January 2012.

specified a multi-region iwi but not a region, and six categories for people whose response could not otherwise be classified.

There is inevitably some controversy surrounding Statistics New Zealand's decisions on which groups to recognise as iwi. At the Te Kuiti research hui for this inquiry in July 2010, some claimants said that they felt unable to express their iwi and hapu identity via the census, in some cases because their self-identified iwi was not recognised as such.[46] The Amended Statement of Claim for Wai 1113 also contains a section on this issue in relation to Ngati Hikairo, which statistics New Zealand does not recognise as an iwi.[47] With this in mind, it must be recognised that the iwi statistics used in this report reflect those which have been collected and collated by Statistics New Zealand, and do not imply any judgement on iwi status or importance, or interests in the Rohe Potae inquiry district. It is likely that claimants will be able to identify Rohe Potae-connected iwi which are not recognised by Statistics New Zealand. Unfortunately this lack of recognition means that no information will be available on these iwi.

Those groups recognised by Statistics New Zealand as iwi in the 2006 census, and listed in claims in the Rohe Potae district inquiry, are (using the names used by Statistics New Zealand):

- Ngati Maniapoto
- Ngati Raukawa (Waikato)
- Waikato
- Ngati Haua (Waikato, Taumarunui, and unspecified)
- Te Ati Haunui-a-Paparangi
- Ngati Tuwharetoa
- Ngati Tama (Taranaki)

Statistics New Zealand also recognises Tainui as a waka or iwi confederation. For the purposes of this report, Tainui will be treated as a Rohe Potae-connected iwi. In addition, Statistics New Zealand has a category of Waikato / Te Rohe Potae not further defined. In

[46] Rohe Pōtae research hui organised by Waitangi Tribunal Unit at Panorama Motor Lodge, Te Kuiti, 15 July 2010.
[47] Wai 898 #1.2.99, pp 21-3.

general the data for Ngati Haua (Taumarunui), Ngati Haua (unspecified), Ngati Tama (Taranaki), and Waikato / Te Rohe Potae not further defined have not been used in this report as the numbers are too small for meaningful statistical analysis.

Geographical units

Data used in this report are organised according to a range of geographical units. At the most basic level, information for the census and elsewhere is available on a national basis. The next step down from this is usually regional council areas (referred to hereafter as 'regions'). As of September 2011, New Zealand had 11 regional councils and six unitary councils (territorial councils with regional council responsibilities). Around four-fifths of the Rohe Potae inquiry district is in the Waikato Region, while most of the southern-most fifth of the district is in the Manawatu-Wanganui Region, and a small area south of Mokau is in the Taranaki Region (see map 2). All three regions also contain large areas not in the Rohe Potae. The Waikato Region includes the Taupo area and extends north to include the Coromandel Peninsula and to reach the southern outskirts of Auckland, while the Manawatu-Wanganui Region goes south to the north end of the Kapiti Coast. Because the vast majority of the Manawatu-Wanganui and Taranaki regions are outside of the inquiry district, data concerning these areas have not been used in this report. Most of the Waikato Region is also outside of the inquiry district, and data concerning this area does not necessarily reflect the situation in the Rohe Potae. Despite this, data on the Waikato Region has occasionally been used in this report, for two reasons. The most pressing is that some important data is not available on any geographical area smaller than regions, and it was felt better to include information that gives some indication of the situation in the Rohe Potae, however broad, than no information at all. The other reason is that in many cases the data concerning the Waikato Region was not substantially different from the national data; for example it was often the case that differences between Maori and non-Maori were much more significant than differences between the Waikato and national populations. This suggests that it is unlikely that the Rohe Potae data would be substantially different from either, and may be broadly inferred from the data on the Waikato Region.

Some health data is available by District Health Board (DHB) region. Most of the inquiry district is covered by the Waikato DHB, with the exception of a small area south of Mokau, which is in the Taranaki DHB region (see map 3). As with the Waikato Region, the Waikato

DHB region also includes a large area not in the Rohe Potae, including some of the Tongariro National Park area, Waikato proper, and the Coromandel. As with the data concerning the Waikato region, Waikato DHB data has sometimes been used despite including a large non-Rohe Potae population because it is the best available and is likely to broadly reflect Rohe Potae trends. In addition, some health data for areas smaller than DHB regions, for example data on deaths from particular causes, involves too few people for meaningful statistical analysis.

The next largest geographical unit for which data is commonly available is that of territorial authority district (henceforth known as districts). Territorial authorities are either district or city councils, and as of September 2011 New Zealand had 50 district councils and 11 city councils. The relevant districts for the Rohe Potae inquiry district are Waikato, Waipa, Otorohanga, Waitomo, New Plymouth and Ruapehu (see map 4). Waitomo District is entirely within the inquiry district, while Otorohanga is almost entirely within the inquiry district except for a small eastern area. Waipa District is mostly outside of the inquiry district proper, except for a narrow southern area, but does include nearly all of the extension area around Te Awamutu. Waikato, New Plymouth and Ruapehu districts are also all mostly outside the inquiry district, although Ruapehu contains a significant portion of it. It should be remembered that the most relevant districts are Otorohanga and Waitomo as, in geographical terms these, between them, make up around four-fifths of the inquiry district and do not include any substantial non-Rohe Potae population.

In the health chapter, some district-based data has been sourced from the Waikato DHB. The DHB area does not include New Plymouth District or the southern half of Ruapehu District. This non-Waikato DHB part of Ruapehu is also not part of the Rohe Potae Inquiry District, so the exclusion of data from this area in fact makes this data more relevant. However, the exclusion of New Plymouth data from Waikato DHB statistics does exclude a small portion of the inquiry district.

The smallest geographical unit for which information is readily available is that of Census Area Unit (CAU). These are units defined by Statistics New Zealand for the census, and are aggregations of meshblocks, the smallest unit used by the organisation. They in turn aggregate to fit into territorial and regional authority areas. There does not seem to be a standard population or geographical size for rural CAUs, and the Rohe Potae includes CAUs with populations ranging from 4,419 (Te Kuiti) to 81 (Tiroa), with an average size of 1,318.

There are 36 CAUs entirely or mostly within the Rohe Potae inquiry district, including the extension area and not counting unpopulated CAUs (several inlets and Te Motu Island) (see maps 5 and 6). Wherever possible, figures from these CAUs have been combined into a dataset called Rohe Potae CAUs. This provides the closest thing available to data for the inquiry district itself. The CAUs have also been subdivided into three sets: extension, rural, and towns, as follows:

Extension:	Rural:	Towns:
Te Pahu	Te Uku	Raglan
Ohaupo	Pokuru	Te Kuiti
Kihikihi	Tokanui	Otorohanga
Te Rore	Rotongata	
Pirongia	Kawhia Community	
Lake Ngaroto	Otorohanga Rural West	
Kaipaki	Te Kawa	
Te Rahu	Otorohanga Rural East	
Kihikihi Flat	Piopio	
Allen Road	Taharoa	
Te Awamutu West	Mahoenui	
Te Awamutu Central	Marokopa	
Te Awamutu East	Waipa Valley	
Te Awamutu South	Mokauiti	
	Tiroa	
	Ohura	
	Ngapuke	
	Otangiwai-Heao	
	Okoki-Okau	

The extension area CAUs lie within the inquiry district's extension area around Te Awamutu, and were separated from the other CAUs for two reasons. Firstly, this area is not within the inquiry district for all purposes, and it was thought likely that separating out its data would be useful to those reading this report. Secondly, it was discovered that the area is demographically distinct from the rest of the inquiry district; in particular, it has a significantly smaller Maori population. The towns have been separated out from the rest of the inquiry district, as their size makes it likely that they are also demographically distinct. Raglan, Otorohanga and Te Kuiti are by far the largest towns in the non-extension parts of the inquiry district: at the time of the 2006 census the Raglan CAU contained 2,637 people,

Otorohanga 2,592 people, and Te Kuiti 4,419 people. By contrast, smaller towns such as Kawhia, Ohura and Piopio each had fewer than 500 people in their CAUs.

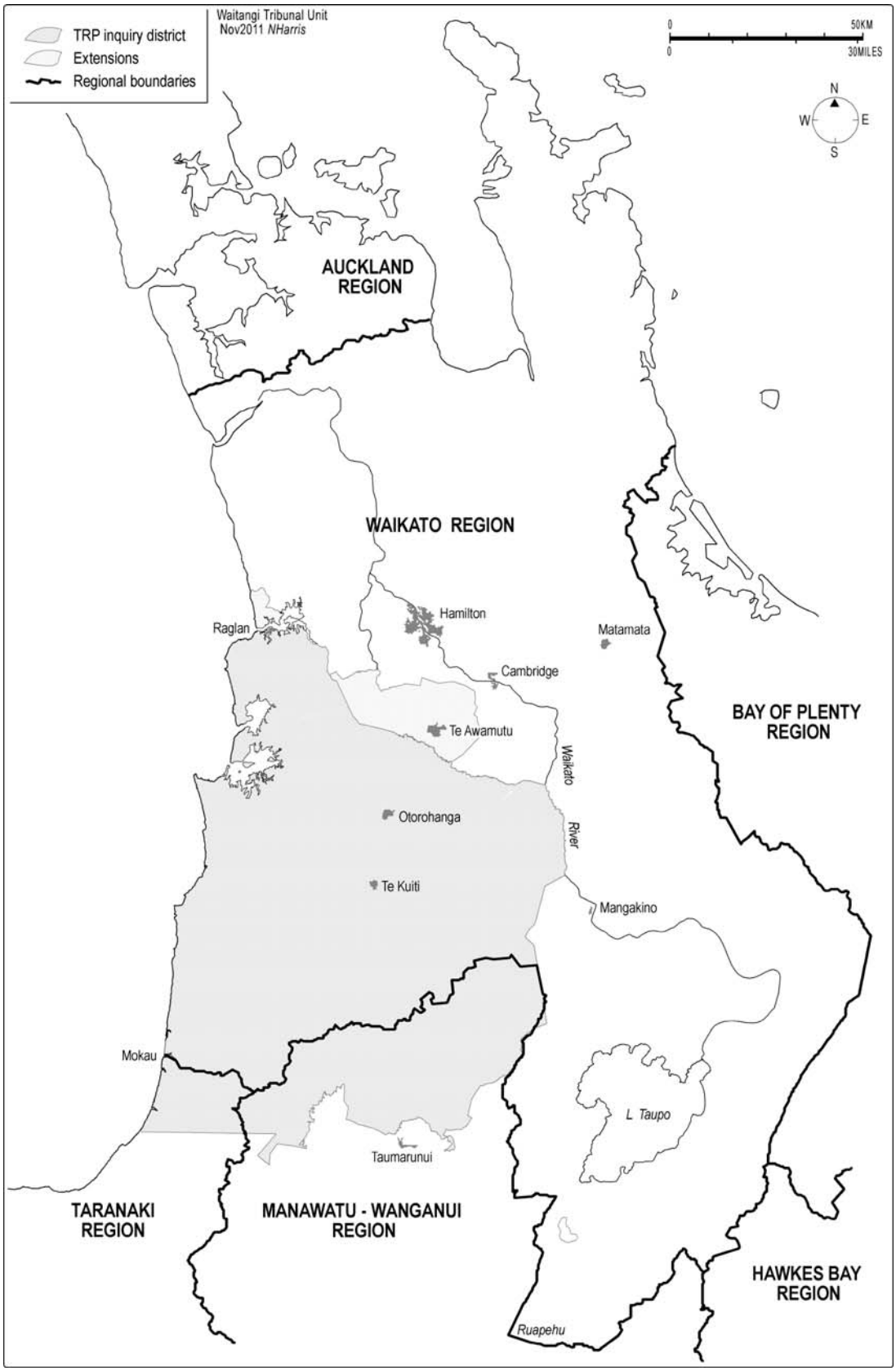
Statistics New Zealand has a policy of not releasing data that allows the identification of individuals. This means that when a category has a very small number of people in it, the data will be marked as confidential and not released. This has implications for aggregate CAU data, since some of the Rohe Potae CAUs have very small populations. When CAU figures are combined into datasets, there will often be confidential figures missing and recorded as zero. This leads to some underestimation of the total figures and proportions, and to rural areas with small populations and other small groups being under-represented.

The small population of some Rohe Potae CAUs means that even when information is available, it is not always statistically significant. This is particularly the case when examining groups within CAUs. At the time of the 2006 census, Maori were a minority in most of the Rohe Potae CAUs, and when the Maori population of each CAU is divided into subgroups, for example by age, income or labour force status, the numbers of each subgroup can become so small that minor changes or anomalies appear to have disproportionate significance. In addition, as noted, once the numbers in each category become small enough they are made confidential and are thus unavailable for analysis. For this reason, data from individual CAUs has generally been used only to illustrate wider points and trends, or to indicate ranges, rather than listed, graphed or tabled separately. Should readers want to access this data, it is available either on the Statistics New Zealand website, at http://www.stats.govt.nz/ tools_and_services/tools/TableBuilder.aspx, or in the supplementary documents to this report. This is also a reason why data has not been used at the level of 'meshblocks', which are Statistics New Zealand's smallest geographical unit.

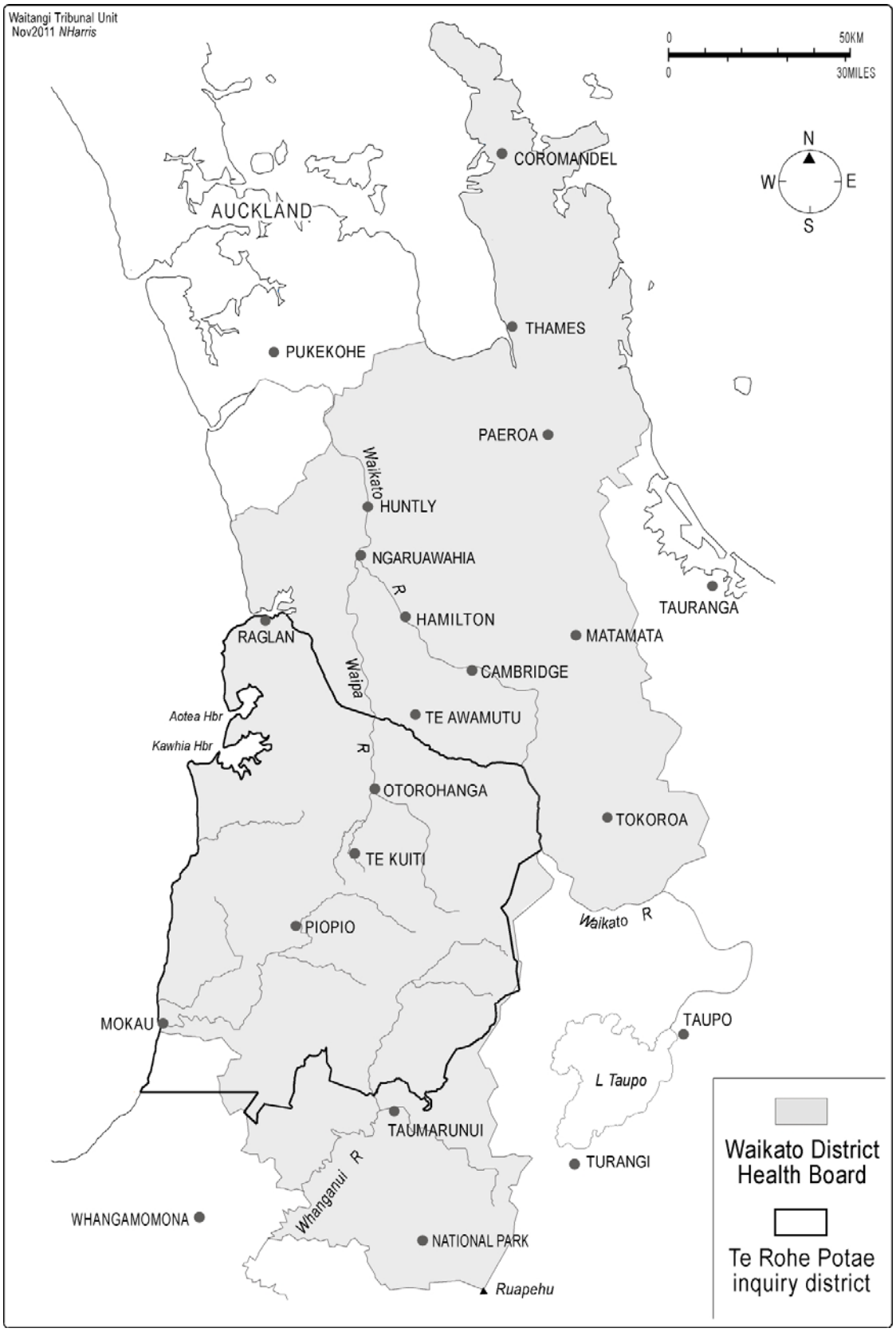
The geographical terminology used in this report is summarised as follows:

- 'Region': regional council units, primarily the Waikato Region.
- 'DHB area or region': District Health Board regions, primarily the Waikato DHB region.
- 'District': district council areas such as the Otorohanga or Waitomo districts.
- 'Inquiry district': Waitangi Tribunal inquiry districts, in the case of this report the Rohe Potae inquiry district.

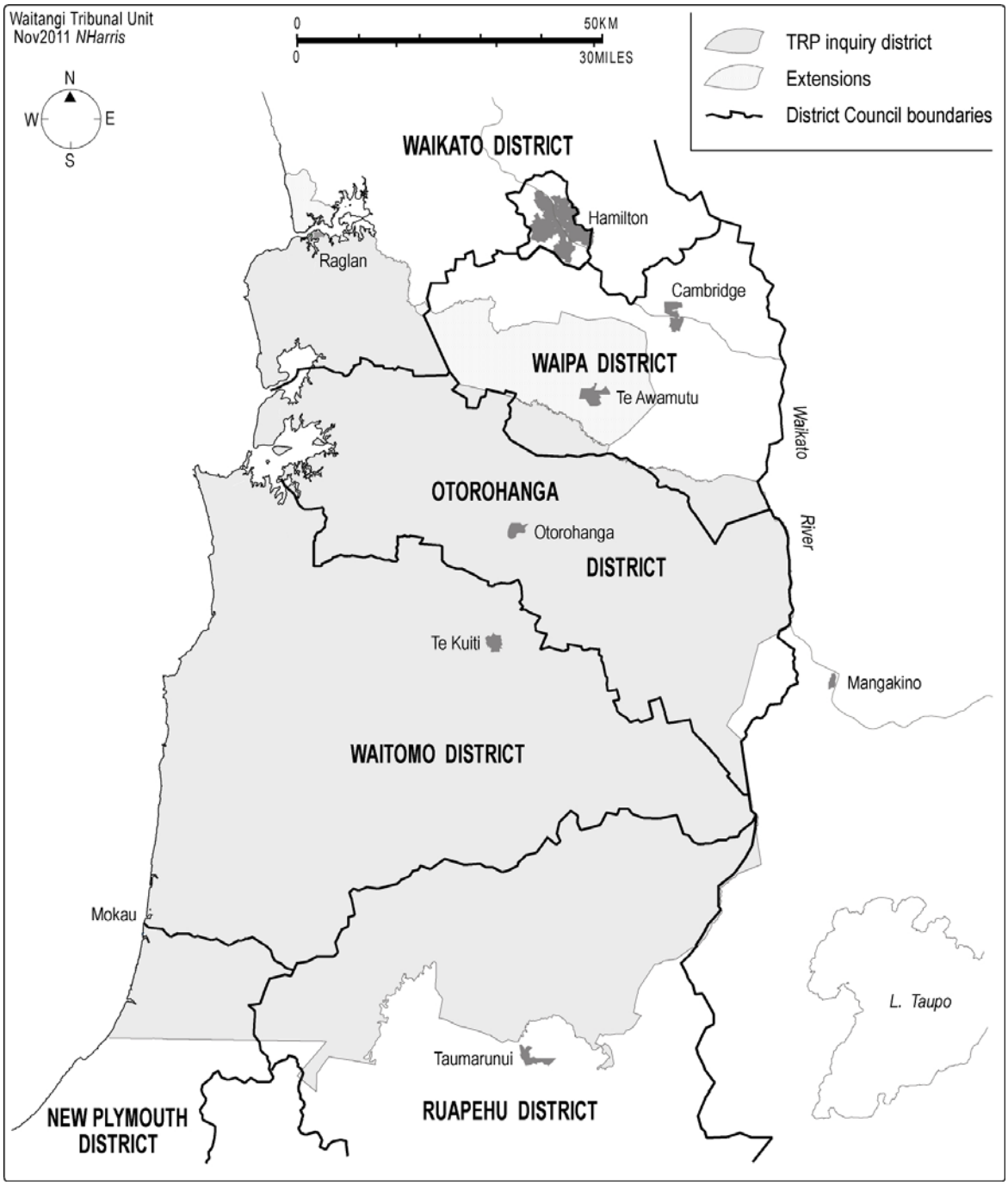
- ‘CAUs’: Census Area Units used by Statistics New Zealand.
- ‘TRP CAUs’ or ‘Rohe Potae CAUs’: CAUs within or mostly within the Rohe Potae inquiry district, including the extension area around Te Awamutu (see list above, and map 5).
- ‘Extension CAUs’: those within or mostly within the extension area (see list above, and map 6).
- ‘TRP rural’ or ‘the rural parts of the Rohe Potae’: those CAUs within or mostly within the non-extension part of the Rohe Potae inquiry district, excluding Te Kuiti, Otorohanga, and Raglan (see list above).
- ‘TRP towns’ or ‘the Rohe Potae towns’: Te Kuiti, Otorohanga and Raglan CAUs.



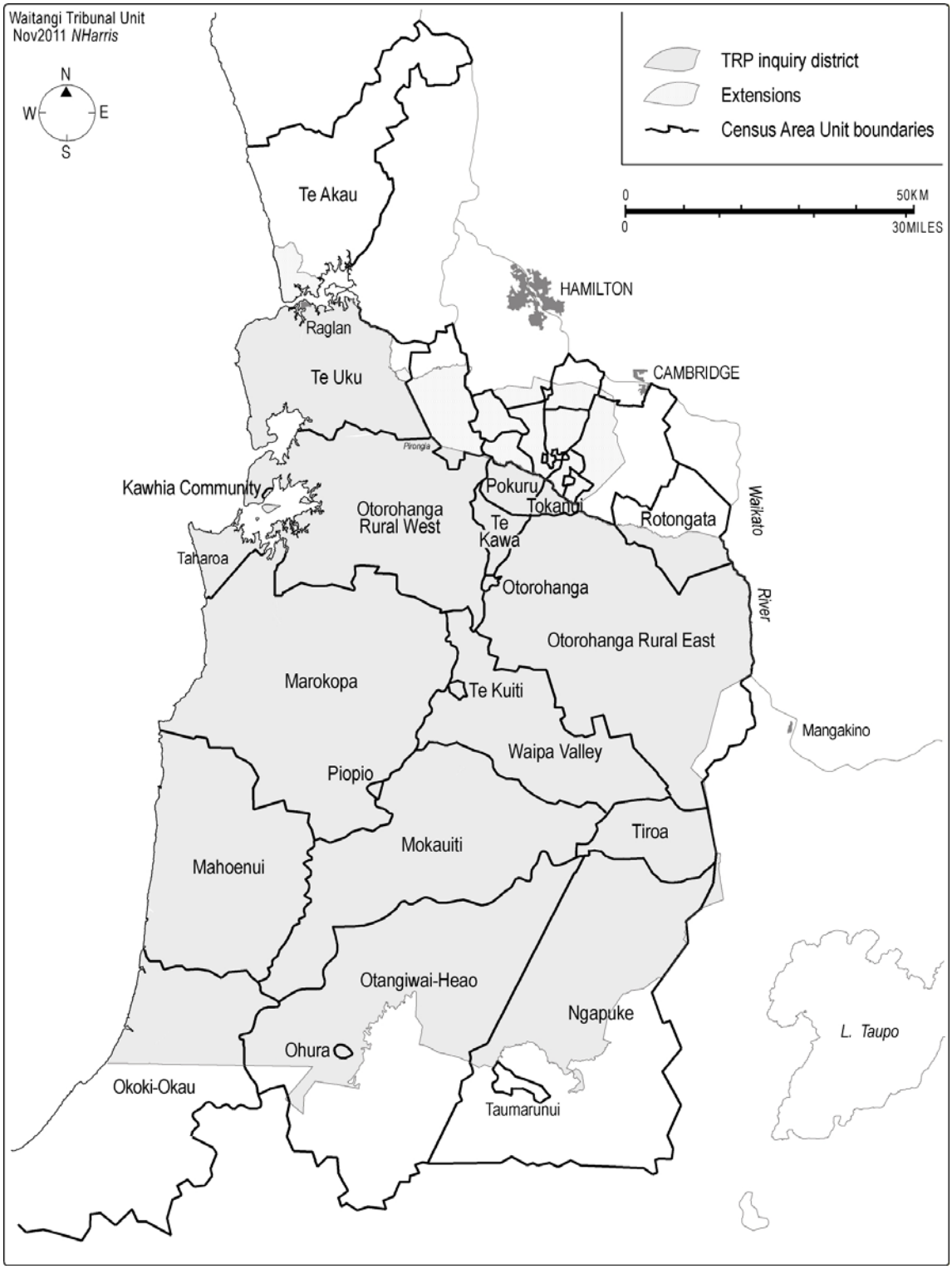
Map 2: Te Rohe Potae inquiry district and regional council boundaries (‘regions’).



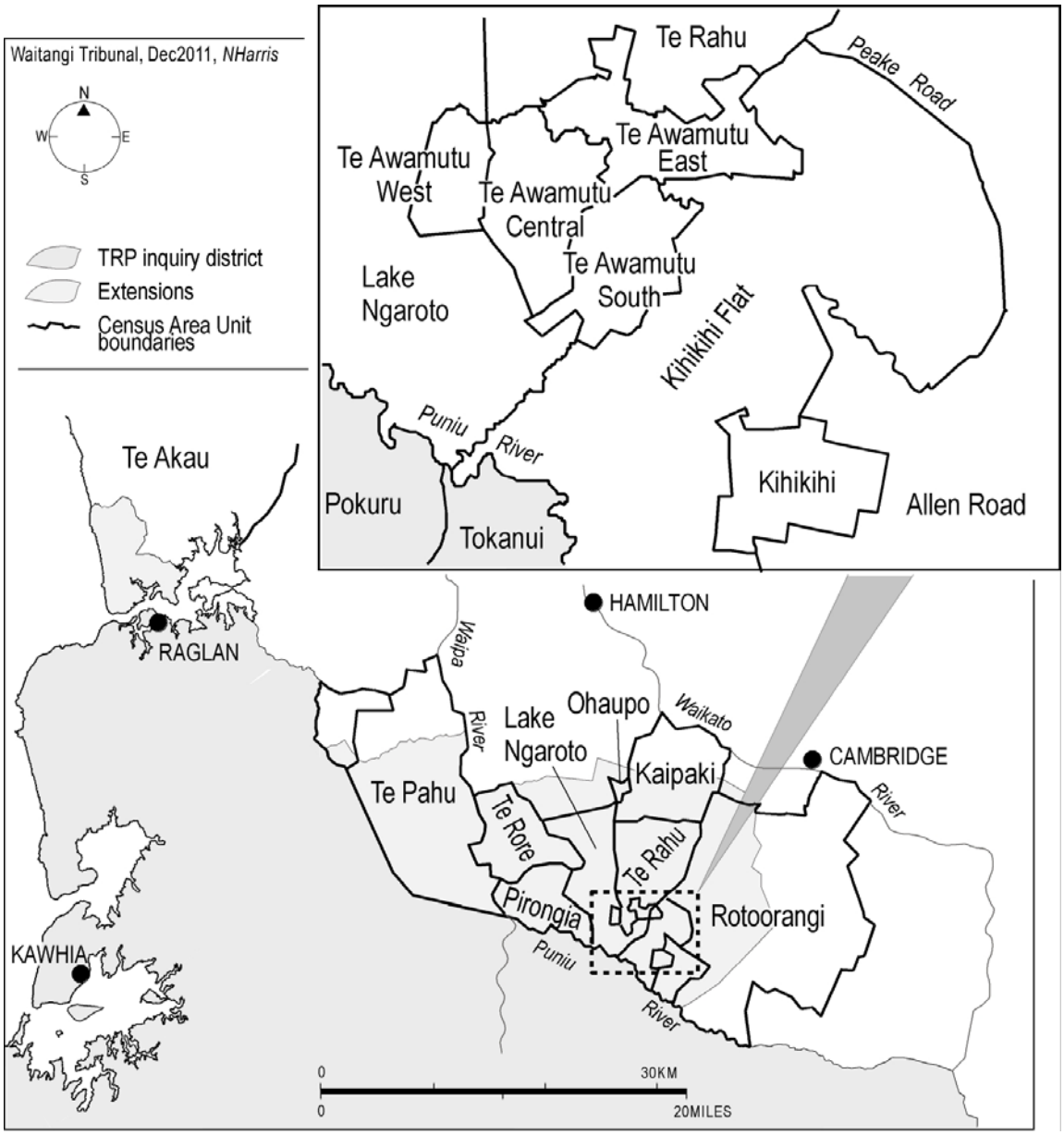
Map 3: Te Rohe Potae inquiry district and Waikato District Health Board (DHB) region.



Map 4: Te Rohe Potae inquiry district and District Authority boundaries (‘districts’).



Map 5: Te Rohe Potae inquiry district and Census Area Unit boundaries ('CAUs').



Map 6: Te Rohe Potae extension area and Census Area Unit (CAU) boundaries.

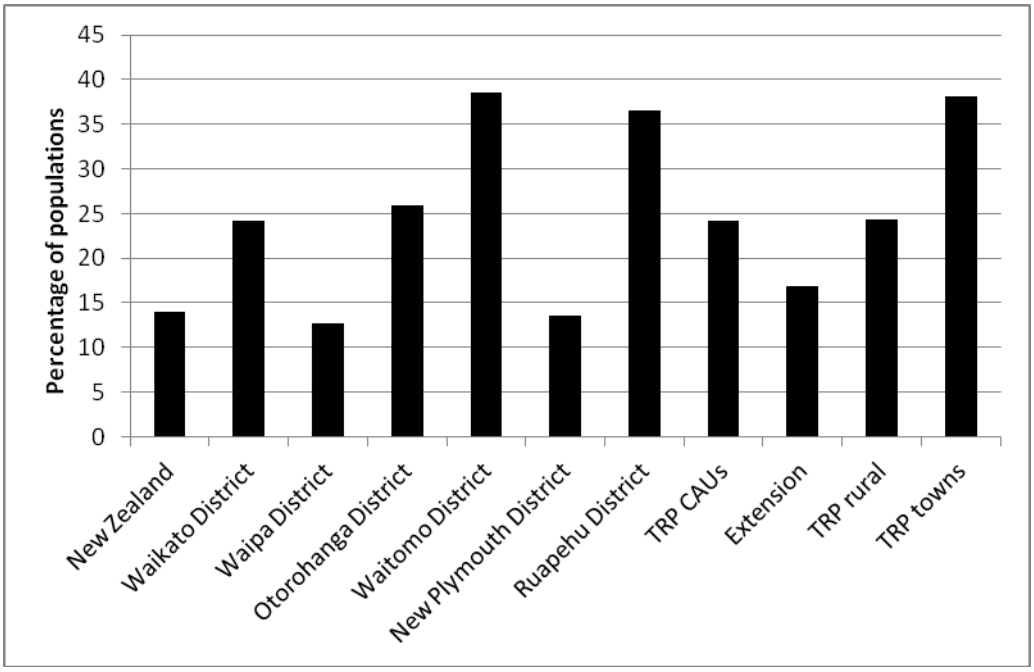
Chapter One: Population

This chapter provides a demographic overview of Maori in the Rohe Potae inquiry district, based mostly on the 2006 census. It will cover the percentage of the Rohe Potae population who identified as Maori, the extent to which this changed over time, the ethnic balance of the non-Maori population, and the percentage of the total population who were of Maori descent. The chapter will then discuss iwi membership, age structures, and fertility.

Ethnicity

The Rohe Potae inquiry district had a higher percentage of its population identifying as Maori than did New Zealand as a whole. In 1991, 434,847 people, or 12.9% of the total New Zealand population of 3,373,929, identified as Maori in that year's census. By 2006, the number of people identifying as Maori had risen to 565,329, or 14.0% of a total population of 4,027,947 (see graph 1).[48] In the census area units (CAUs) making up the inquiry district (including the extension area around Te Awamutu), there were 10,149 Maori in 1991, or 22.1% of a total population of 45,843. This had risen to 11,496 in 2006, or 24.2% of a total population of 47,427. The percentages were almost identical in the rural parts of the inquiry district: Maori were 4,551, or 22.2%, of a total population of 20,505 in 1991, and 4,737, or 24.3% of a total population of 19,470 in 2006. Within the Rohe Potae towns of Raglan, Otorohanga and Te Kuiti the proportion was even higher, at 33.6% in 1991 (3,279 out of 10,308) and 38.1% in 2006 (3,678 out of 9,648). In the extension area the percentage was not much above the national level (14.9%, or 2,319 out of 16,140 in 1991, and 16.8%, or 3,081 out of 19,470 in 2006). There was also significant variation within the territorial authority districts connected to the Rohe Potae, with Waitomo and Ruapehu district populations being over a third Maori in 2006, Otorohanga and Waikato district populations being around one quarter Maori, and New Plymouth and Waipa district populations being around 13% Maori.

[48] Ethnic Group (Grouped Total Responses) and Maori Descent by Sex, for the Census Usually Resident Population Count, 1991, 1996, 2001 and 2006 censuses. All census data derived from Statistics New Zealand Table Builder tool, available at http://www.stats.govt.nz/tools_and_services/tools/TableBuilder.aspx, accessed 5 January 2012.



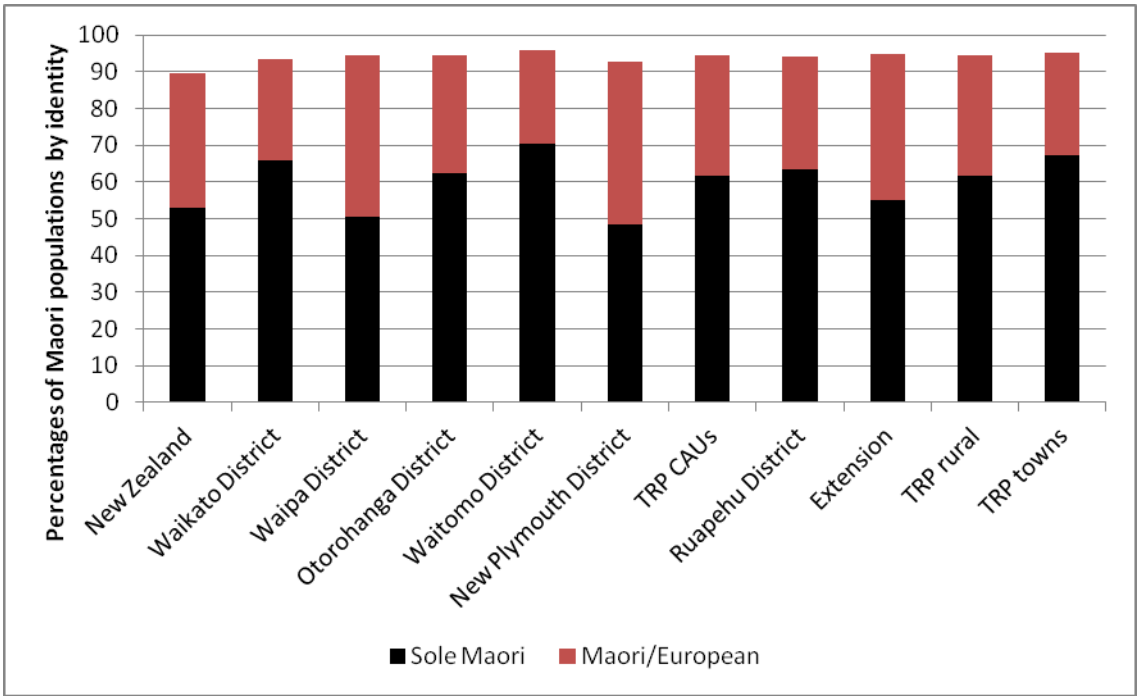
Graph 1: Percentage of populations identifying as Maori, 2006 census.

Of the individual Rohe Potae CAUs, Taharoa had by far the highest proportion of Maori residents, with 80.6% in 2006, or 174 out of a total population of 216. The next highest were Kawhia Community (52.3%, or 204 out of 390), Te Kuiti (46.6%, or 2,061 out of 4,419), and Piopio (44.9%, or 210 out of 468). All the CAUs with fewer than 10% Maori residents were in the extension area, with the exception of Pokuru (6.5% Maori), which borders it. The only extension area CAU with a higher proportion of Maori than the Rohe Potae CAUs generally was Kihikihi, with 36.1% of its population identifying as Maori.

The majority of Maori in New Zealand and in most parts of the Rohe Potae identified solely as Maori, although in most cases this majority was not a large one. Most Rohe Potae Maori with more than one ethnic identity identified as Maori and New Zealand European (Pakeha). In New Zealand as a whole, 52.8% of those who identified as Maori did not nominate any other ethnic identity, while 36.8% nominated both Maori and New Zealand European identities (see graph 2).[49] A further 3.6% nominated Maori and a Pacific Island identity, and the remaining 7.1% nominated various other combinations of identity. In the Rohe Potae and connected districts, the number of Maori specifying identities other than Maori or Pakeha was generally very small. The percentage of Maori identifying solely as Maori varied

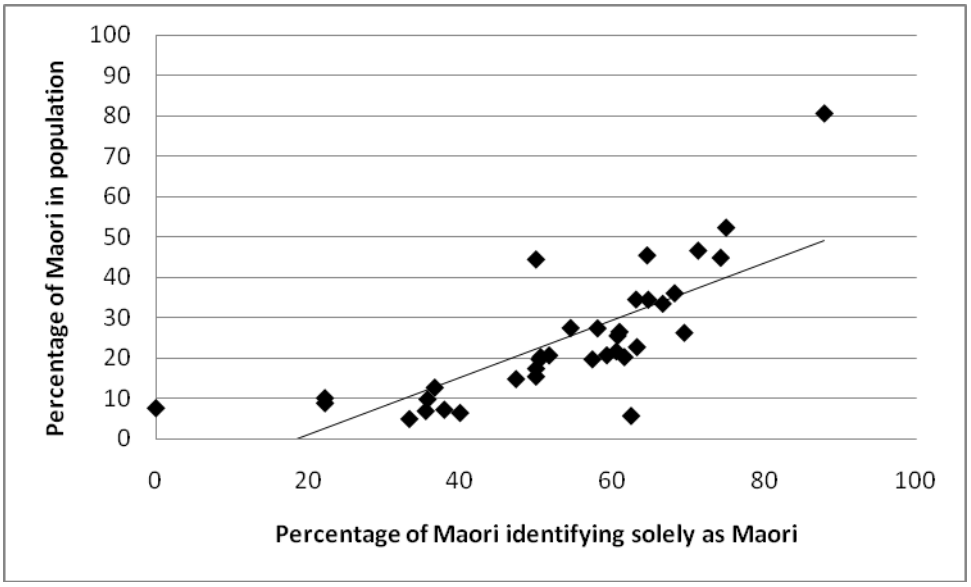
[49] Ethnic Group (Single and Combination) by Sex, for the Census Usually Resident Population Count, 2006. Total number of Maori derived from Ethnic Group (Grouped Total Responses) and Maori Descent by Sex, for the Census Usually Resident Population Count, 2006 census.

dramatically, from a high of 87.9% in Taharoa to zero in Allen Road. In most Rohe Potae CAUs, however, a majority – generally anywhere from just over half to around two-thirds – of Maori identified solely as Maori. Collectively, 61.7% of Maori in the Rohe Potae CAUs identified solely as Maori. In the connected districts, the percentages were highest in Waitomo (70.3%) and lowest in New Plymouth (48.4%). Within the Rohe Potae CAUs there was a fairly high correlation of +0.76 (with +1.0 being the highest possible correlation) between a CAU having a high percentage of Maori, and a high percentage of Maori identifying solely as Maori (see graph 3).[50]



Graph 2: Percentages of Maori population identifying solely as Maori, and as Maori and NZ European, 2006 census.

[50] A similar pattern has also been noted by Tahu Kukutai. Tahu Kukutai, 'The dynamics of ethnicity reporting: Maori in New Zealand', A discussion paper prepared for Te Puni Kokiri, January 2003, p39.



Graph 3: Correlation between percentage of Maori in Rohe Potae CAUs and percentages of Maori identifying solely as Maori, 2006 census.

These figures on 'sole Maori identification' probably under-represent the number of people who identified with more than one ethnic group, as the 2006 census form did not draw attention to the fact that people could nominate more than one ethnicity. In 1996, the form asked respondents to tick as many boxes as they required to answer the ethnicity question, resulting in much higher numbers of people nominating multiple ethnicities. The extent of this was such that it became difficult to compare ethnic statistics from 1996 and previous censuses, and a decision was made to remove the statement from future censuses.[51]

It has been argued that the 'sole Maori' population (those who identify solely as Maori) is a culturally and demographically distinct subgroup of the total Maori identity population, and ought to be considered seperately in studies such as this report.[52] While there is some merit in this suggestion, statistics were generally available only for the total Maori identity population, and not for the sole Maori group.

Pakeha made up more than half the total population of every Rohe Potae-connected district, and 68.3% of the Rohe Potae CAU population. The combined number of people in the Pacific, Asian and Middle Eastern / Latin American / African groups did not exceed 5% of any district population. People of 'other ethnicities' made up between 9% and 14% of each

[51] Kate Lang, 'Measuring Ethnicity in the New Zealand Population Census', Statistics New Zealand, February 2002, available at http://www.stats.govt.nz/browse_for_stats/population/census_counts/review-measurement-of-ethnicity/papers.aspx, accessed 5 January 2012.
[52] Kukutai, p12.

district. This category mostly consists of people who self-identified as 'New Zealanders', and so it is likely that most of these would generally be described as Pakeha.[53]

The Rohe Potae non-Maori population was therefore more ethnically homogenous than the national non-Maori population. In the Rohe Potae CAUs, 82.6% of non-Maori were Pakeha, compared to 70.6% of non-Maori nationwide. Only 2.0% and 1.7% of non-Maori in the Rohe Potae CAUs identified as Pacific and Asian respectively, compared to 7.2% and 9.6% of non-Maori nationwide. The proportion of non-Maori belonging to other ethnicities was higher in the Rohe Potae CAUs than nationwide (13.5% compared to 11.7%), but this was probably because of a higher proportion of 'New Zealander' responses rather than actual ethnic diversity. The 'New Zealander' response was generally more popular in rural than urban areas.[54]

Ethnicity and deprivation

The New Zealand Deprivation Index is a tool used to measure deprivation in specific areas, showing this in two sets of data. The first splits all areas into 10 deciles, with decile 1 representing the least deprived areas, and decile 10 representing the most deprived areas. The second dataset is more detailed and assigns each area a specific numerical rating, called an interval variable, with the average rating being 1,000. As with the decile rating, higher numbers indicate higher levels of deprivation.[55] The figures are derived from census data on nine factors, listed in order of importance: people aged 18 to 64 receiving certain kinds of social welfare benefit; income below a certain threshold; home ownership; single parent families; unemployment; qualifications; crowding; telephone access; and car access.[56]

As measured by the 2006 Deprivation Index, Maori were much more likely than non-Maori to live in deprived communities. There was a high correlation of +0.85 between a CAU having a higher percentage of Maori and a high interval variable deprivation score (see graph 4).[57] The 12 Rohe Potae CAUs in deciles 8, 9 and 10 included the 10 CAUs with the highest

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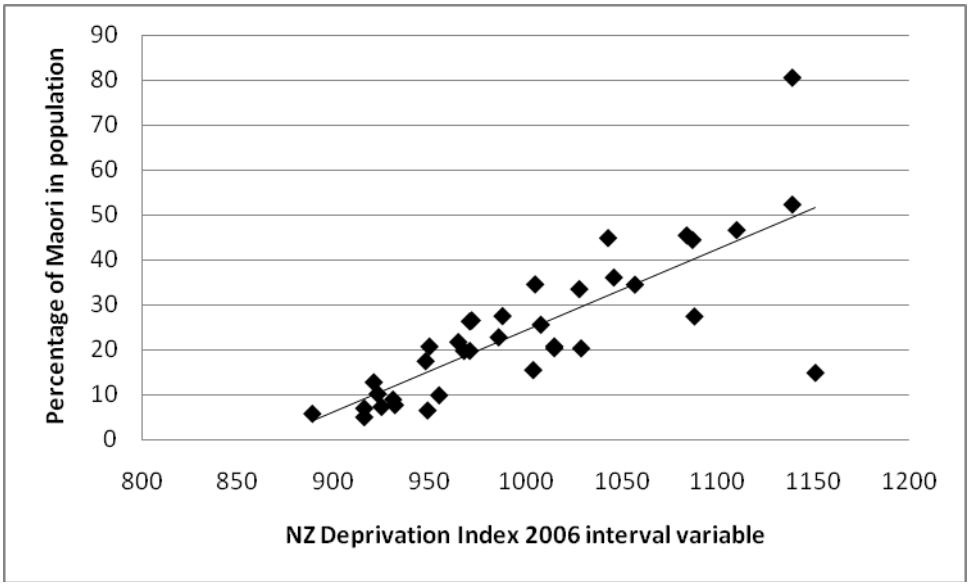
[53] Statistics New Zealand, 'Profile of New Zealander Responses', p7.
[54] ibid., p16.
[55] Clare Salmond, Peter Crampton and June Atkinson, 'NZDep2006 Index of Deprivation', Department of Public Health, University of Otago, Wellington, August 2007, p8.
[56] Salmond, Crampton and Atkinson, p21.
[57] Deprivation data from 'NZDep2006 Census Area Unit data' (MS Excel file), available at http://www.otago.ac.nz/wellington/research/hirp/projects/otago020194.html#nz, accessed 5 January 2012. Ethnicity data from Ethnic Group (Grouped Total Responses) and Maori Descent by Sex, for the Census Usually Resident Population Count, 2006 census.

percentages of Maori in the inquiry district. The seven CAUs in deciles 1, 2 and 3, by contrast, included five of the six CAUs with the lowest percentages of Maori.



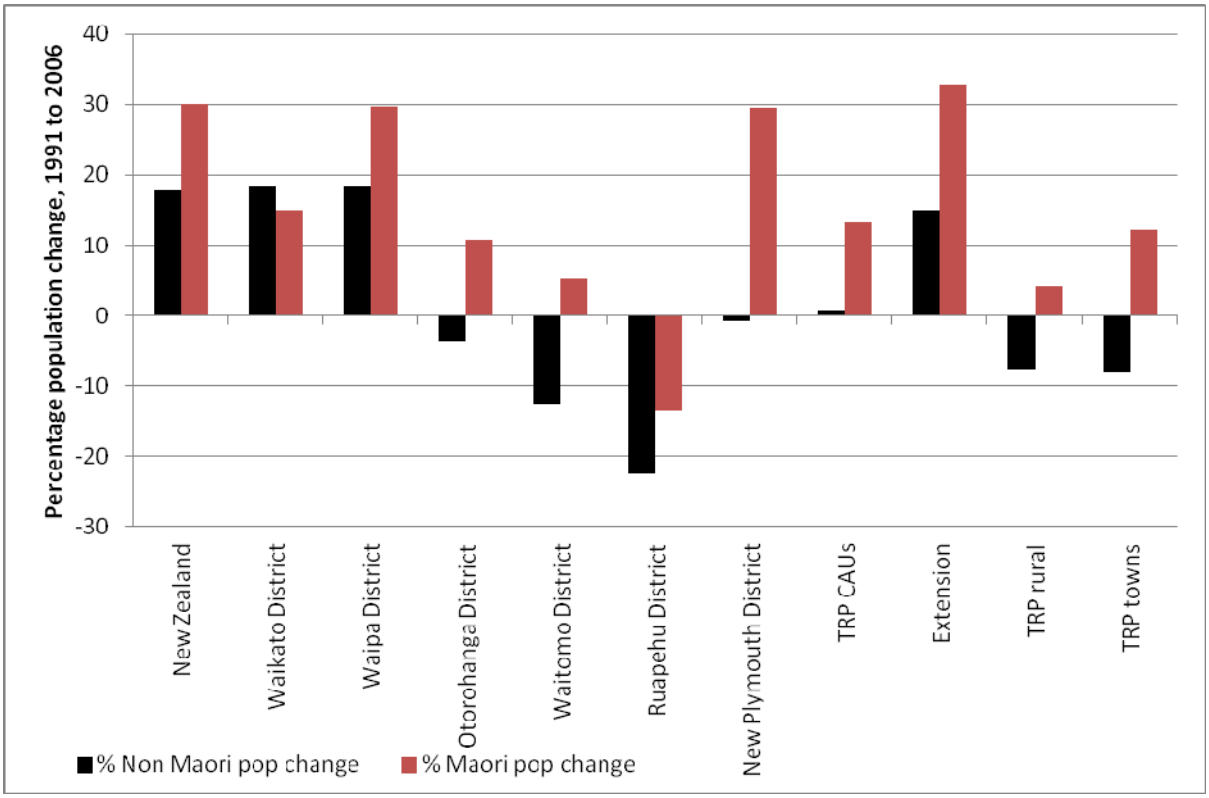
Graph 4: Correlation between percentage of Maori in Rohe Potae CAUs and score on New Zealand Deprivation Index interval variable, 2006.

Population change

During the 1991 to 2006 period, there was an increase in the Maori population of the Rohe Potae inquiry district. This was less substantial than the increase of the Maori population nationwide, but more so than that of the non-Maori Rohe Potae population. Between 1991 and 2006, the national Maori population increased by 30.0%, while in the Rohe Potae CAUs it increased by only 13.3% (see graph 5).[58] By comparison, the national non-Maori population increased by 17.8% during this period, but by only 0.7% in the Rohe Potae CAUs. Within the extension area the Maori population increased by 32.9%, compared to 12.2% in the Rohe Potae towns and 4.1% in the Rohe Potae rural CAUs. The non-Maori population of the extension area increased by 14.9%, while declining by 8.0% in the Rohe Potae town CAUs and by 7.7% in the Rohe Potae rural CAUs. As a result, the Maori proportion of the total Rohe Potae population increased in this time, as detailed in the first section of this chapter. The Maori population also increased in number in all the Rohe Potae-connected districts except Ruapehu, where there was a general population decline. However, even in

[58] Ethnic Group (Grouped Total Responses) and Maori Descent by Sex, for the Census Usually Resident Population Count, 1991, 1996, 2001 and 2006 censuses.

areas with Maori population increases, the increase was proportionally less than the national increase in the number of Maori.



Graph 5: Percentage population change, 1991 to 2006 censuses.

There was substantial variation within individual CAUs, although in several cases this was caused by the small numbers of people involved. For example, in Kaipaki the Maori population increased by 800% between 1991 and 2006, but the actual numerical increase was only 72 people. The biggest numerical increase of Maori residents occurred in Te Awamutu West (174 people and 41.4% population increase). There was a decline in the number of Maori residents in five CAUs, all of them rural: Ohura, which lost 60 Maori residents or 51.3% of its Maori population, Ngapuke (153 people, 27.4%), Tokanui (42 people, 17.7%), Taharoa (24 people, 12.1%), and Mahoenui (3 people, 2.2%). In each case the non-Maori population of these communities also fell, at half the Maori rate in Ngapuke, by a similar proportion in Ohura, and by substantially more everywhere else.

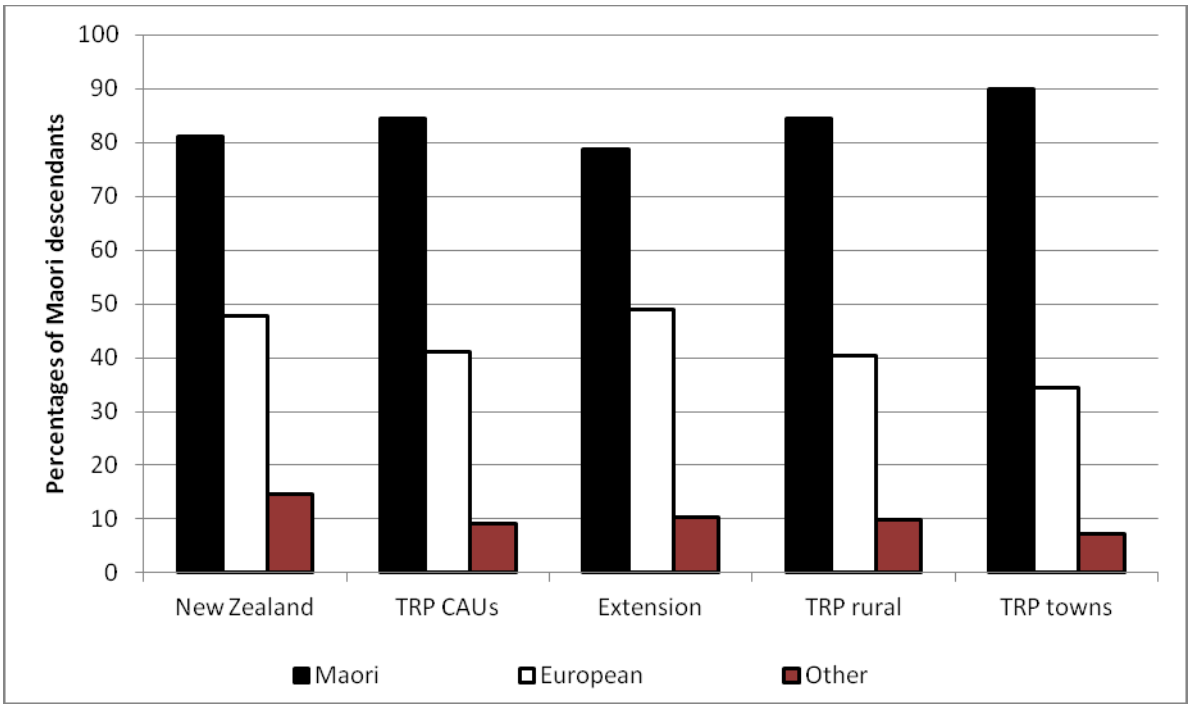
Maori descent

Maori descent is distinct from Maori ethnic identity, which is the measure used in the sections above. As explained in the introduction to this report, for New Zealand census

purposes ethnicity is a matter of self-identification. Descent is based on ancestry: a Maori descendant is any person with a Maori ancestor, regardless of whether or not that person sees him or herself as Maori.

In 2006, 643,977 people throughout New Zealand and 12,504 people in the Rohe Potae CAUs stated that they were of Maori descent. This compares to 565,329 people nationwide and 11,496 people in the Rohe Potae CAUs who identified as Maori. Of those who self-identified as Maori nationwide, 92.4% also stated Maori descent, as did 91.7% of self-identified Maori in the Rohe Potae CAUs. Most of the remainder were classed as 'not elsewhere included', indicating classification problems; it seems likely that most of these people were actually of Maori descent but could not be classified as such. Just over half a percent stated they had no Maori ancestry and just over one percent did not know.

A significant minority of Maori descendants in the Rohe Potae and elsewhere did not identify as Maori. The percentage of Maori descendants identifying as Maori in 2006 was 81.1% nationwide, 84.4% in the Rohe Potae CAUs as a whole, 78.7% in the extension area, 84.3% in the Rohe Potae rural CAUs and 90.0% in the Rohe Potae towns (see graph 6). The next most common ethnic identity was European, stated by 47.7% of Maori descendants nationwide, 41.2% in the Rohe Potae CAUs, 48.9% in the extension area, 40.5% in the rural Rohe Potae and 34.4% in the Rohe Potae towns. In the Rohe Potae CAUs, 3.1% of Maori descendants identified as Pacific Islanders and 0.7% as Asian, compared to 6.7% and 1.3% of Maori descendants nationwide. Other ethnic identities were nominated by a total of 5.5% of Maori descendants in the Rohe Potae CAUs, and 6.7% of Maori descendants nationwide. It should be remembered that respondents were able to nominate more than one ethnicity.



Graph 6: Percentages of Maori descendants by ethnic identities, 2006 census.

There is a fairly high correlation (+0.77) between an area having a higher proportion of Maori descendants and a higher percentage of people of Maori descent identifying as Maori. This may mean that the greater the percentage of people of Maori descent in a population, the more likely it is that they will state their ethnicity as Maori. Another explanation is that people who live in communities with high levels of Maori identity are more likely to be aware of their Maori ancestry. This general phenomenon, of people living in areas with a 'distinct ethnic presence' being more likely to identify with that ethnic group, has been noted in other countries, for example amongst American Indians on and off reservations.[59]

Iwi

The iwi identified by Statistics New Zealand for census purposes, and which have been involved in the Rohe Potae district inquiry, are Ngati Maniapoto, Ngati Raukawa (Waikato), Waikato, Ngati Tuwharetoa, Te Ati Haunui-a-Paparangi, Ngati Tama (Taranaki) and Ngati Haua (sorted by Statistics New Zealand into subgroups Waikato, Taumarunui, and unspecified). Additional relevant groups are Tainui, identified as a 'waka or iwi grouping', and 'Waikato/Rohe Potae not otherwise defined', a grouping created by Statistics New

[59] Kukutai, p34.

Zealand. The table below gives the number of people recorded by the 2006 census in each of those groups, in the Rohe Potae CAUs and nationwide.[60] It is important to remember that many people nominated more than one iwi and so will be part of more than one of the percentages given above.

	Rohe Potae CAUs[61]	New Zealand	% of Maori descendants in TRP CAUs	TRP residents as % of wider iwi
Ngati Maniapoto	4,503	33,627	36.0%	13.4%
Waikato	1,563	33,429	12.5%	4.8%
Ngati Tuwharetoa	846	34,674	6.8%	2.4%
Tainui	444	14,073	3.5%	3.1%
Ngati Raukawa (Waikato)	423	8,163	3.4%	5.2%
Te Ati Haunui-a-Paparangi	120	10,437	0.9%	1.1%
Waikato/TRP undefined	120	1,086	0.9%	11.0%
Ngati Haua (Waikato)	108	4,923	0.9%	2.2%
Ngati Haua (Taumarunui)	51	822	0.4%	6.2%
Ngati Tama (Taranaki)	48	1,167	0.4%	4.1%
Ngati Haua (unspecified)	45	1,530	0.3%	2.9%

Table 1: Rohe Potae-connected iwi populations, 2006 census.

As stated in the introduction to this report, some people argue that their hapu is in fact an iwi, but has not been recognised as such by Statistics New Zealand. This includes Ngati Hikairo, whose lack of recognition by Statistics New Zealand is one of the subjects of the Wai 1113 claim.

As the table shows, Ngati Maniapoto was the iwi with by far the most members residing in the Rohe Potae CAUs. Ngati Maniapoto were predominant in the core Rohe Potae districts of Waitomo and Otorohanga, where they made up 69.4% and 50.6% of Maori descendants, and in the Rohe Potae towns (54.8%). Of the areas connected to the Rohe Potae, Waikato and Tainui were most concentrated in the Waikato District, where they made up 40.3% and 11.9% of Maori descendants. Ngati Tuwharetoa were most concentrated in the Ruapehu District, where they made up 30.2% of Maori descendants. The largest percentage of Ngati

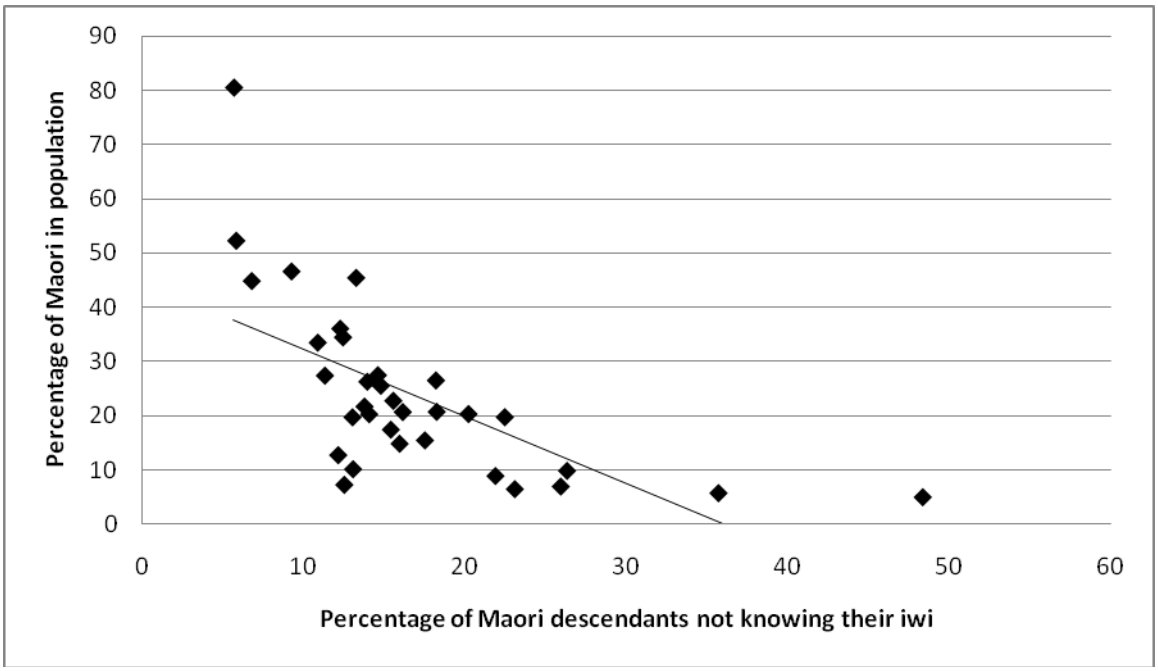
[60] Iwi (Total Responses) for the Maori Descent Census Usually Resident Population Count, 2006 census.
[61] These figures under-represent iwi populations as figures for some CAUs have been confidentialised. This has a particular impact on small iwi.

Raukawa (Waikato) in districts connected to the Rohe Potae was in Waipa, where they made up 8.4% of Maori descendants.

In several Rohe Potae CAUs, people identifying as Ngati Maniapoto made up the majority of Maori descendants. These CAUs were Piopio, in which Maniapoto made up 77.6% of Maori descendants, Te Kuiti (77.0%), Otorohanga (70.6%), Tiroa (70.0%), Mokauiti (65.7%), and Waipa Valley (65.6%). The only Rohe Potae CAU in which any other iwi made up more than a third of Maori descendants were Taharoa and Kawhia Community, in which 83.3% and 54.0% of Maori descendants were classified as Waikato, and Ngapuke, where 47.1% were Ngati Tuwharetoa. Nearly half of the Ngapuke CAU lies outside the inquiry district. There were also several CAUs in which the majority of Maori descendants did not affiliate to any of the iwi named above. These were Ohaupo, Te Rore, Pirongia, Pokuru, Lake Ngaroto, Kaipaki, Te Rahu, Allen Road, Okaki-Okau, and Ohura. All of these are in the extension area except Pokuru, which borders it, and Okaki-Okau and Ohura, which are on the southern edge of the inquiry district. With the exceptions of Pirongia and Okoki-Okau, all were areas with fewer than 100 Maori descendants in total, and so the small numbers involved make statistical analysis of these areas difficult. In Pirongia, nearly a quarter of Maori descendants named one of the iwi listed above, another quarter did not know their iwi, and the remainder was made up of very small numbers of other iwi. Okoki-Okau is in the Taranaki Region and consequently had significant numbers of people from Taranaki iwi such as Te Atiawa, Ngati Mutunga, and Ngati Ruanui, as well as 30 members of Ngati Tama (Taranaki).

Although Ngati Maniapoto were the largest iwi in the Rohe Potae, the majority of people giving Maniapoto as one of their iwi lived outside of the inquiry district. Nationwide, only 13.4% of people stating Maniapoto iwi membership lived within the Rohe Potae CAUs. By region, a third of Maniapoto lived in the Waikato Region (which includes all the Rohe Potae CAUs except those listed below), another 8.2% in the Manawatu-Wanganui Region (which includes Tiroa, Ohura, Ngapuke, and Otangiwai-Heao) and 3.0% in the Taranaki Region (which includes Okaki-Okau). This means a total of nearly 45% of Maniapoto lived in or relatively close to the inquiry district, although it must be repeated that fewer than a third of that group lived within the inquiry district. After Waikato, the region with the largest number of Maniapoto was Auckland, which had nearly 24% of people who gave Maniapoto as one of their iwi.

A minority of people of Maori descent did not know their iwi. In the 2006 census, this group made up 15.9% of Maori descendants nationwide and 14.2% of Maori descendants in the Rohe Potae CAUs. Percentages were higher in the extension area, and in Waipa and New Plymouth districts, and lower in Waitomo District and the Rohe Potae towns. There was a moderate inverse correlation (-0.65 for the Rohe Potae CAUs) between the percentage of self-identified Maori living in an CAU and the percentage of Maori descendants there not knowing their iwi (see graph 7). This means that Maori living in areas with higher percentages of Maori were more likely to know their iwi than Maori in areas with lower percentages.



Graph 7: Correlation between percentage of Maori in Rohe Potae CAU populations and percentage of Maori not knowing their iwi, 2006 census.

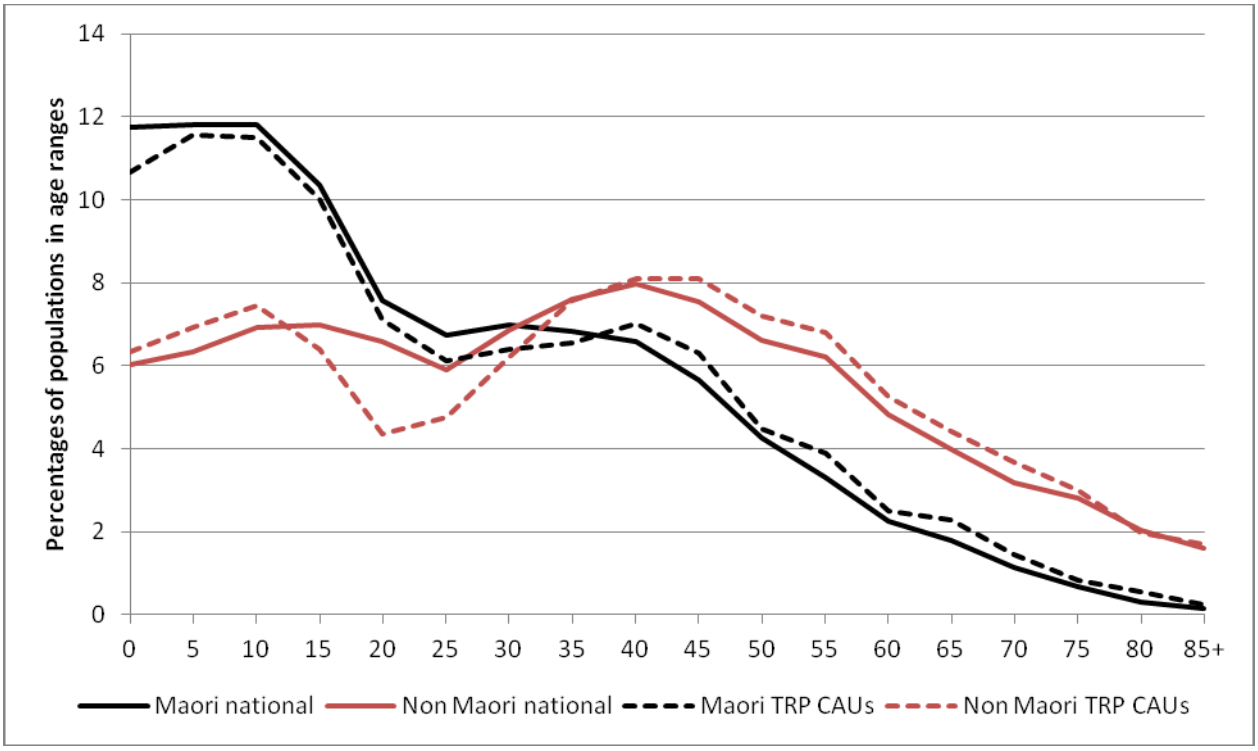
Age

The 2006 census showed the Maori population to be significantly younger overall than the non-Maori population, both in the Rohe Potae and New Zealand as a whole. Nationwide, around a third of the Maori population was aged under 15, compared to around a fifth of the non-Maori population.[62] Around half the Maori population was aged 24 and under, compared to around a third of the non-Maori population. Conversely, only around 5% of the Maori

[62] Ethnic Group (Grouped Total Responses) by Age Group, for the Census Usually Resident Population Count, 2006 census.

population was aged 65 and over, compared to around 15% of the non-Maori population (see graph 8).

The age structure of the Rohe Potae Maori population was slightly older than the national Maori population, meaning that they had proportionately more elderly people and fewer children. However, regional differences were much smaller than differences between the Maori and non-Maori populations.



Graph 8: Percentages of population in age ranges, 2006 census.

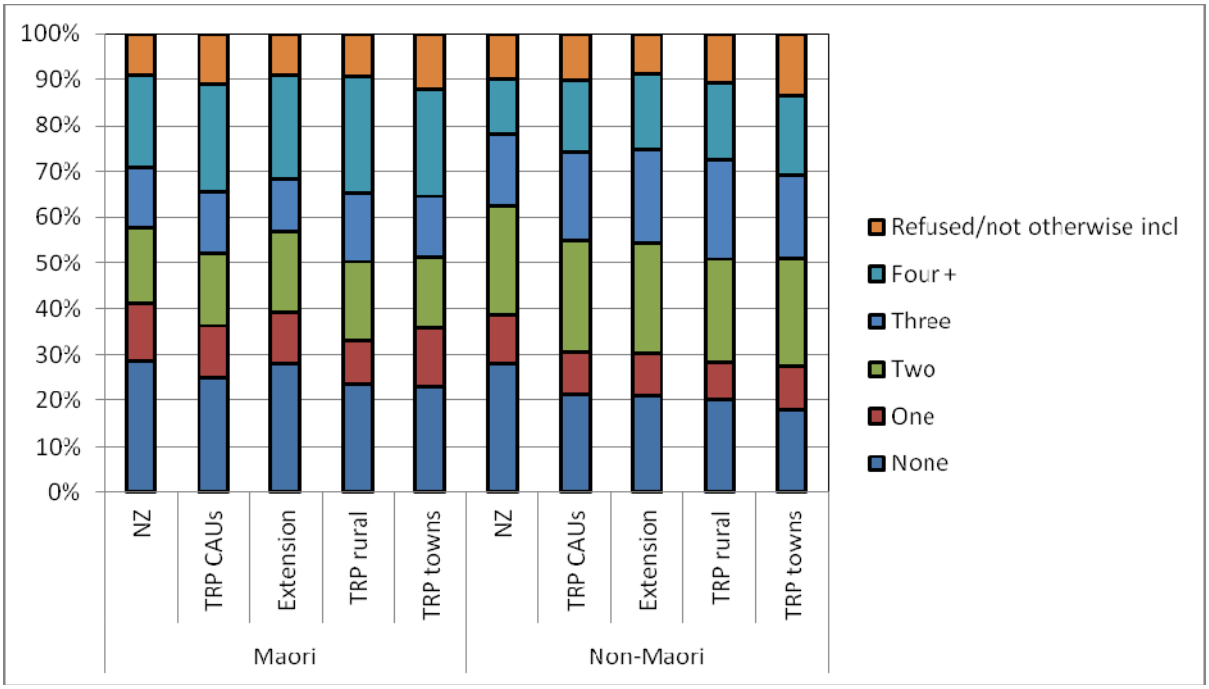
Fertility

The 2006 census asked women aged 15 years and over about their number of children born alive. Nationwide, the percentage of woman having had no children was very similar (28.6% for Maori and 28.1% for non-Maori).[63] Within the Rohe Potae both groups were more likely to have had children, particularly non-Maori. In the Rohe Potae CAUs, 24.8% of Maori and 21.3% of non-Maori women had had no children (see graph 9). For the extension area, 27.4% of Maori women had had no children, making them more similar to Maori women nationwide. Within the Rohe Potae, the disparity between the Maori and non-Maori

[63] Number of Children Born Alive by Ethnic Group (Grouped Total Responses) of Mother, for the Female Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.

populations may be explained by the younger age structure of the Maori population. However it is not clear why the age structure explanation does not apply to the national population, or why childlessness was less common for both ethnic groups in the Rohe Potae than nationwide.

Maori women were more likely than non-Maori women to have had four or more children. Larger families were also more common in the Rohe Potae than on a national level, for both Maori and non-Maori. Nationwide, 20.0% of Maori women and 12.1% of non-Maori women had had four or more children, compared to 23.3% of Maori women and 15.5% of non-Maori women in the Rohe Potae CAUs.



Graph 9: Number of children born alive to women aged 15 and over, 2006 census.

Chapter one summary

Maori make up a higher percentage of the Rohe Potae population than of the New Zealand population. The areas with the highest percentages of Maori were the Rohe Potae towns and the Waitomo and Ruapehu districts, although even in these areas Maori were a minority. Maori descendants in the Rohe Potae were more likely than Maori descendants generally to identify as Maori. Of people who self-identified as Maori, those living in the Rohe Potae were more likely than Maori in general to identify solely as Maori, and to know their iwi. There appear to be correlations between an area having a high proportion of Maori and all of

these signs of Maori identification. There also appears to be a high correlation between an area having a high proportion of Maori and that area experiencing socio-economic deprivation.

Between 1991 and 2006 the Maori population of the Rohe Potae increased, but to a lesser extent than the Maori population nationwide. Meanwhile the non-Maori population of New Zealand grew more slowly than the nationwide Maori population, and the Rohe Potae non-Maori population barely grew at all. This meant that the Maori percentage of the Rohe Potae and of New Zealand grew both in absolute terms and in relation to non-Maori.

The most numerous iwi in the Rohe Potae was Ngati Maniapoto, which made up a majority of Maori descendants in some Rohe Potae CAUs. However, the majority of people identifying as Ngati Maniapoto did not live in the inquiry district.

The Maori populations of the Rohe Potae and of New Zealand contained significantly more children and fewer elderly people than did the non-Maori populations. The Rohe Potae Maori population had a slightly lower percentage of children and higher percentage of elderly people than did the general Maori population. However, the differences between Maori within the Rohe Potae and nationwide were much smaller than the differences between Maori and non-Maori. Nationwide, Maori and non-Maori women were equally likely to have had children, but rates of childlessness were lower in the Rohe Potae than nationwide, especially for non-Maori. Rohe Potae women, Maori and non-Maori, were also more likely than their nationwide counterparts to have four or more children, and Maori women generally were more likely to have four or more children than were non-Maori.

Chapter Two: Work

According to the Ministry of Social Development's 2010 Social Report:

> Paid work has an important role in social wellbeing. It provides people with incomes to meet their basic needs and to contribute to their material comfort, and it gives them options for how they live their lives. Paid work is also important for the social contact and sense of self-worth or satisfaction it can give people... Conversely, unemployment can isolate people from society and cause them to lose self-confidence. Unemployment is associated with poorer mental and physical health, and lower levels of satisfaction with life.[64]

This chapter covers a range of statistics concerning work: labour force status (including unemployment), employment status (employee, employer or self-employed), industry, occupation, and unpaid work. As well as the obvious association between employment and income, information on work is indicative of socio-demographic status in several ways. Employment status, occupation and, to a lesser extent, industry, can be indicative of social standing and autonomy: for example people in paid employment generally have greater social standing than the unemployed, and employers and the self-employed tend to have more autonomy than those who work for others. There are also correlations between particular kinds of work and factors such as life expectancy and rates of work-related injury.[65]

Labour force status

Figures from the 2006 census show that Maori in the Rohe Potae and the rest of New Zealand were less likely to be in paid employment than non-Maori, and more likely to be unemployed or not in the labour force. This was the case in all the Rohe Potae-connected districts and for both genders. Data in this section is divided into paid employment, unemployed, and not in the labour force.

There are some problems with using census data to determine levels of unemployment. Statistics New Zealand defines an unemployed person as one of working age who is available

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[64] Ministry of Social Development, 'The Social Report 2010', October 2010, p48.
[65] Neil E. Pearce, Peter B. Davis, Allan H. Smith and Frank H. Foster, 'Mortality and social class in New Zealand III: Male mortality by ethnic group', *New Zealand Medical Journal*, 97, 748 (January 25, 1984), pp 31-5. For statistics on work-related injury by occupation, see 'Work-related injury statistics', http://www.stats.govt.nz/tools_and_services/tools/TableBuilder/injury-tables.aspx, accessed 5 January 2012.

for work and either actively seeking it or about to start a new job.[66] Actively seeking work was defined as using job search methods other than reading job advertisements. A person was considered to be not in the labour force if he or she was not in paid work and not actively seeking work. This group includes retired people and those unable to work due to family or study responsibilities or long-term health problems, but also those who were available for work but not actively seeking it. This means that someone who is willing and able to work but sees no job opportunities, or has given up seeking them out, will be classed as not in the labour force rather than unemployed.

It should also be remembered that the statistics in this section relate to the 2006 census. Since that census was conducted, the New Zealand and world economies have deteriorated, resulting in increased levels of unemployment. Statistics New Zealand shows that the national unemployment rate in March 2006 was 4.5%, whereas by June 2011 it had risen to 6.4%.[67] This data is unfortunately not readily available by ethnicity or district. The 2010 Social Report states that in December 2009 the Maori unemployment rate was 12.7%, compared to 4.8% for Pakeha.[68]

This section will examine male and female labour force statistics separately, as the genders have different employment patterns. The 2006 census showed that, nationwide, 76.9% of Maori men aged 25 to 64 were in paid employment, compared to 86.3% of non-Maori men of the same age (see graph 10).[69] Most of the remainder of both groups were not in the labour force, while 5.5% of Maori men and 2.2% of non-Maori men in this age group were unemployed. There was significant employment variation between the Rohe Potae-connected districts, especially for Maori, as the graph below shows. The employment gap between Maori and non-Maori was particularly pronounced in the core Rohe Potae district of Otorohanga. In both cases this was partly due to very high percentages of Maori men being out of the labour force (31.6% in Otorohanga and 22.3% in Waitomo, compared to 17.6%

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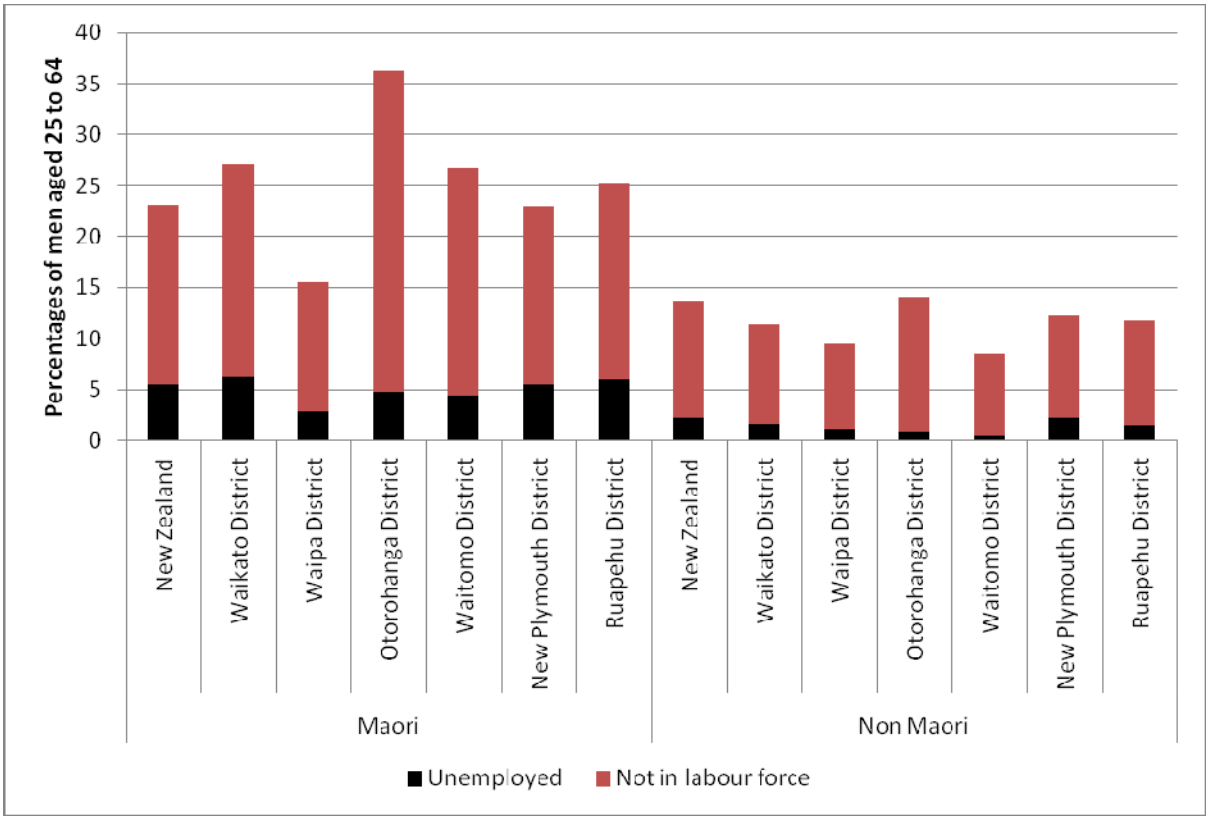
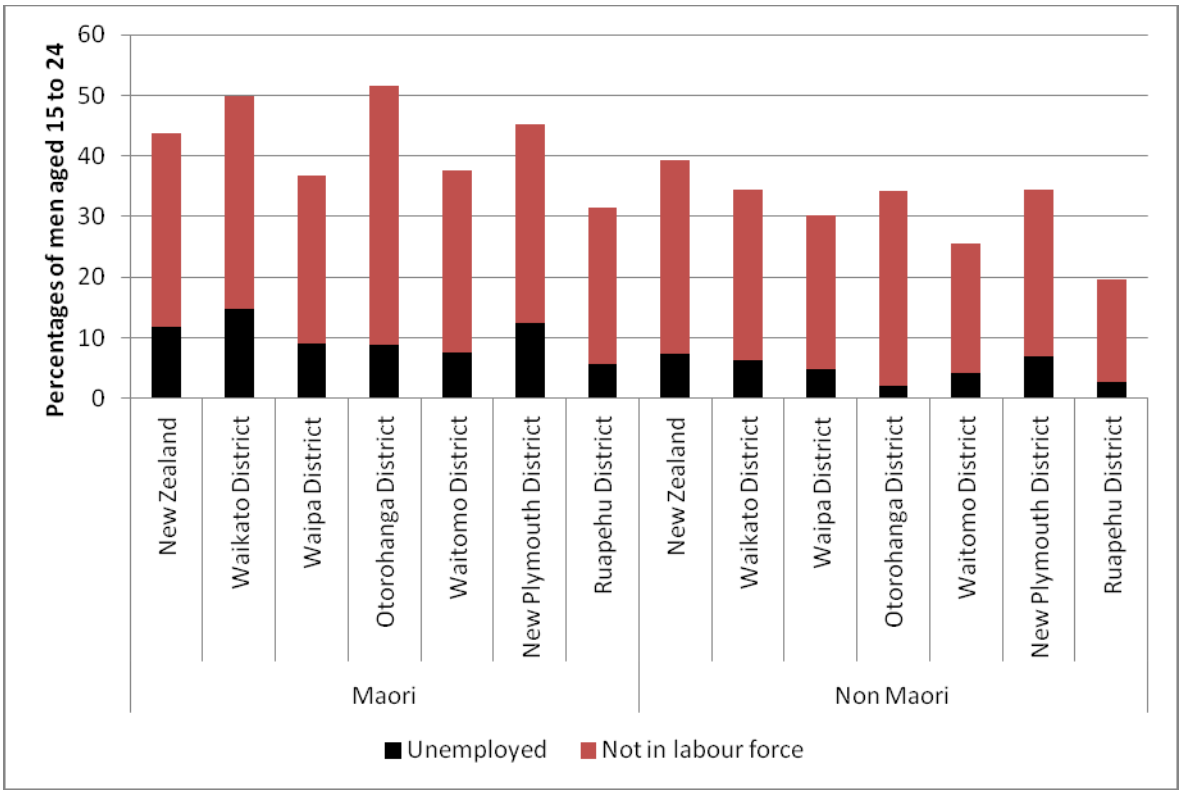
[66] 'Labour force status: Glossary and references', Statistics New Zealand website, http://www.stats.govt.nz/surveys_and_methods/methods/classifications-and-standards/classification-related-stats-standards/labour-force-status/glossary-and-references.aspx, accessed 6 October 2011, accessed 5 January 2012.
[67] Key Labour Force Measures, available at http://www.stats.govt.nz/tools_and_services/tools/TableBuilder/employment-and-unemployment-tables.aspx, accessed 5 January 2012.
[68] Ministry of Social Development, p51.
[69] Work and Labour Force Status and Ethnic Group (Grouped Total Responses) by Age Group and Sex, for the Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.

nationwide) rather than high percentages of unemployment. Unemployment amongst this group was in fact lower than the national level.



Graph 10: Percentages of men aged 25 to 64 by selected labour force status, ethnicity and district. Remainder of each population was in paid employment (full or part time). 2006 census.

The gap between Maori and non-Maori male employment was less pronounced, although still significant, amongst the 15 to 24 age group. This was the case for New Zealand as a whole and for all the Rohe Potae-connected districts, as graph 11 shows. The smaller gap was due in part to a high percentage of both groups being out of the labour force, since Maori male unemployment amongst this age group was generally nearly double that of non-Maori. For both ethnic groups, unemployment was much higher at this age than for the 25 to 64 age group.

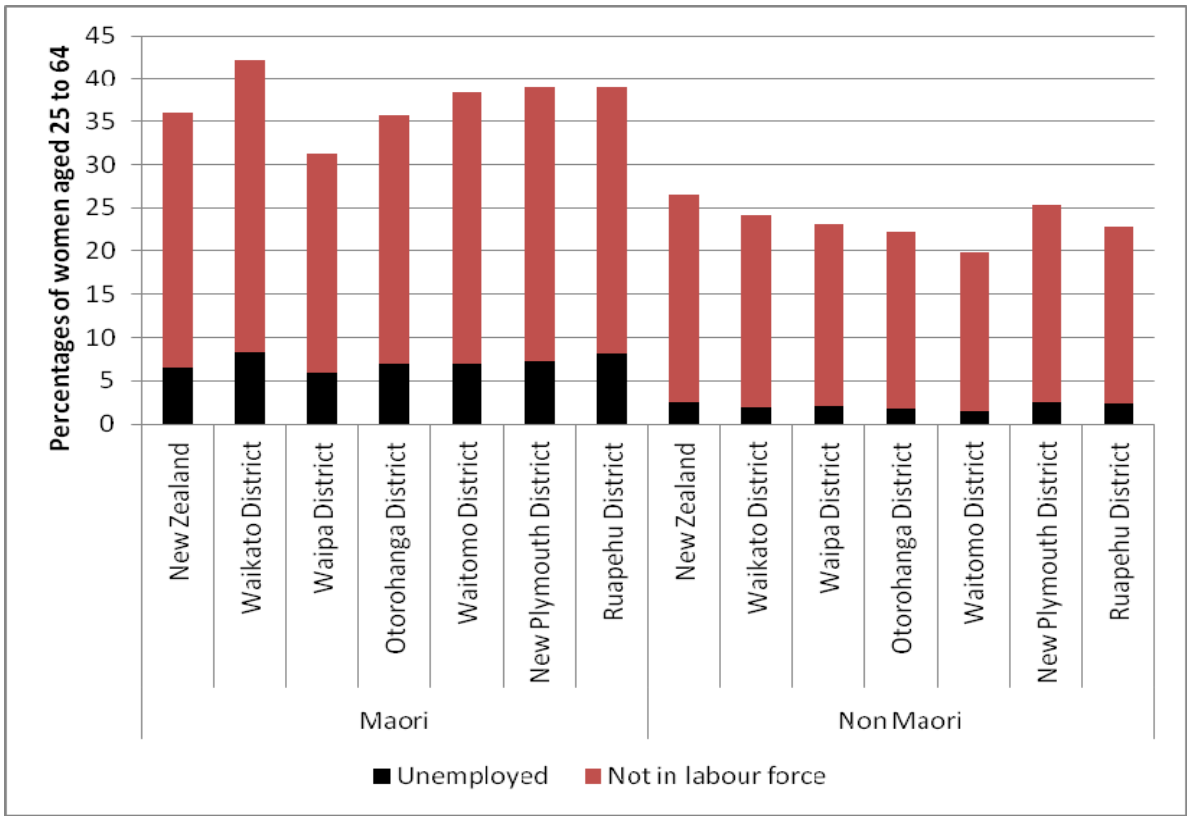


Graph 11: Percentages of men aged 15 to 24 by selected labour force status, ethnicity and district. Remainder of each population was in paid employment (full or part time). 2006 census.

Employment rates were lower for women than men amongst Maori and non-Maori, and in all the Rohe Potae-connected regions, as well as New Zealand generally. This was mostly because of higher rates of not being in the workforce, but also because of higher unemployment. Nationwide, 64.0% of Maori women aged 25 to 64 were in paid employment, compared to 73.4% of non-Maori women of the same age (see graph 12). Female employment rates were higher in the Rohe Potae-connected districts for non-Maori, but not for Maori except in Waipa and (very slightly) in Otorohanga District. In all the districts examined in this section, and in New Zealand generally, Maori women of this age group had higher rates than non-Maori of both unemployment and not being in the labour force, and women in both ethnic groups and all areas examined here had higher unemployment rates than their male counterparts.

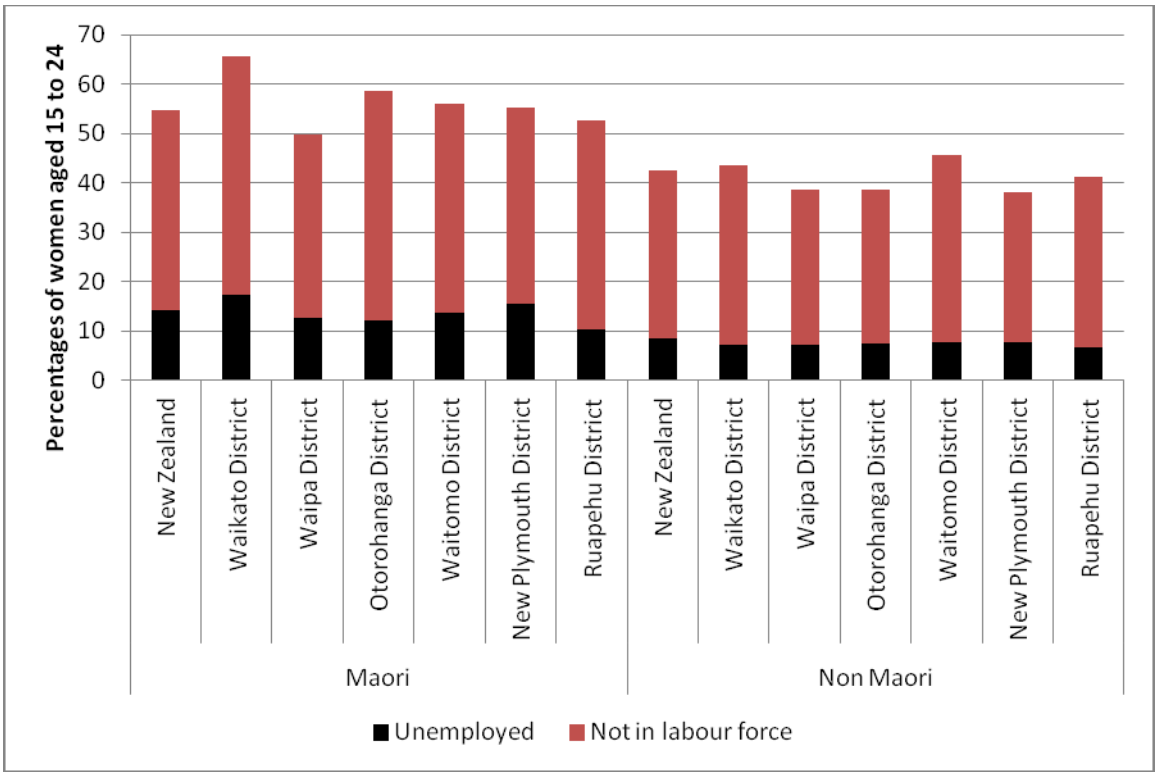
One unusual finding was that, in Otorohanga District, Maori women in this age group had a lower rate of being out of the labour force than their male counterparts, with 28.7% of women and 31.6% of men being in this group. In all other districts women were more likely than their male counterparts to be out of the labour force, often by large margins. For New

Zealand as a whole, the percentage out of the labour force was 29.5 for Maori women and 17.6 for Maori men. For the other Rohe Potae districts, the Maori female rate ranged from 33.9% in the Waikato District to 25.3% in the Waipa District, while the male rate ranged from 22.3% in the Waitomo District to 12.7% in the Waipa District. Why Otorohanga should have such a different pattern is not clear.



Graph 12: Percentages of women aged 25 to 64 by selected labour force status, ethnicity and district. Remainder of each population was in paid employment (full or part time). 2006 census.

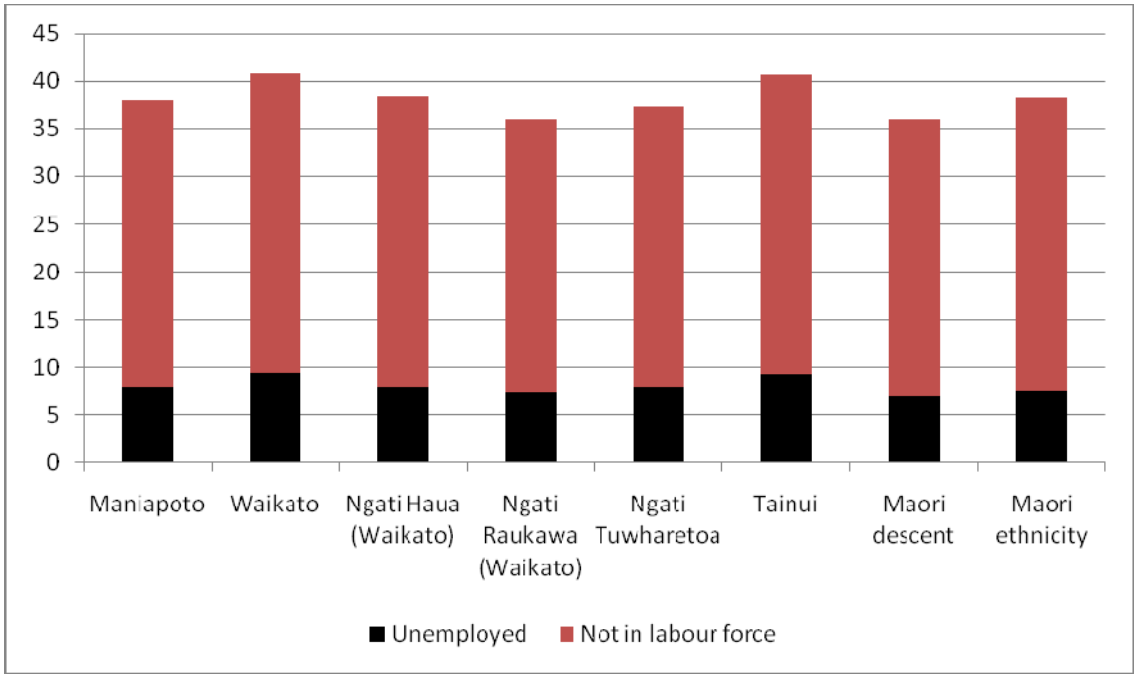
The patterns described above held true for women aged 15 to 24, with Maori in all the areas examined in this section having lower rates of paid employment than non-Maori, and women and younger people having higher rates of unemployment than men and people aged 25 to 64. Fewer than half of Maori women aged 15 to 24, nationwide and in all the Rohe Potae-connected districts (except, barely, Waipa), were in paid employment, with most of the rest not being in the labour force (see graph 13).



Graph 13: Percentages of women aged 15 to 24 by selected labour force status, ethnicity and district. Remainder of each population was in paid employment (full or part time). 2006 census.

Labour force statistics are also available for the 2006 census by iwi. Considering the relatively small numbers involved, there was no large variation in labour force status between Rohe Potae-connected iwi, or compared to Maori descendants or self-identified Maori (see graph 14).[70] This was the case for New Zealand as a whole and for the Waikato region.

[70] Iwi (Total Responses) and Work and Labour Force Status by Sex, for the Maori Descent Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.



Graph 14: Percentages of selected iwi and of Maori descent and ethnic group, ages 15 and over, nationwide, by selected labour force status. Remainder of each population was in paid employment (full or part time). 2006 census.

Employment status

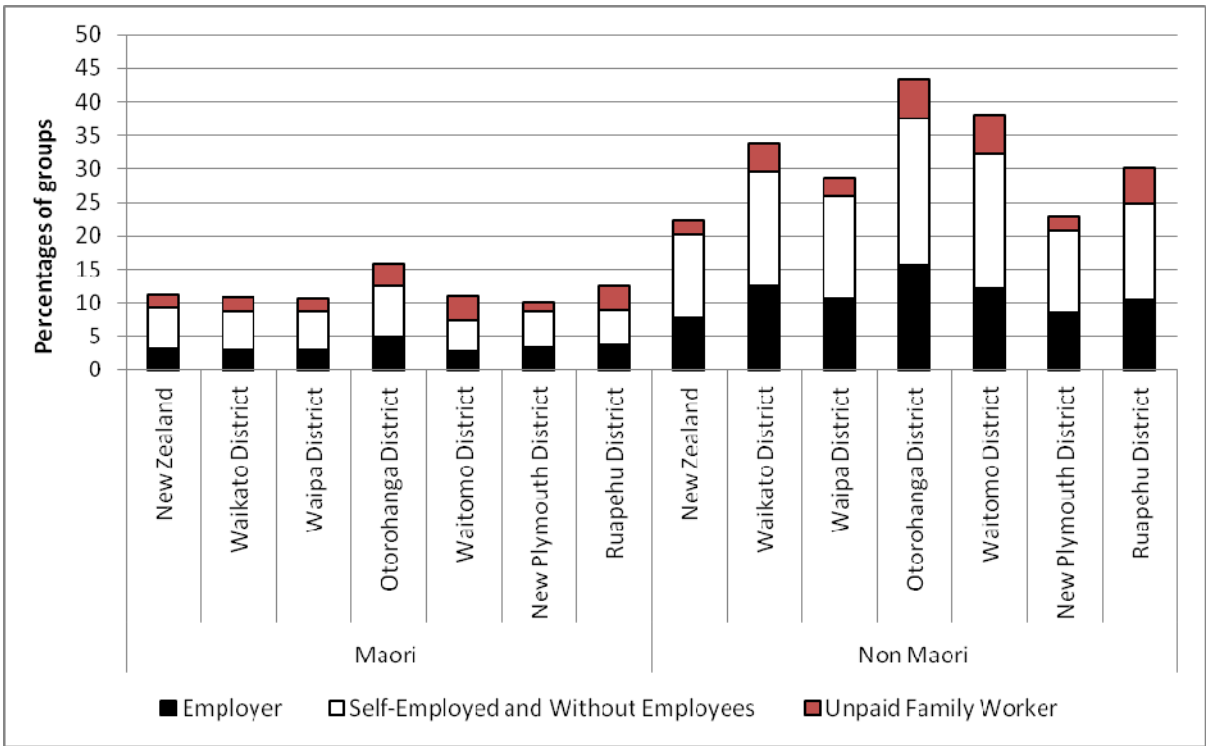
Employment status denotes whether a worker is an employee, an employer of others, self-employed with no employees, or an unpaid worker in a family business. Statistics from the 2006 census show that Maori in the Rohe Potae and New Zealand generally were significantly less likely than non-Maori to employ others or be self-employed. Non-Maori in Rohe-Potae connected districts were more likely than non-Maori elsewhere to be self-employed or to employ others, but this was not the case with Maori. Unpaid work in family businesses was more common for both groups in the Rohe Potae-connected districts than in New Zealand generally, but more so for non-Maori than for Maori.

Of New Zealanders in paid employment, 3.1% of Maori and 7.7% of non-Maori aged 15 and over employed other people, while 6.2% of Maori and 12.6% of non-Maori were self-employed and without employees (see graph 15).[71] In all the Rohe Potae-connected districts except New Plymouth, non-Maori rates of self-employment and employing others were significantly higher than for New Zealand as a whole. This was particularly so in the core Rohe Potae districts of Otorohanga and Waitomo, where non-Maori rates of self-employment

[71] Area of Usual Residence and Maori Ethnic Group Indicator by Status in Employment for the Employed Census Usually Resident Population Count, Aged 15 Years and Over, 2006 census. Data provided to Waitangi Tribunal by Statistics New Zealand.

were 21.9% and 19.9%, and rates of employing others were 15.5% and 12.2%. By contrast, Maori in most parts of the Rohe Potae did not have higher rates of self-employment or employment of others than Maori elsewhere. With regard to employing others, only in Otorohanga, were 5.0% of Maori employed others, was the Maori rate significantly higher than for New Zealand as a whole. There was more variation with self-employment, with the Maori rate in the Rohe Potae connected districts ranging from 7.6% in Otorohanga to 4.6% in Waitomo.

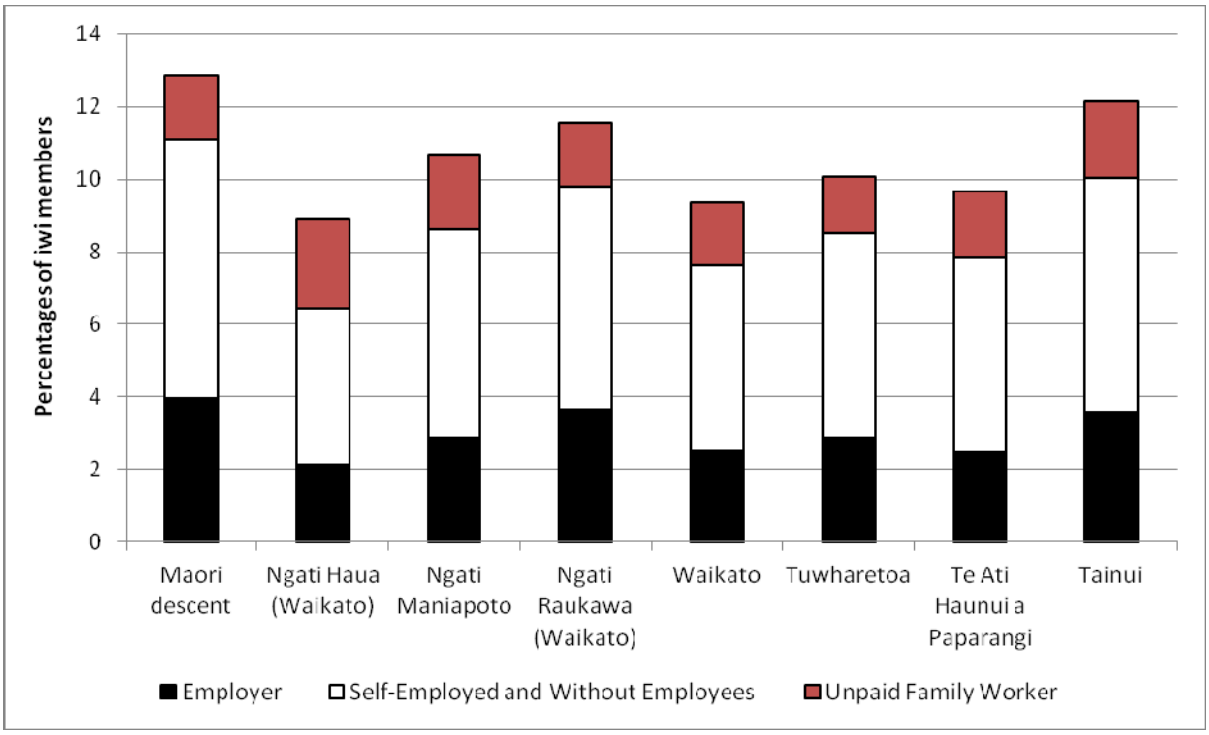
There was also significant geographical variation in the percentage of each group employed as unpaid workers in family businesses. The national rate was 1.8% for Maori and 2.0% for non-Maori, but was higher for both groups in every Rohe Potae-connected district except New Plymouth. Both groups had the highest rate of this kind of work in Waitomo, where 6.0% of non-Maori and 3.8% of Maori were unpaid family employees. Non-Maori had higher rates of unpaid family employment in every district, although the difference between the groups varied.



Graph 15: Selected employment status percentages by ethnic group, populations aged 15 and over, 2006 census.

Iwi statistics on employment status show some variation amongst Rohe Potae-connected iwi (see graph 16). Nationally, Ngati Raukawa (Waikato) and Tainui had the highest rates of

employer status, at 3.6%, which was lower than the national Maori descendant rate of 4.0% and significantly lower than the total population rate of 7.2%. Ngati Haua (Waikato) had the lowest rate, at 2.1%.[72] Tainui also had the highest rate of self-employment of all Rohe Potae-connected iwi, at 6.4%, behind the national iwi rate of 7.0% and the general population rate of 11.8%. Ngati Haua (Waikato) had the lowest rate, at 4.3%.



Graph 16: Selected employment status percentages by iwi, 2006 census.

Industry

Industry statistics divide the workforce into 18 categories, including 'not otherwise included'.[73] Nationwide, the most common industries for Maori were manufacturing, retail trade, and property and business services.[74] These were also the most common industries for non-Maori, although the order and percentages were different. Retail was also a common industry in the Rohe Potae-connected districts, as was manufacturing for Maori and property

[72] Iwi (Total Responses) by Total Personal Income (Grouped), for the Maori Descent Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.
[73] The categories are: agriculture, forestry and fishing; mining; manufacturing; electricity, gas and water supply; construction; wholesale trade; retail trade; accommodation, cafes and restaurants; transport and storage; communication services; finance and insurance; property and business services; government administration and defence; health and community services; cultural and recreational services; personal and other services; and not otherwise included.
[74] Industry (ANZSIC96 V4.1 Division) and Ethnic Group (Grouped Total Responses) by Sex, for the Employed Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.

and business services for non-Maori. Agriculture, forestry and fishing was a much more common category in the Rohe Potae than nationwide, especially for non-Maori. The three most common industries for Maori and non-Maori in each district, and the percentage of each group working in each industry, are shown in the table below.

	Maori	Non-Maori
New Zealand	Manufacturing 13.6% Retail trade 9.8% Property and business services 8.8%	Property and business services 13.3% Retail trade 12.3% Manufacturing 11.1%
Waikato District	Manufacturing 14.2% Construction 10.4% Property and business services 9.3%	Agriculture, forestry and fishing 18.9% Property and business services 10.9% Manufacturing 10.3%
Waipa District	Health and community services 12.2% Manufacturing 10.3% Construction 10.3%	Agriculture, forestry and fishing 16.0% Retail trade 12.1% Property and business services 10.3%
Otorohanga District	Agriculture, forestry and fishing 18.9% Manufacturing 12.3% Retail trade 11.6%	Agriculture, forestry and fishing 40.8% Retail trade 9.3% Property and business services 7.5%
Waitomo District	Manufacturing 21.9% Agriculture, forestry and fishing 12.7% Retail trade 7.9%	Agriculture, forestry and fishing 35.0% Retail trade 8.9% Education 7.1%
New Plymouth District	Manufacturing 16.4% Retail trade 10.7% Health and community services 9.4%	Retail trade 13.3% Property and business services 11.4% Manufacturing 11.0%
Ruapehu District	Agriculture, forestry and fishing 18.7% Government administration and defence 10.9% Manufacturing 8.4%	Agriculture, forestry and fishing 24.0% Government administration and defence 10.6% Retail trade 10.2%

Table 2: The three most common industries for Maori and non-Maori in New Zealand and in Rohe Potae-connected districts, 2006 census.

Maori were under-represented in the paid workforce generally, making up 12% of the population aged 20 to 64 nationwide but only 11.3% of the paid workforce. As the table above indicates, Maori were over-represented in some industries and under-represented in others.[75] In agriculture, forestry and fishing, Maori were under-represented by up to 60% in some Rohe Potae-connected districts (although only by 2.7% nationwide). In retail trade, Maori were under-represented by around a quarter nationwide and in all the Rohe Potae-connected districts except Otorohanga, where they were roughly equally represented. In property and business services, Maori were under-represented by a similar percentage nationwide and in all the relevant districts except Waitomo, where the under-representation was just over 10%. In manufacturing, by contrast, Maori were over-represented by up to two-thirds, although the proportion varied dramatically from district to district. Industry statistics for Rohe Potae-connected iwi broadly conform to the above patterns of Maori industry employment, both in the Waikato Region and nationwide.[76]

Occupation

Occupational statistics divide workers into ten categories shown in the table below, showing the occupation distribution of employed Maori and non Maori nationwide and in the Rohe Potae CAUs.[77]

	New Zealand		TRP CAUs	
	Maori	Non Maori	Maori	Non Maori
Legislators, administrators and managers	9.0	15.0	6.3	10.5
Professionals	9.5	15.4	7.1	9.8
Technicians and associated professionals	10.3	12.4	7.0	7.6
Clerks	9.6	11.2	6.8	7.8
Service and sales workers	14.7	13.4	14.0	10.3
Agriculture and fishery workers	6.3	6.6	12.6	23.5
Trade workers	7.6	8.6	7.2	7.5
Plant and machine operators and assemblers	13.9	6.8	14.6	7.4
Labourers and elementary service workers	10.7	5.6	9.5	4.1
Not otherwise included	8.3	5.1	10.3	5.2
Total	100.0	100.0	100.0	100.0

Table 3: Occupational distribution of Maori and non-Maori in New Zealand and the TRP CAUs, 2006 census.

[75] Under or over-representation calculated using the following formula: Percentage of Maori in a particular workforce = a, Percentage of Maori in the 20 to 64 age group = b, under/over representation percentage = c; c = (a-b) / bx100.

[76] Iwi (Total Responses) by Industry (ANZSIC06 Division), for the Employed Maori Descent Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.

[77] Occupation (NZSCO99 V1.0 Major Group) by Ethnic Group (Grouped Total Responses), for the Employed Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.

As the table indicates, Maori in the Rohe Potae and nationwide were most under-represented in professional and managerial occupations and most over-represented in semi-skilled and unskilled manual labouring occupations. Occupation data also reflects the industry data given above, with Rohe Potae Maori under-represented in the agriculture and fisheries workforce compared to non-Maori, and over-represented amongst plant and machine operators and assemblers.

Unpaid work

Unpaid work as recorded by the census includes housework, childcare, looking after the sick and disabled, and also community and charity work such as marae volunteering, sports coaching, volunteer work at kohanga reo, and collecting for charity. Unpaid work inside the home can indicate gender roles and the obligations of various groups, particularly caring for dependent children and infirm relatives. Unpaid work outside the home is generally indicative of a connection to the wider community.

The 2006 census recorded that, nationwide, 10.3% of all Maori and 10.1% of all non-Maori did no unpaid work within the four weeks prior to the census.[78] Within the Rohe Potae, Maori were slightly less likely to do any unpaid work than non-Maori, and had the highest rates of not doing unpaid work in the Otorohanga District (14.6%). Amongst both groups, there was a strong gender split, with around two-thirds of those not doing any unpaid work being male. In most areas connected to the Rohe Potae, between 5 and 8% percent of women did no unpaid work, with no major differences between Maori and non-Maori. Amongst Maori, 12 to 20% of men did no unpaid work, compared to 12 to 16% of non-Maori men. For Maori and non-Maori, there were higher rates of men doing no unpaid work in the Rohe Potae rural CAUs, and in Otorohanga and Ruapehu districts. These areas also tended to have slightly lower rates of women doing no unpaid work, suggesting that this reflects a gendered division of unpaid labour in rural areas.

The most common form of unpaid work for all groups in all the areas examined here was household work such as cooking, repairs and gardening for the respondents' own household. In reflection of the above statistics, women were more likely to do these tasks than men, especially in rural areas, and Maori men were somewhat less likely to do them than non-

[78] Ethnic Group (Grouped Total Responses) and Unpaid Activities (Total Responses) by Sex, for the Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.

Maori men. Between 76 and 87% of women had done this work, compared to between 57 and 76% of men. It should be noted that these statistics only denote that respondents had done such tasks at least once in the four weeks before the census. It is likely that the figures hide large variations in the amount of housework done.

Maori were more likely than non-Maori to have looked after a child who was a member of their own household, reflecting the higher percentage of children in the Maori population. Women were more likely to have done so, with more of a gender division amongst Maori than non-Maori. Overall, between 55 and 63% of unpaid care of a household's own children was carried out by women. Again, these figures will hide significant variation, with no distinction being made between looking after a child once and doing it every day. Women and Maori were also much more likely than men and non-Maori to have looked after children who were not part of their household. Around 28% of Maori women, 19% of non-Maori women, 16% of Maori men and 9% of non-Maori men had done this, with no major regional variations across the Rohe Potae. There were similar patterns with regard to looking after ill or disabled people, although with lower percentages. These last statistics will be discussed further in the health chapter of this report.

With regard to miscellaneous unpaid work outside the house, including charity work and marae or community volunteering, Maori and women were again more likely to have done this kind of unpaid work, henceforth referred to as volunteering. There were also higher rates of volunteering in rural areas. Nationwide, 19.6% of Maori women volunteered, but this rose to 28.7% in Ruapehu District and 24.4% in the Rohe Potae rural CAUs. Amongst Maori men nationwide, 15.3% volunteered, but in Ruapehu the proportion was 19.8% and in most other parts of the Rohe Potae around 18%. Amongst non-Maori, the national figure was 14.6% for women and 12% for men, but this rose to 21.6% for women and 15.6% for men in Waitomo District. No Rohe Potae-connected district had lower rates of volunteering than the national average for any group, with the exception of New Plymouth, where Maori women's rates were fractionally below those of their nationwide counterparts.

The various differences shown above are due to a range of factors. The biggest and most consistent disparity is along gender lines, with women from both ethnic groups and in all areas being more likely than their male counterparts to do all forms of unpaid labour. This partly reflects the higher proportions of women who were not in the paid workforce and therefore may have had more time to spend on unpaid work. However there is no correlation

between an area having higher rates of women not in the paid workforce and a higher percentage of women doing any kind of unpaid labour. As stated earlier, the figures presented here are somewhat problematic since they record only whether a respondent had done a particular kind of unpaid labour at least once in the four weeks before the census, rather than whether they did it regularly. It is likely that, in terms of the amount of unpaid labour performed, the gender disparity is more pronounced than the census figures show, given traditional gender roles and the much higher percentages of women not in the labour force.

With the exception of general household work, Maori were more likely to do all forms of unpaid work than non-Maori of the same gender. The disparity in childcare can be explained at least in part by the higher proportion of children in the Maori population; more children means more people will spend time looking after them. It is also possible that Maori were more likely to have closer relationships with their extended families than non-Maori and were therefore more likely to spend time looking after younger relatives than non-Maori, even if family sizes were no different. The higher rates of Maori looking after sick and disabled people, both inside and outside their own households, could also be explained partly by higher levels of family connectedness. Another explanation, however, is probably that Maori had higher rates of illness and disability than non-Maori, as will be discussed in the health chapter. With regard to childcare and the care of the sick and disabled, another factor may also be that Maori incomes tended to be smaller than those of non-Maori, as will be discussed in the income chapter. This meant that Maori may have been less able to afford paid babysitters and homecare helpers, and were, therefore, more reliant on the unpaid labour of family and friends. Why Maori should have been more likely to do volunteer work is less easily explained by demographic factors.

Chapter two summary

Maori in the Rohe Potae and in New Zealand generally were over-represented in negative statistics relating to paid work. Maori of both genders and at all age ranges examined in this chapter were more likely to be unemployed and less likely to be in the labour force than their non-Maori counterparts. They were also less likely to employ others or to be self-employed. In addition, Maori tended to be concentrated into unskilled or semi-skilled occupations and in industries associated with low skill levels, such as manufacturing.

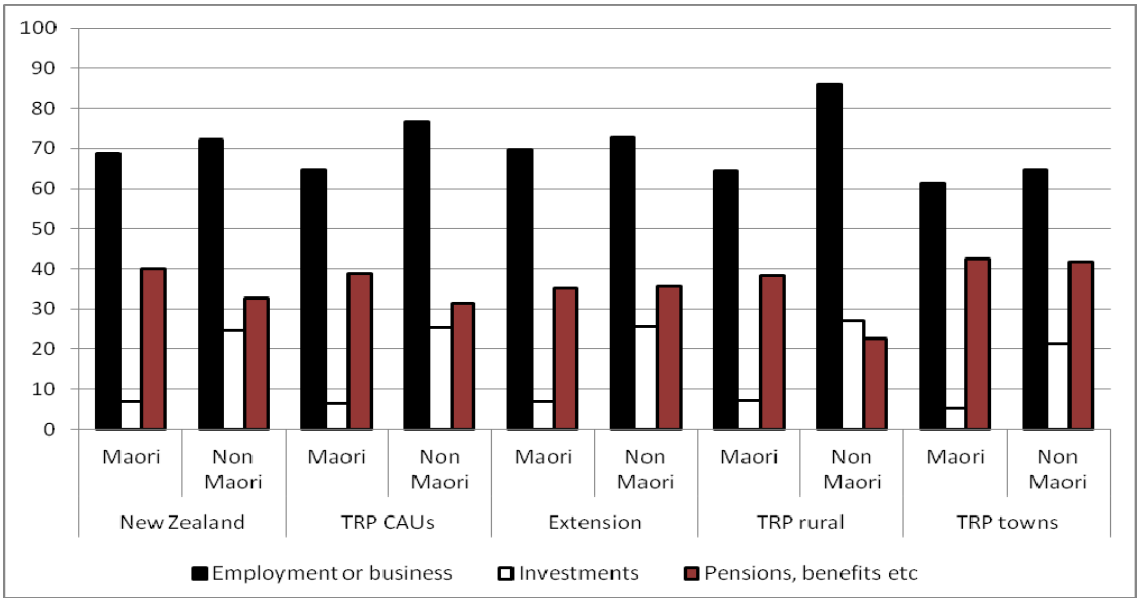
Maori performed more unpaid work of all kinds, excluding household work, than did non-Maori. Women of both ethnic groups were more likely to have done unpaid work of all kinds than their male counterparts. There were also higher rates of volunteer work in rural areas.

Chapter Three: Income

This chapter examines sources and levels of income, looking at the percentages of Maori and non-Maori, in the Rohe Potae and New Zealand generally, who received income from employment or business, investments or welfare benefits. It then examines the types of benefits received by different groups, before looking at those groups' levels of income. This chapter is based primarily on the 2006 census, but also on the New Zealand Income Survey conducted by Statistics New Zealand. The Income Survey is carried out once a year and is based on data from around 28,000 people in 15,000 households.[79]

Sources of income

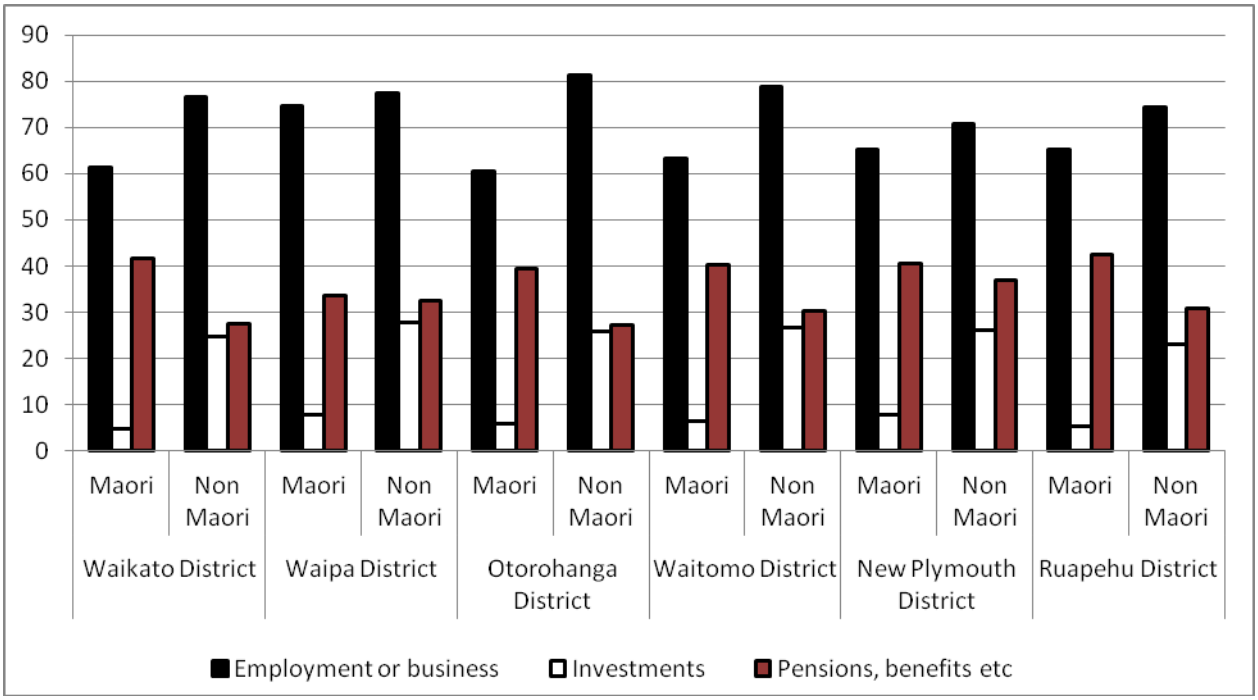
The 2006 census showed that Maori in the Rohe Potae and New Zealand were generally more likely than non-Maori to receive their income from welfare benefits and similar means of income support, and less likely to receive income from employment, business, and investments (see graph 17).[80]



Graph 17: Sources of income by ethnic group, ages 15 and over, percentages, 2006 census.

[79] Statistics New Zealand, 'New Zealand Income Survey', available at http://www.stats.govt.nz/browse_for_stats/people_and_communities/geographic-areas/urban-rural-profile/explanatory-notes.aspx#nz-income, accessed 22 November 2011.
[80] Sources of Personal Income (Total Responses) by Ethnic Group (Grouped Total Responses), for the Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.

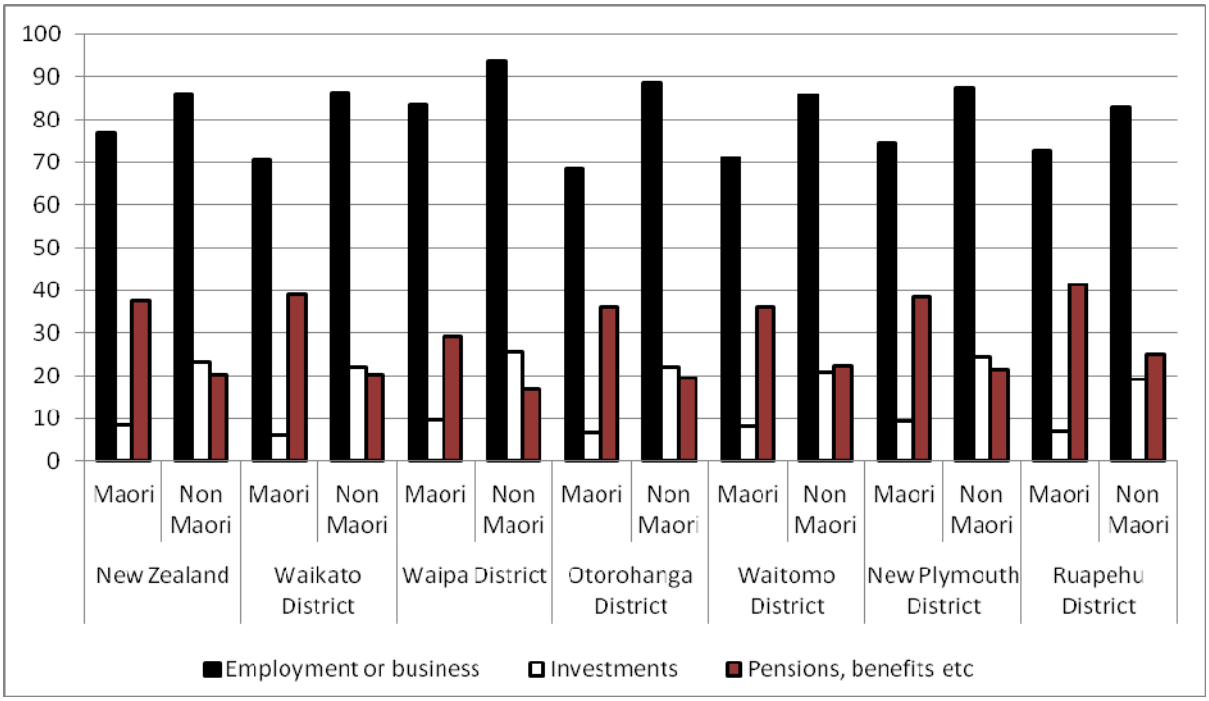
As graph 17 shows, there was particular disparity in the rural parts of the inquiry district, where only 64.4% of Maori had income from employment or business compared to 86.2% of non-Maori, and 38.1% of Maori were beneficiaries, pensioners or similar compared to 22.6% of non-Maori. There were similar disparities in the core Rohe Potae districts of Otorohanga and Waitomo, as graph 18 indicates. There was also a large overall disparity with regard to income from investments (including rent, interest, and dividends). In the Rohe Potae and New Zealand generally, non-Maori were several times more likely to have income from this kind of source than Maori.



Graph 18: Income source by ethnic group and district, ages 15 and over, 2006 census.

Differences between Maori and non-Maori were even more pronounced in some areas when the differing age structures of the two groups is allowed for. Amongst Maori aged from 25 to 64 years, 37.6% nationwide were in receipt of some kind of benefit, compared to 20.3% of non-Maori of the same age range (see graph 19).[81] As with the all-ages population, there was particular disparity for the 25 to 64 age group in the core Rohe Potae districts of Waitomo and Otorohanga.

[81] Sources of Personal Income (Total Responses) by Ethnic Group (Grouped Total Responses) and Age Group and Sex, for the Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.

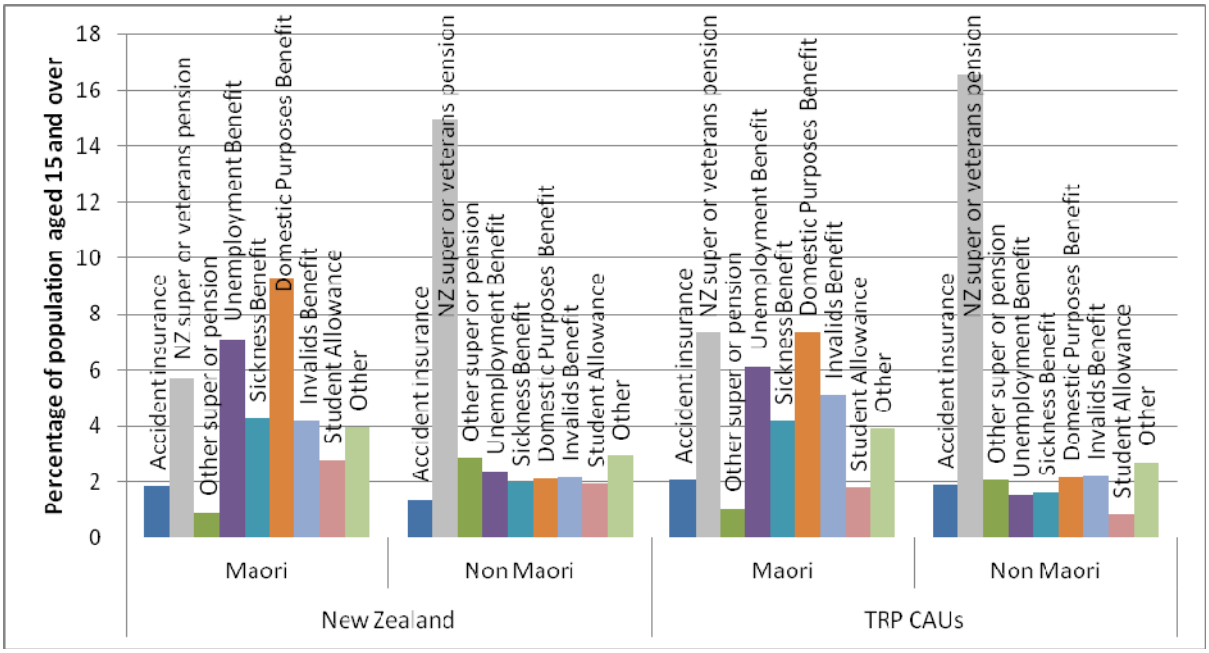


Graph 19: Income source by ethnic group and district, ages 25 to 64, 2006 census.

Benefit types

The previous section showed that Maori were significantly more likely to be in receipt of a benefit or similar income support (state or private) than non-Maori. Non-Maori were much more likely to be in receipt of a pension or superannuation, whether publically or privately funded, whereas Maori were more likely to be in receipt of other kinds of benefit (see graph 20).[82]

[82] Sources of Personal Income (Total Responses) by Ethnic Group (Grouped Total Responses), for the Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.

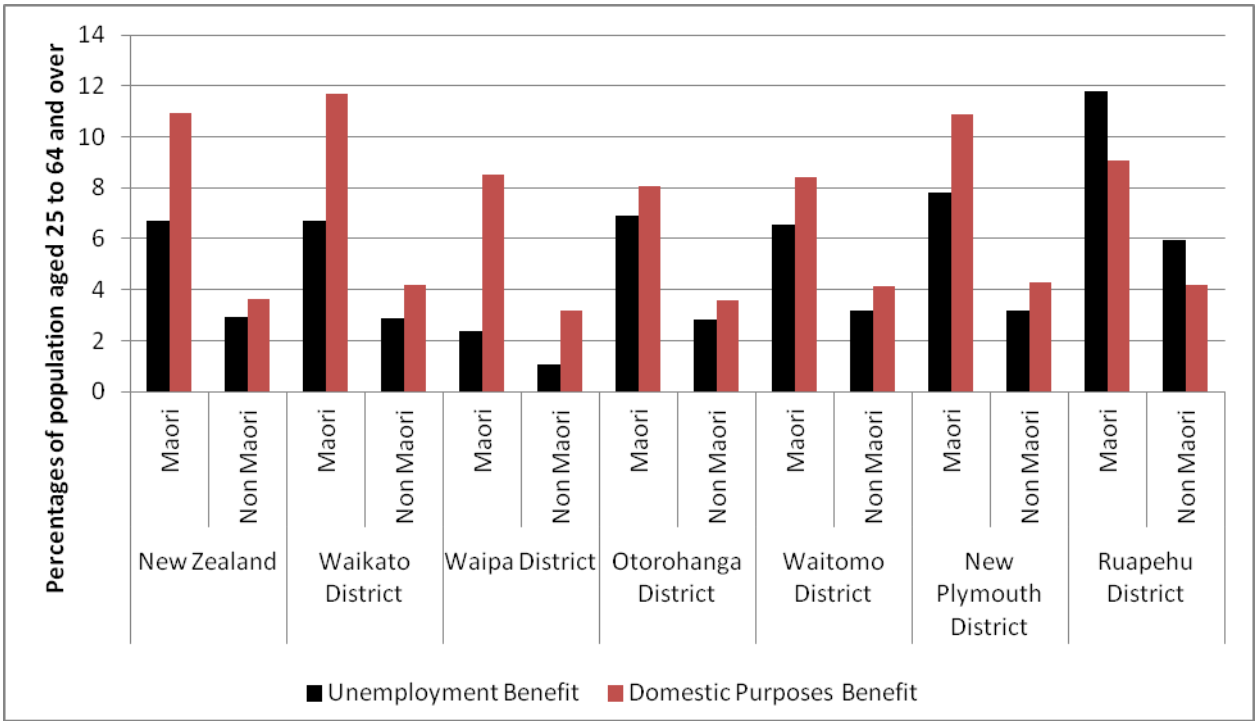


Graph 20: Percentages of population aged 15 and over in receipt of types of income support, 2006 census

As graph 20 shows, non-Maori in the Rohe Potae and elsewhere were more than twice as likely as Maori to be in receipt of superannuation or a pension than Maori, while Maori were more than twice as likely as non-Maori to be in receipt of every other benefit type except ACC or other accident insurance. New Zealand superannuation or veteran's pension was by far the most common type of benefit for non-Maori, while for Maori nationwide it was the third most common type after the Domestic Purposes and unemployment benefits. In the Rohe Potae CAUs, the same percentage of Maori were in receipt of New Zealand super or veteran's pension as the Domestic Purposes Benefit. This partly reflects the Rohe Potae Maori population's somewhat older age structure compared to the national Maori population, but also reflects a lower percentage of Domestic Purposes Benefit recipients. There were no significant differences between the national and Rohe Potae non-Maori populations other than a lower percentage in receipt of student allowances in the Rohe Potae.

Some of the differences between Maori and non-Maori in terms of benefits were due to differing age structures, particularly the much higher proportion of over-65s in the non-Maori population. However, there were still significant differences within the 25 to 64 age category. Within this age group, Maori nationwide were nearly three times more likely than non-Maori to be in receipt of the Domestic Purposes Benefit, 2.3 times more likely to be in receipt of the unemployment benefit, and nearly twice as likely to be in receipt of the sickness or invalids'

benefit.[83] Patterns were broadly similar in districts connected to the Rohe Potae (see graph 21), although these figures should be treated with caution due to the small numbers involved. The Domestic Purposes Benefit disparity was somewhat smaller in the Rohe Potae, in some areas because of a higher percentage of non-Maori in receipt of this benefit than non-Maori elsewhere, and in other cases a lower percentage of Maori. There were also large geographical variations in relation to the unemployment benefit, with low percentages of both ethnic groups receiving it in Waipa District and much higher percentages receiving it in Ruapehu District.



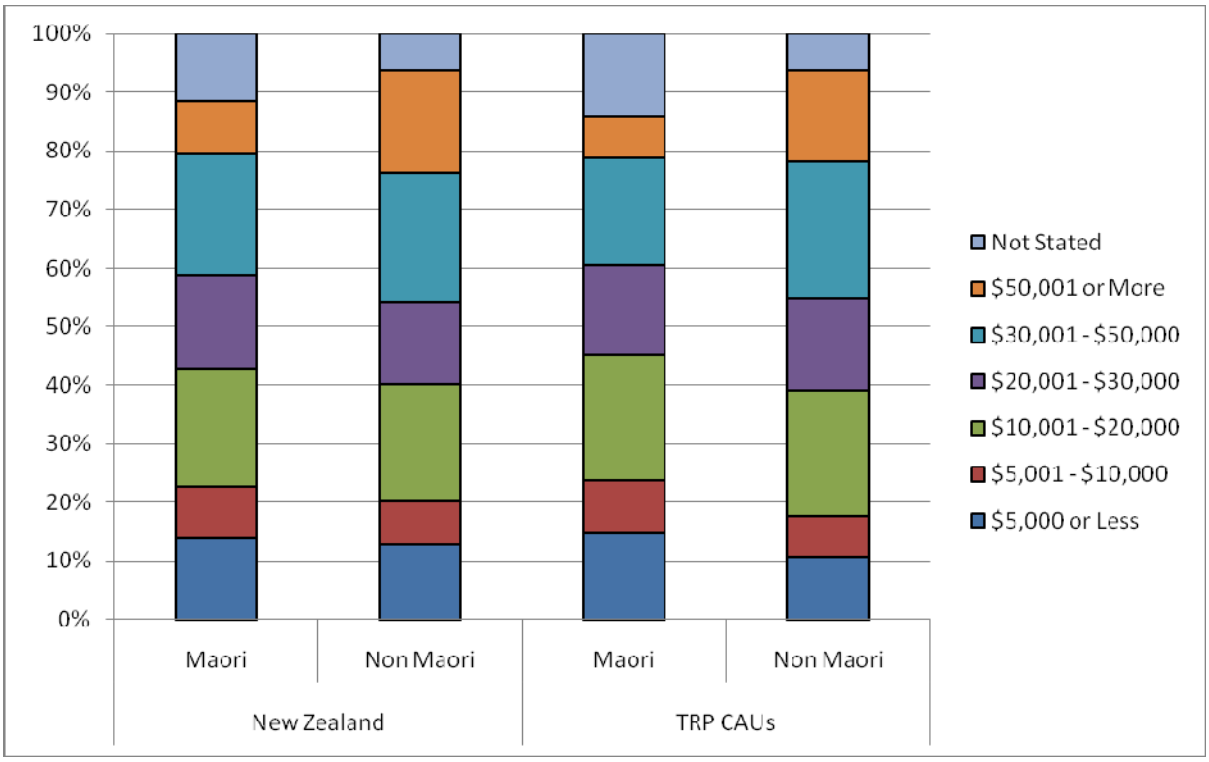
Graph 21: Percentages of population aged 25 to 64 and over in receipt of selected types of income support, 2006 census.

Income levels

In the Rohe Potae and New Zealand generally, the 2006 census recorded Maori as tending to have lower incomes than non-Maori. The disparity was particularly pronounced at the higher income levels, and in the Rohe Potae. Nationwide, 13.8% of Maori and 12.7% of non-Maori earned $5,000 or less per year, while in the Rohe Potae CAUs the proportions were 14.5% for

[83] Sources of Personal Income (Total Responses) by Ethnic Group (Grouped Total Responses) and Age Group and Sex, for the Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.

Maori and 10.7% for non-Maori (see graph 22).[84] At the national level 9.1% of Maori and 17.5% of non-Maori earned more than $50,000 a year, whereas in the Rohe Potae CAUs the proportions were 7.2% for Maori and 15.6% for non-Maori.

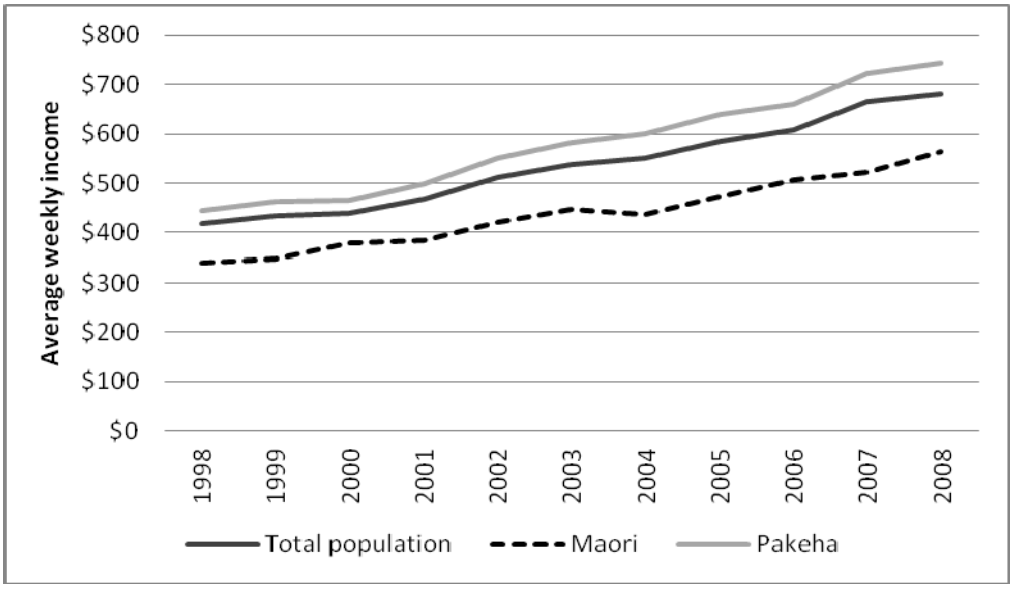


Graph 22: Income bands by ethnic group, 2006 census.

Statistics New Zealand, through the National Income Survey, collects data on average (mean) and median weekly incomes, which are available for the 1998 to 2008 period at national and regional levels. The average or mean income for a group is determined by adding the income of everyone in the group together and dividing it by the total number of people, while the median income is the middle number in a list of all incomes. In this period, the average weekly income for Maori, Pakeha, and the general population increased by similar percentages, and large gaps between the three groups fluctuated but showed no overall change (see graph 23).[85] Average (mean) weekly incomes for the total population were 22.3% higher than for Maori on average, while Pakeha incomes were 31.8% higher than for

[84] Ethnic Group (Grouped Total Responses) by Total Personal Income (Grouped), for the Census Usually Resident Population Count Aged 15 years and Over, 2006 census.
[85] Income by region and prioritised ethnic group, available at http://www.stats.govt.nz/tools_and_services/tools/TableBuilder/income-tables.aspx, accessed 5 January 2012.

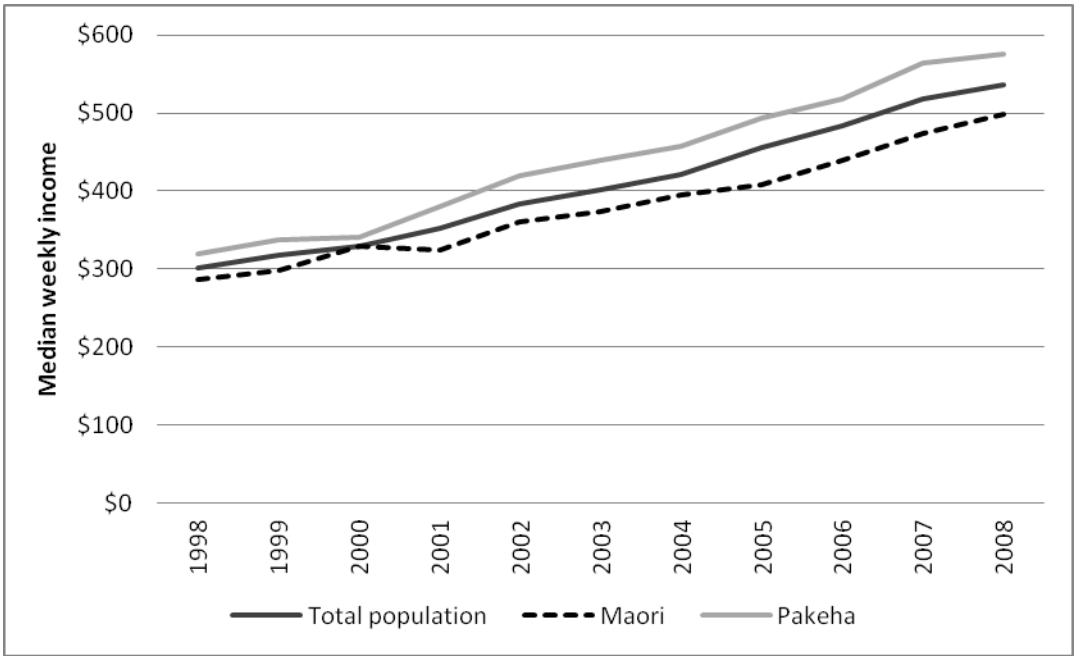
Maori on average.[86] Trends were similar for the Waikato Region, although with greater yearly fluctuation due to the smaller numbers involved.



Graph 23: Average weekly income by ethnic group, nationwide, 1998 to 2008, New Zealand Income Survey.

Examination of median weekly incomes shows less of a disparity between Maori and non-Maori, especially on a nationwide basis. On average, the median weekly income for the general population from 1998 to 2008 was 7.2% higher than that of the Maori population, and the median Pakeha income was 15.4% higher than that of Maori (see graph 24).[87] In the Waikato Region, however, general population median incomes were 14.5% higher than median Maori incomes, and Pakeha incomes were 21.4% higher. The larger gap was due to Maori incomes being lower in the Waikato than the national average.

[86] Prioritised statistics are used, meaning that respondents who identified as both Maori and Pakeha were classed as Maori.
[87] All people: Income by region and prioritised ethnic group, available at http://www.stats.govt.nz/tools_and_services/tools/TableBuilder/income-tables.aspx, accessed 20 September 2011.



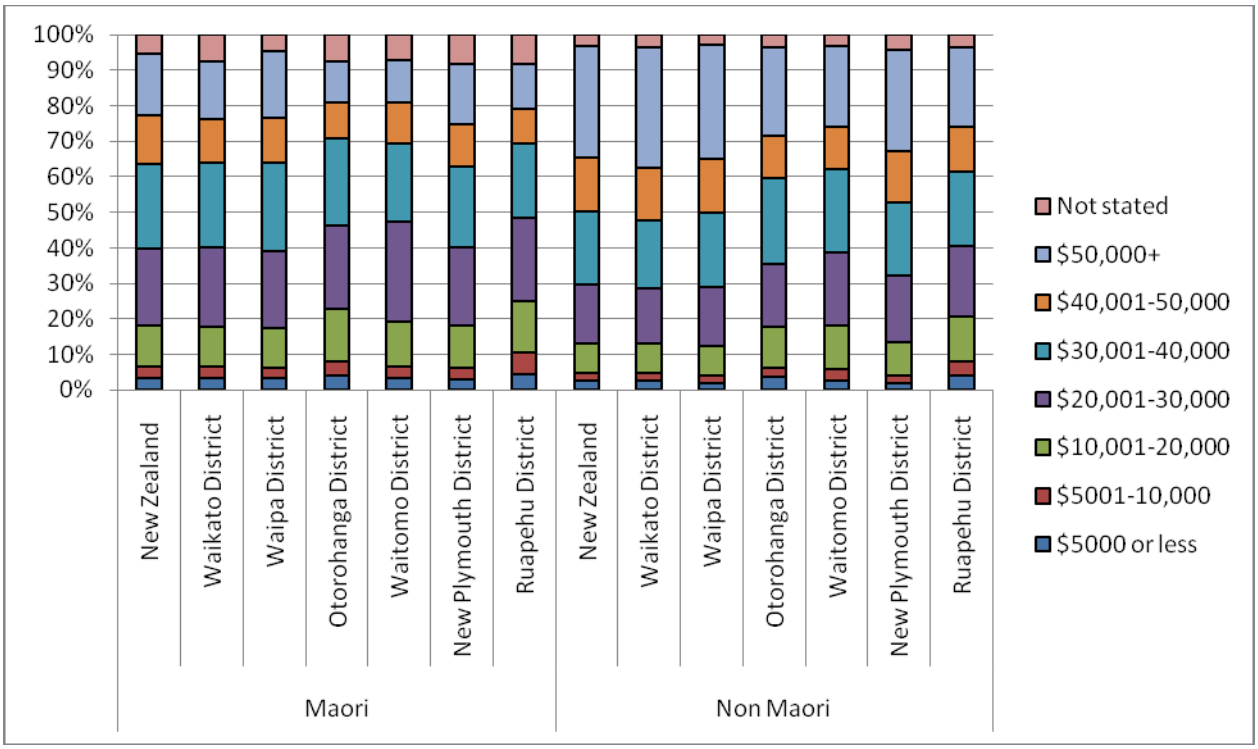
Graph 24: Median weekly incomes by ethnic group, national population, 1998 to 2008, New Zealand Income Survey.

Income levels amongst specific groups

The data given above is affected by the differing demographic profiles of the Maori and non-Maori populations. Maori were younger overall and less likely to be in paid work than non-Maori, and therefore it is to be expected that Maori would earn less than non-Maori. However, the disparity remains even when these factors are taken into account.

The 2006 census showed that, on a national level, 18.0% of Maori full-time employees earned $20,000 or less per annum, compared to 13.1% of non-Maori full-time employees (see graph 25).[88] These percentages were significantly higher for both groups in Otorohanga, Waitomo, and Ruapehu districts, with more than 20% of Maori in all three districts earning $20,000 or less, along with a similar proportion of non-Maori in Ruapehu. For those earning $50,000 or more a year, the disparity shown in graph 21 is not significantly different, with non-Maori full time workers nearly twice as likely to earn this amount than their Maori counterparts.

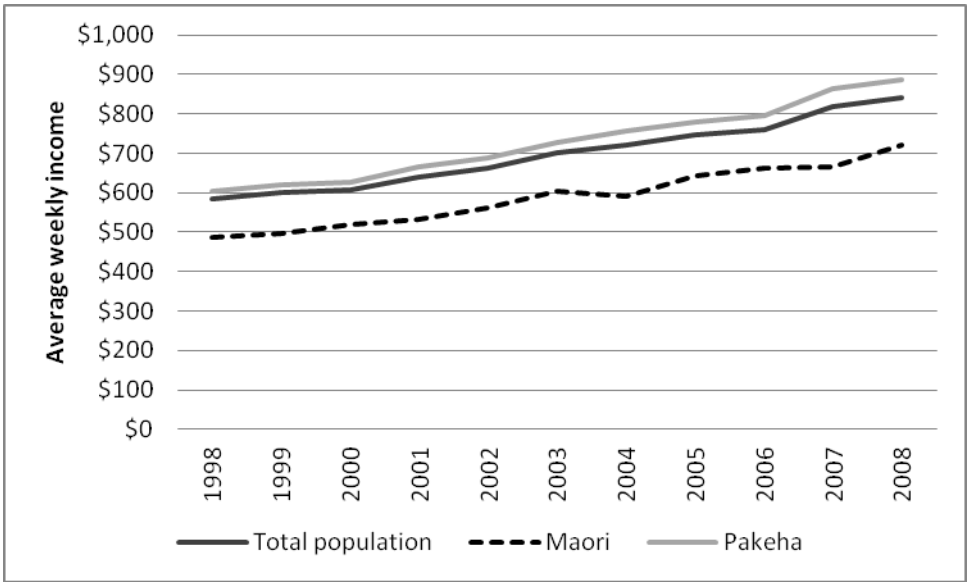
[88] Total Personal Income and Work and Labour Force Status by Ethnic Group (Grouped Total Responses) and Sex, for the Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.



Graph 25: Income bands by ethnic group and district, full time employees, 2006 census.

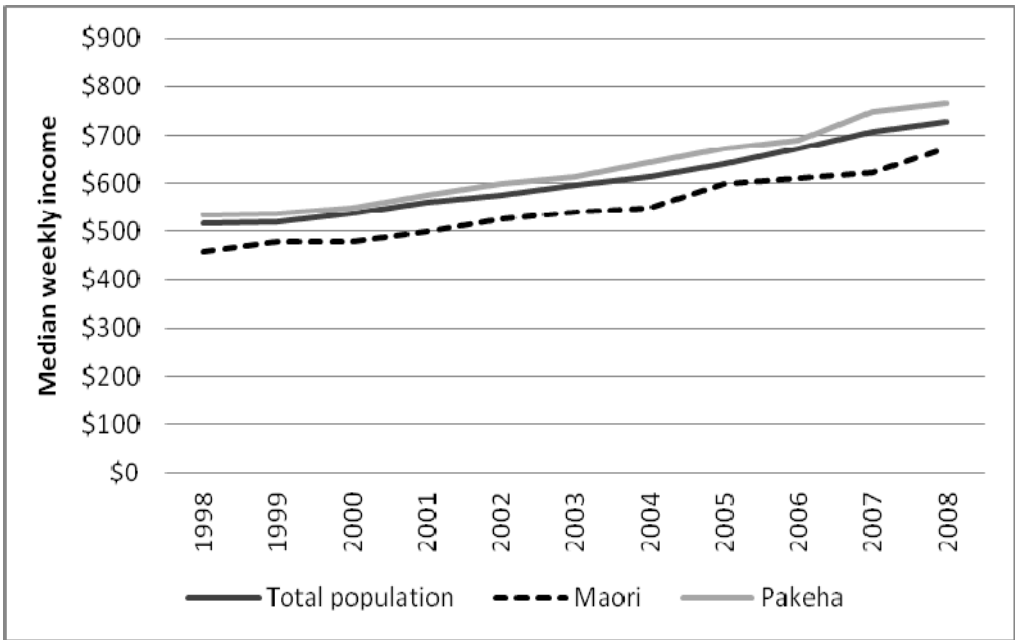
A considerable income gap also remains for people in paid employment when average and median weekly incomes are examined, via the New Zealand Income Survey (see graph 26). Amongst people in paid employment, the average weekly earnings of the total population were on average 18.7% higher than those of Maori in the years 1998 to 2008, and the average weekly earnings of Pakeha were 23.6% higher than Maori on average.[89] These gaps are much smaller than those of the total (all labour force statuses) populations (22.3% and 31.8%) discussed above, but are still significant. As noted earlier, this data is only available at the national and regional levels.

[89] People in paid employment: Earnings by ethnicity, sex, and age groups, available at http://www.stats.govt.nz/tools_and_services/tools/TableBuilder/income-tables.aspx, accessed 20 September 2011.



Graph 26: Average weekly income by ethnic group, people in paid employment, nationwide, 1998 to 2008, New Zealand Income Survey.

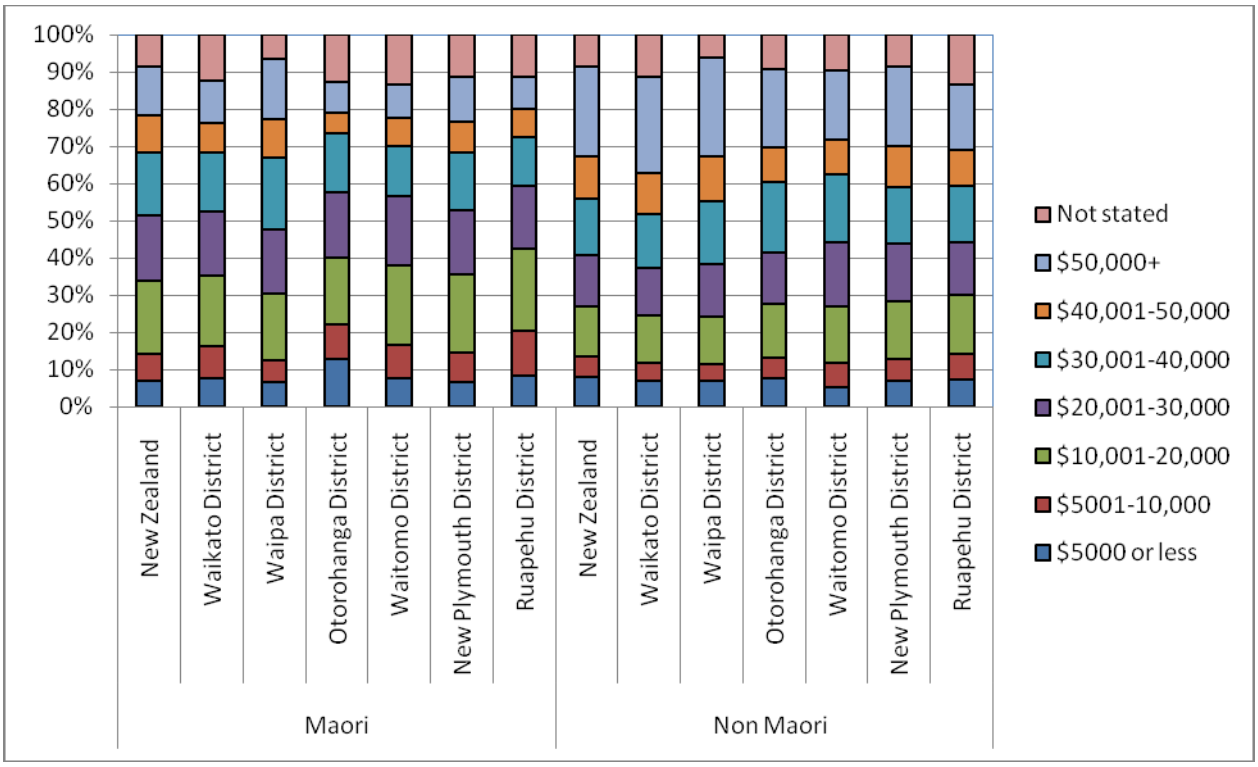
As we saw earlier, there was less of a disparity when median, as opposed to average (mean), incomes were examined. For those in paid employment, however, the average gap between Maori and the general population in the years 1998 to 2008 was actually slightly larger than for people of all labour force statuses (that is, including unemployed and not in the labour force). On average, the weekly median income of the total population in paid employment was 10.5% higher than for Maori in paid employment (compared to a 7.2% gap for all labour force statuses), and the Pakeha median income was 14.8% higher, compared to 15.4% higher for people of all labour force statuses (see graph 27). This shows that the income gap between Maori and non-Maori is not primarily the result of lower levels of Maori paid employment.



Graph 27: Median weekly incomes by ethnic group, people in paid employment, nationwide, 1998 to 2008, New Zealand Income Survey.

A similar picture emerges if the 25 to 64 age group is examined. The 2006 census showed that, nationwide, the proportion of Maori in this age range with an income of $10,000 or less was 14.4%, compared to 13.4% of non-Maori (see graph 28).[90] However, 24.2% of non-Maori in this age range had an income of at least $50,000 per year, compared to only 13.1% of Maori. In the Rohe Potae-connected districts, both Maori and non-Maori were more likely to have higher incomes in Waipa District and less likely in the Otorohanga, Waitomo, and Ruapehu districts, with the geographical differential much higher for Maori than non-Maori. The difference between Maori and non-Maori in the high-income band was most pronounced in Waikato District, where non-Maori were more likely than the national average to make more than $50,000, but Maori were less likely to do so.

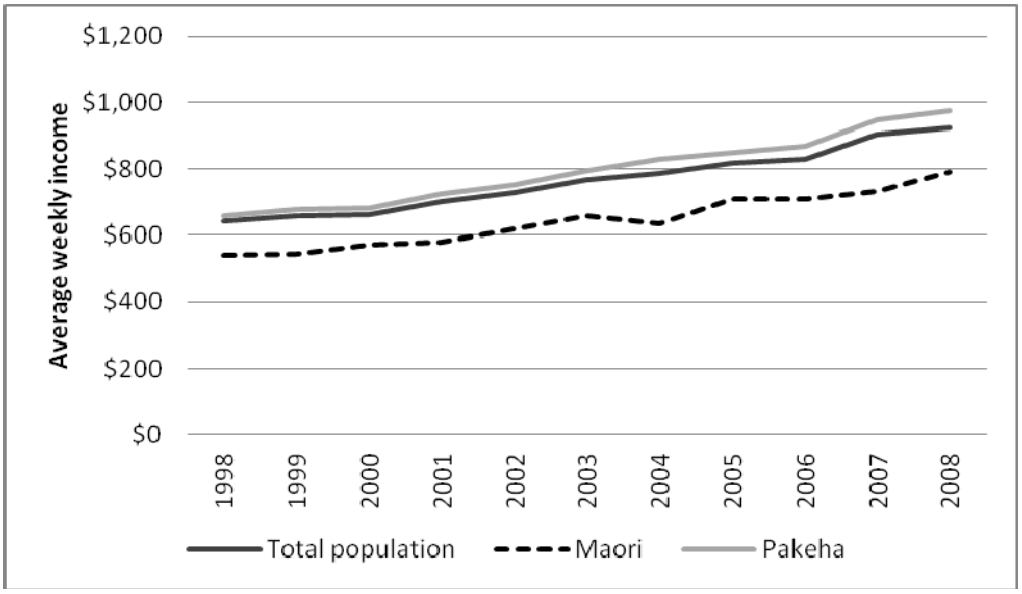
[90] Total Personal Income by Ethnic Group (Grouped Total Responses) and Age Group, for the Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.



Graph 28: Income bands by ethnic group and district, ages 25 to 64, 2006 census.

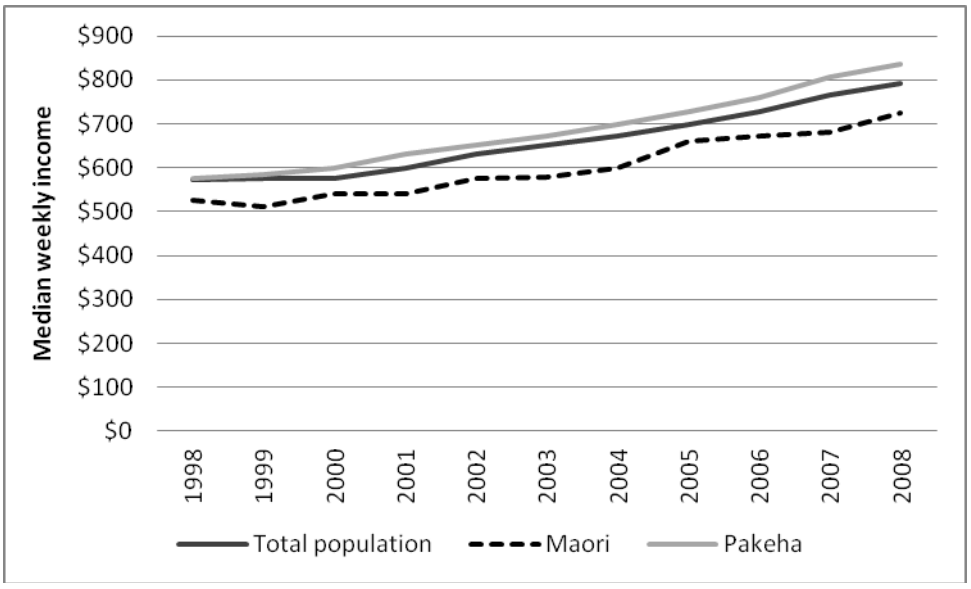
Significant gaps also remain when average (mean) and median weekly incomes are examined. For people in paid employment aged 25 to 64, the average weekly income from 1998 to 2008 was on average 18.7% higher for the total population than for Maori, and 23.4% higher for Pakeha (see graph 29).[91]

[91] People in paid employment: Earnings by ethnicity, sex, and age groups, available at http://www.stats.govt.nz/tools_and_services/tools/TableBuilder/income-tables.aspx, accessed 20 September 2011.



Graph 29: Average weekly income by ethnic group, people in paid employment aged 25 to 64, nationwide, 1998 to 2008, New Zealand Income Survey.

In terms of median incomes for the same group and period, the general population earned 9.9% more than Maori on average, and Pakeha earned 14.1% more than Maori (see graph 30).



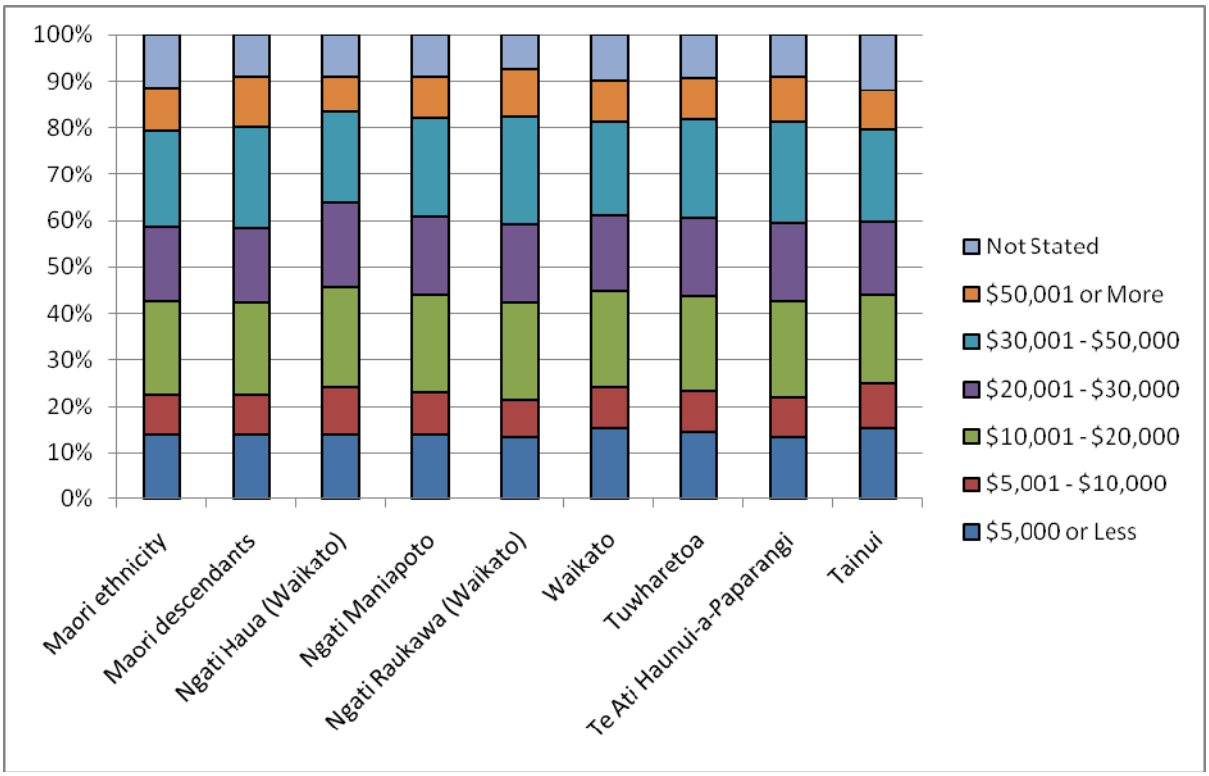
Graph 30: Median weekly incomes by ethnic group, people in paid work aged 25 to 64, nationwide, 1998 to 2008, New Zealand Income Survey.

The figures and graphs above are still affected by the differing age structures of the Maori and non-Maori populations, since even within the core working age of 25 to 64 Maori tended to be younger, and therefore in the earlier stages of their careers. In addition, this age group is

still affected by the higher Maori rates of workforce non-participation and unemployment. The figures for incomes amongst full-time employees and people aged 25 to 64 nevertheless illustrate that the income gap between Maori and non-Maori is not fully explained by differing age or employment status profiles.

Income by iwi

Examination of incomes of iwi members showed no large differences between Rohe Potae-connected iwi, or between them and the general Maori descent or Maori ethnicity populations, considering the relatively small numbers involved (see graph 31).[92]



Graph 31: Income bands by selected iwi, all ages, 2006 census

Chapter three summary

Generally speaking, Maori tended to have lower incomes than non-Maori, even when demographic factors such as age and labour force status were taken into account. Maori were less likely than non-Maori to receive income from employment or business and, to a much

[92] Iwi (Total Responses) by Total Personal Income (Grouped), for the Maori Descent Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.

greater extent, from investments. They were more likely than non-Maori to receive income from welfare benefits other than superannuation and pensions.

Chapter Four: Education

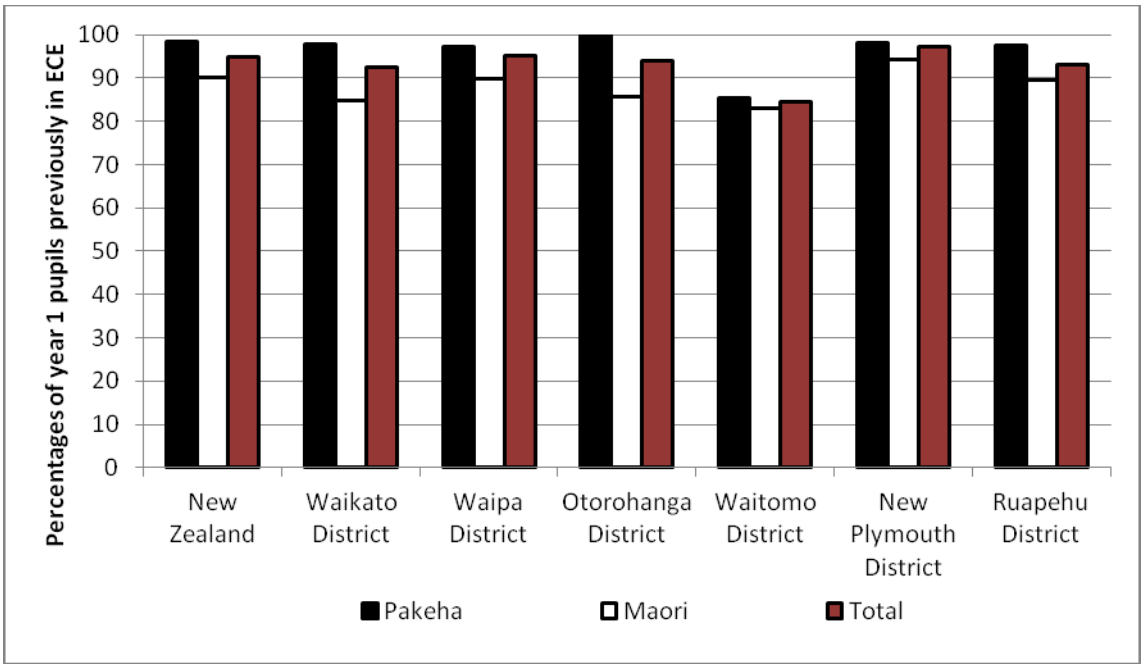
This chapter will show that higher levels of educational achievement correlate with higher incomes and better chances of employment. It will discuss participation in early childhood education, levels of educational achievement, and the performance of Rohe Potae secondary schools, before discussing levels of fluency in te reo Maori. Most of the statistics in this chapter are sourced from the Ministry of Education, while others come from the 2006 census. Statistics on te reo are drawn from the 2006 census.

Early childhood education

Numerous studies, in New Zealand and internationally, have shown positive results for participation in early childhood education (ECE).[93] Children who had attended ECE tended to achieve more in school, stay in school longer, and perform better in intelligence tests, although the gains were much more pronounced when the ECE was rated as high quality in terms of teacher qualifications, adult to child ratios, and other factors. Parents also increased their confidence and parenting skills, and were more likely to be in paid employment. Children from low-income backgrounds and from ethnic minorities tended to benefit most from ECE participation.

Ministry of Education statistics show that, in recent years, Maori have had lower rates of participation in ECE than the total population, both in the Rohe Potae and elsewhere.[94] Graph 32, for the year to March 2011, shows the percentages of Year 1 students who had previously attended ECE.

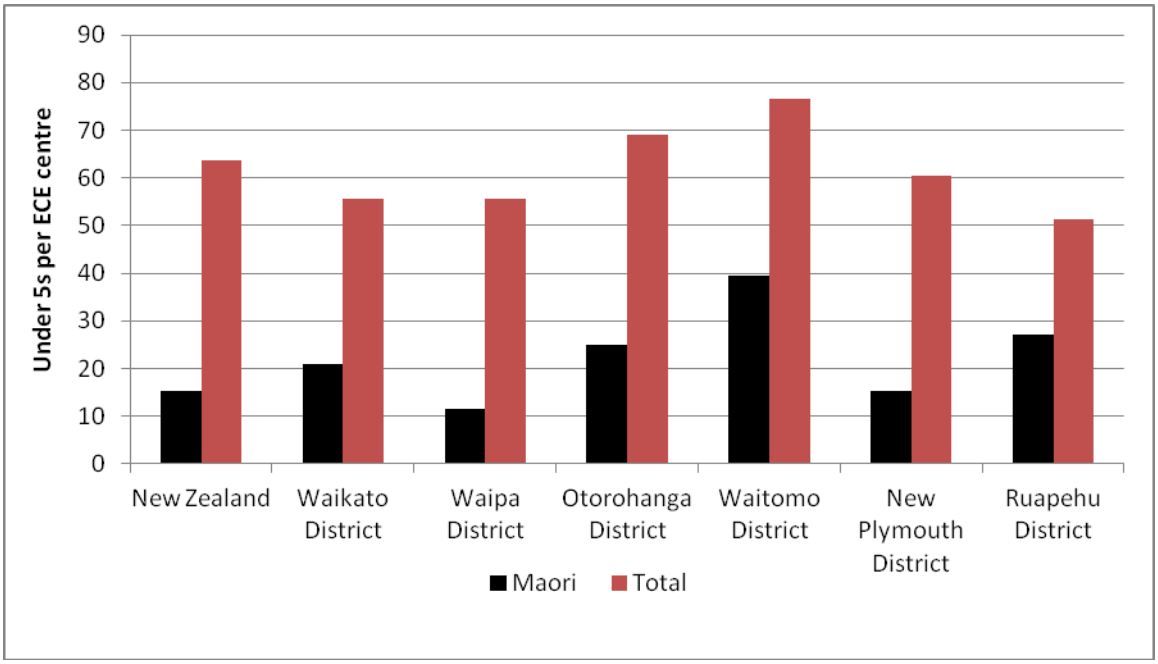
[93] Linda Mitchell, Cathy Wylie, and Margaret Carr, 'Outcomes of Early Childhood Education: Literature Review', report prepared for the Ministry of Education, 2008.
[94] Percentage and number of Year 1 students who attended early childhood education services, by Territorial Authority and ethnic group (Year ending March 2011), available at http://www.educationcounts.govt.nz/statistics/ece/prior-participation-in-ece, accessed 28 September 2011.



Graph 32: Percentages of year one students who had previously attended ECE, by ethnicity and district, year to March 2011, Ministry of Education.

The low overall participation in ECE in Waitomo District may be related to low numbers of ECE centres in the district relative to the number of under-5s, although without exact contemporary data it is difficult to be certain. In 2006 there were 765 under-5s in Waitomo District, of whom 396 (51%) were Maori.[95] In July 2010 there were only 10 registered ECE centres in the district, meaning that, if the number of under-5s stayed constant, there was one centre for every 77 children under 5 and one for every 40 Maori children under 5 (See graph 33).[96] This compares to one centre for every 64 children under 5 and one for every 15 Maori children under 5 nationwide. Since Waitomo District is a rural area, the relative scarcity of ECE centres may have had a higher impact, as families would have been less likely to live within convenient travelling distance of a suitable centre.

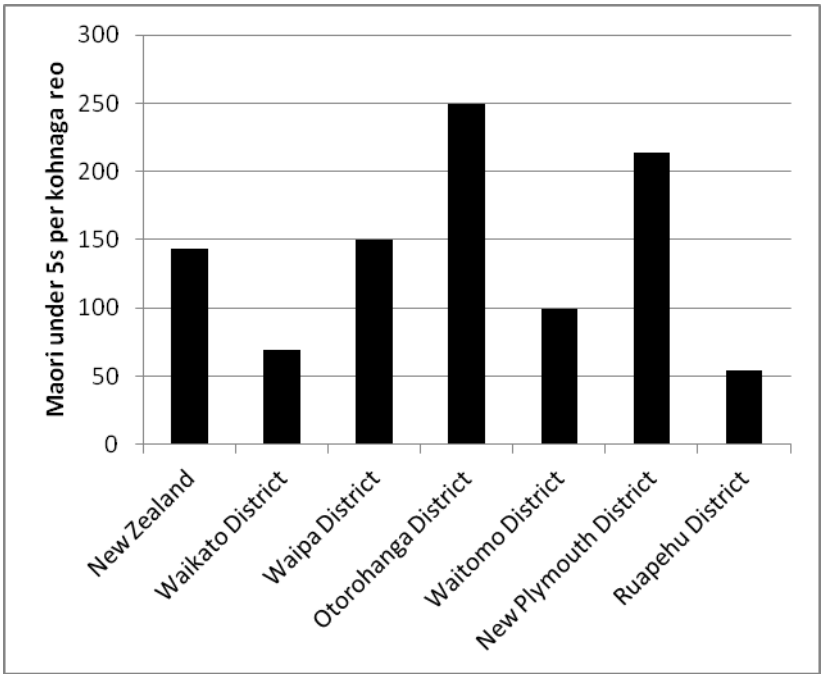
[95] Ethnic Group (Grouped Total Responses) by Age Group, for the Census Usually Resident Population Count, 2006 census.
[96] Number of Licensed Early Childhood Services by Territorial Authority & Type of Service at 1 July 2010, available at http://www.educationcounts.govt.nz/statistics/ece/55282, accessed 10 October 2011.



Graph 33: Number of Maori and general population under-5s per ECE centre by district, 2006 census and Ministry of Education.

Provision of kohanga reo relative to the number of Maori under-5s was more mixed. In Waikato, Waitomo and Ruapehu districts the number of Maori under-5s per kohanga reo was lower than the national average of 143, whereas in Waipa it was slightly higher and in Otorohanga and New Plymouth signficantly higher (see graph 34).[97] A survey of 208 Maniapoto families by the Maniapoto Maori Trust Board found a range of reasons for under-5s not attending ECE, including limited opening hours of existing services, an unmet desire for a bilingual service, and more specifically personal reasons such as health problems and negative past experiences.[98] However, 'most of the barriers came down to cost and no spaces available within the existing services'.[99]

[97] Under Ministry of Education regulations, ECE centres cannot have more than 150 child places, although a centre may be able to enrol more than 150 children as long as only 150 are in attendance at any one time. http://www.lead.ece.govt.nz/LeadHome/ManagementInformation/RecentAnnouncements/IncreasingECECentreSize.aspx, accessed 5 January 2012.
[98] Maniapoto Maori Trust Board, 'Nga Pukeikura: Maniapoto Early Childhood Education (ECE) Needs Assessment Report', August 2011, pp 6-7. Report supplied by Maniapoto Maori Trust Board.
[99] Maniapoto Maori Trust Board, p10.



Graph 34: Number of Maori under-5s per kohanga reo by district, 2006 census and Ministry of Education.

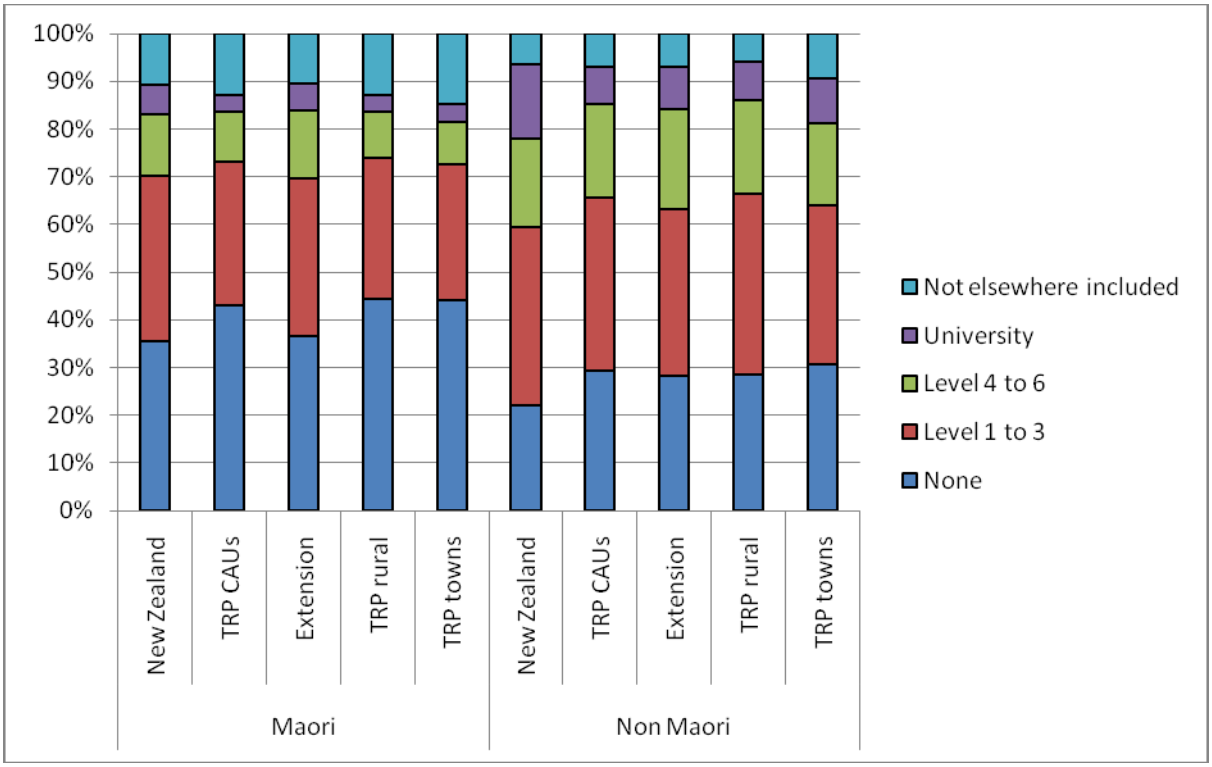
Qualifications

The 2006 census showed that Maori were significantly more likely to be without formal educational qualifications than non-Maori, particularly in the non-extension parts of the Rohe Potae. Nationwide, 35.6% of Maori had no qualifications, compared to 21.8% of non-Maori (see graph 35). Maori and non-Maori were less likely to have qualifications if they lived in the Rohe Potae CAUs, although there was no large difference between Maori nationwide and in the Rohe Potae extension area.[100] The lowest rate of qualifications for both groups was in the Rohe Potae towns, where 44.1% of Maori and 30.7% of non-Maori had no qualifications. It is not clear whether people from these areas have been less likely to gain qualifications, or whether people with no qualifications are more likely to move to, or stay, in the Rohe Potae.

Amongst people with qualifications, the most common highest type was level 1 to 3, which are generally secondary school qualifications. Nationwide, 34.6% of Maori had one of these as their highest qualification, compared to 37.5% of non-Maori. In the Rohe Potae CAUs, the proportions were 29.4% of Maori and 35.7% of non-Maori. The next most common type of highest qualification was level 4 to 6, which are generally trade or occupational

[100] Ethnic Group (Grouped Total Responses) and Highest Qualification by Sex, for the Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.

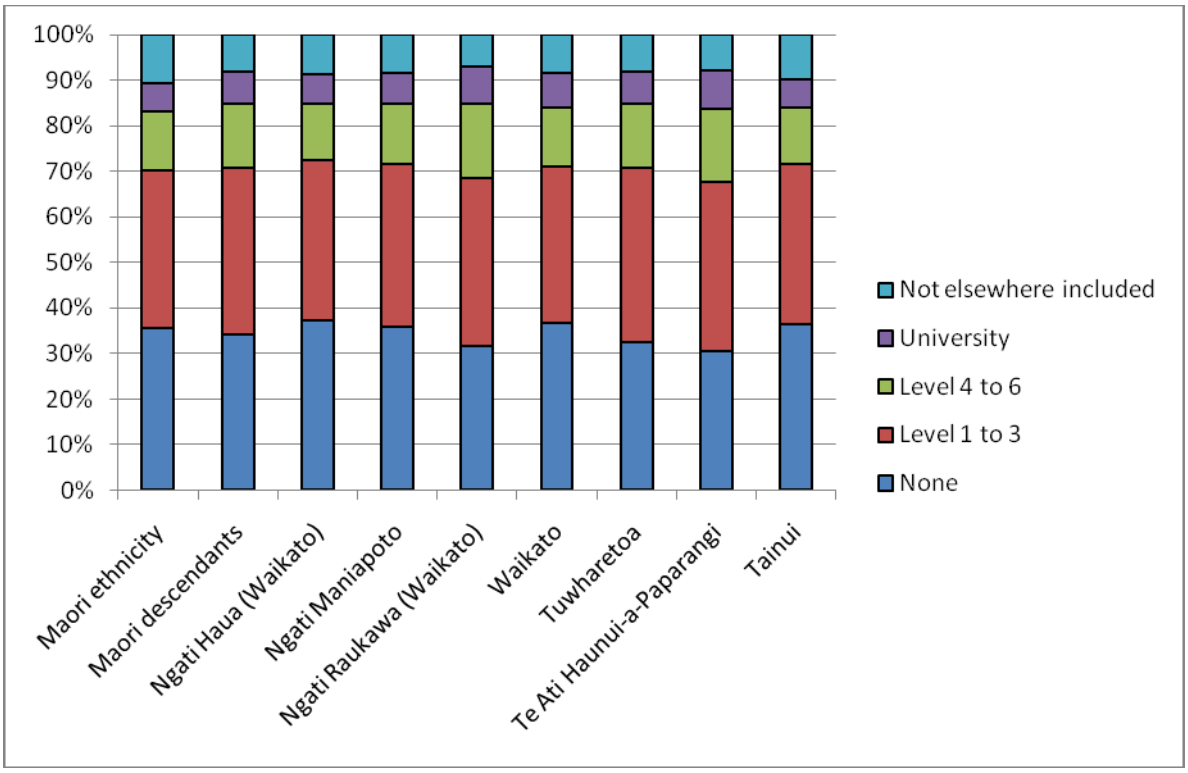
qualifications. The proportions holding these as their highest qualification was 12.9% of Maori and 18.4% of non-Maori nationwide, and 10.4% of Maori and 19.5% of non-Maori in the Rohe Potae CAUs. Level 4 to 6 qualifications were the only type more common in some parts of the Rohe Potae than in New Zealand as a whole, with Maori in the extension area and non-Maori in the rural and extension areas being more likely to hold such qualifications than their national counterparts. However Maori in the non-extension parts of the Rohe Potae were less likely to hold these qualifications than were Maori in New Zealand generally. Non-Maori, in the Rohe Potae and elsewhere in New Zealand, were more than twice as likely as Maori to hold a university-level degree.



Graph 35: Percentages of populations by highest qualification, 2006 census.

Within iwi with connections to the Rohe Potae, there were no large national differences in the highest qualifications held (see graph 36). Te Ati Haunui-a-Paparangi, Ngati Raukawa (Waikato) and Ngati Tuwharetoa were more likely to hold educational qualifications than Maori generally.[101] However, given the small numbers involved, this may not be statistically significant.

[101] Iwi (Total Responses) by Highest Qualification, for the Māori Descent Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.



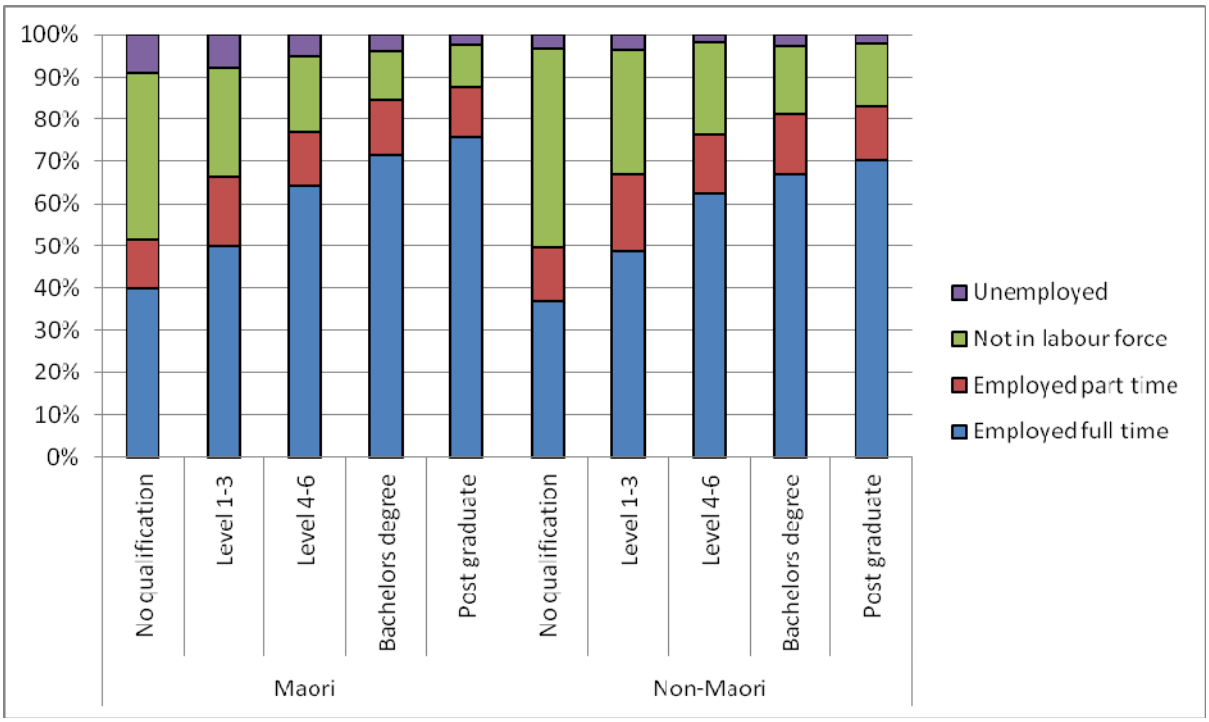
Graph 36: Percentages of selected iwi by highest qualification, 2006 census.

Higher levels of educational qualification are associated with positive health and lifestyle outcomes, including lower rates of smoking, lower mortality, and higher standards of living.[102] Ministry of Education data also show that people with qualifications are more likely to be employed full-time and to earn more than people without qualifications, and that this difference increases with higher-level qualifications. Where employment was concerned, the difference between the qualified and unqualified was much more pronounced amongst Maori than non-Maori, although mostly because of higher unemployment rates amongst Maori. Maori with no qualifications were more than twice as likely as Maori with bachelors' degrees to be unemployed, whereas unqualified non-Maori were only 1.2 times as likely to be unemployed as non-Maori with bachelors' degrees.[103] However unqualified Maori were more likely to be unemployed than were non-Maori with bachelors' degrees. It is likely that the employment benefits of education are more pronounced in times of recession and high unemployment, as suggested by Nair, Smart and Smyth's examination of figures from the

[102] Bhaskaran Nair, Warran Smart and Roger Smyth, 'How does investment in tertiary education improve outcomes for New Zealanders?', *Social Policy Journal of New Zealand*, 31 (2007), pp 213-15.
[103] 'Employment', available at http://www.educationcounts.govt.nz/statistics/tertiary_education/life_after_study, accessed 28 September 2011.

late 1990s.[104] It is therefore likely that people with qualifications have gained more of a relative advantage since the economic downturn began in the late 2000s.

With regard to labour force status recorded by the 2006 census and collated by the Ministry of Education, the biggest difference by level of qualification was the percentage not in the labour force, which for both Maori and non-Maori shrank substantially with each qualification stage (see graph 37).[105] The cause of this is not clear.

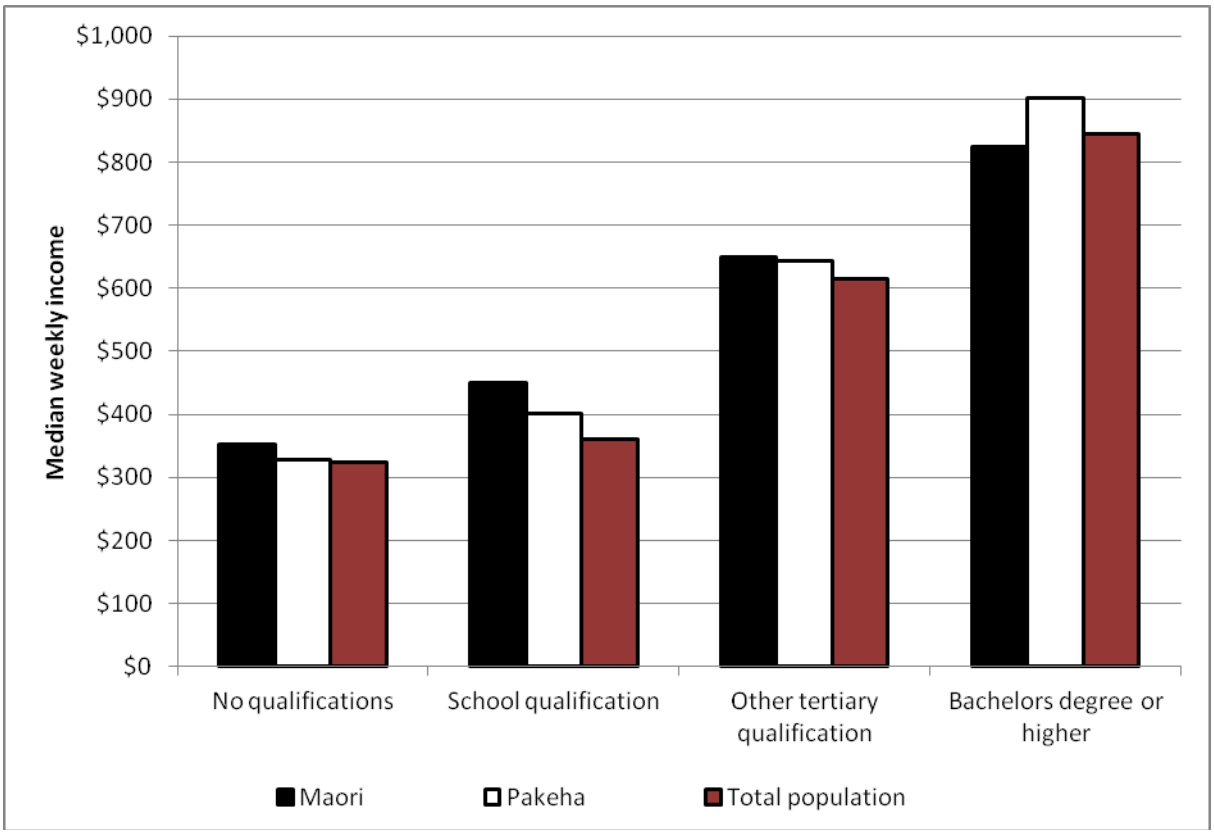


Graph 37: Labour force status by highest qualification and ethnic group, working age population, Ministry of Education.[106]

The pattern was somewhat different when median incomes were examined. With regard to weekly incomes, Maori received less of a 'qualification bonus' than non-Maori, but earned more at all qualification levels below bachelors' degrees. In 2008, the median weekly income for Maori with no qualifications was $25 more than for their Pakeha equivalents, and $29 more than the total population (see graph 38).[107] Amongst those with secondary school qualifications (level 1 to 3) only, Maori earned $48 more per week than Pakeha and $90 more

[104] Nair, Smart and Smyth, p198
[105] 'Employment', available at http://www.educationcounts.govt.nz/statistics/tertiary_education/life_after_study, accessed 28 September 2011.
[106] The source does not state what is meant by 'working age'.
[107] 'Income', available at http://www.educationcounts.govt.nz/statistics/tertiary_education/life_after_study, accessed 28 September 2011.

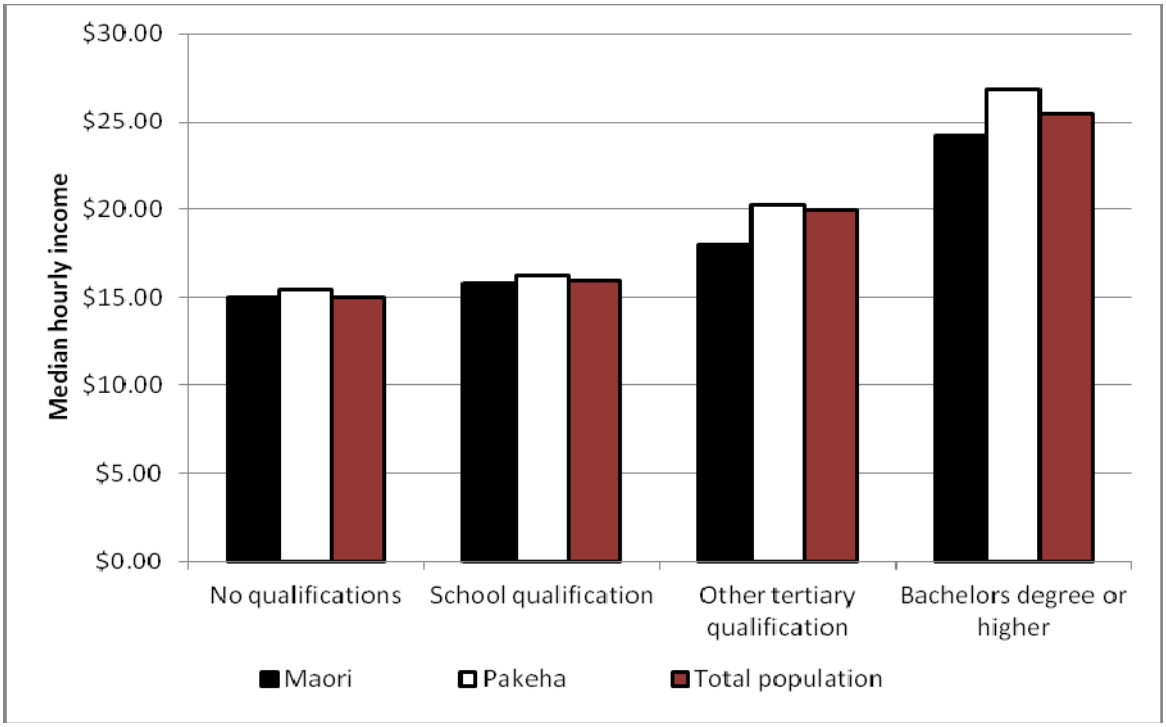
than the total population. The difference was smallest for those with tertiary qualifications below bachelor level (level 4 to 6), with Maori earning $7 a week more than Pakeha and $36 more than the general population. Only at bachelors' degree level and above were Maori earning less, with Maori median weekly earnings being $76 a week less than Pakeha and $19 a week less than the total population. Figures from earlier years show that the earnings gap goes back to at least 1997, but increased over the 1997 to 2008 period. The gap is particularly suprising given that, as we saw in the incomes chapter, Maori tended to earn less overall. In addition, the Maori population had a younger age structure and lower levels of workforce participation.



Graph 38: Median weekly incomes for population aged 15 and over by highest qualification and ethnic group, 2008, Ministry of Education.

Relatively high Maori incomes at lower qualification levels combined with lower incomes at higher qualification levels meant that Maori received less of an income bonus from their qualifications than did Pakeha or the total population. Pakeha with bachelors' degrees or higher had median incomes 2.7 times higher than Pakeha with no qualifications, whereas Maori with bachelors' degrees had median incomes only 2.3 times higher than Maori with no qualifications.

When median hourly incomes are examined, the Maori advantage at lower qualification levels disappears. In 2008, the median hourly pay for Pakeha with no qualifications was 50 cents more than for their Maori equivalents (see graph 39). For those with secondary school qualifications the gap was 41 cents more for Pakeha, for level 4 to 6 qualifications it was $2.24, and for those with bachelors' degrees or higher it was $2.67. Median hourly income statistics show up less of an advantage for higher qualifications than do weekly income statistics, but slightly more of a qualification bonus for Maori. Maori with bachelors' degrees or higher had median incomes 1.7 times higher than Maori with no qualifications, whereas Pakeha with bachelors' degrees earned 1.6 times more than Pakeha with no qualifications.



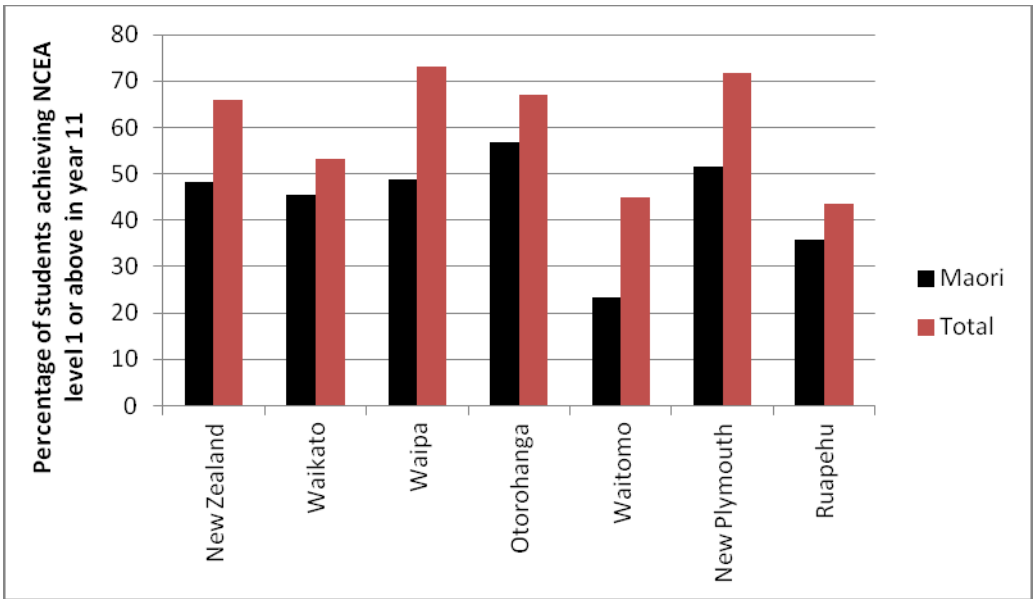
Graph 39: Median hourly incomes for population aged 15 and over by highest qualification and ethnic group, 2008, Ministry of Education.

The relatively small gaps between hourly incomes at various qualification levels, compared to the weekly income levels given above, suggests that one of the reasons why higher qualified people tended to earn more per week was simply that they worked more hours. This is supported by the inverse relationship between higher qualifications and likelihood of being out of the labour force. This does little to explain why lower-qualified Maori had higher weekly incomes than their non-Maori counterparts, however. As was shown earlier, Maori

were less likely to be in the labour force than non-Maori, and the 2006 census does not show Maori working longer hours than the general population.[108]

NCEA

Ministry of Education data for 2010 show that Maori in all the Rohe Potae-connected districts were less likely than the total population to achieve NCEA level 1 or above in Year 11 (fifth form).[109] There was significant variation between districts (see graph 40). In Ruapehu and Waitomo, Maori and members of the total population were both less likely than their national counterparts to achieve this level of NCEA attainment. It should be noted that in both of these districts the numbers involved were very small (14 Maori students in Waitomo achieving NCEA level 1, for example), and so may not be statistically significant. There is, however, a clear overall pattern of relative Maori under-achievement. This pattern can also be seen in results from Years 12 and 13, although in those years the numbers involved were even smaller.



Graph 40: Percentage of students achieving NCEA level 1 or above in year 11, by district, 2010. Ministry of Education.

[108] Total Personal Income and Hours Worked in Employment Per Week by Ethnic Group (Grouped Total Responses), for the Employed Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.
[109] Achievement at typical level or above, Year 11-Year 13 (2010) by TLA, provided to Waitangi Tribunal by Ministry of Education.

Rohe Potae secondary schools

As of September 2011, there were seven secondary schools in or very close to the Rohe Potae inquiry district: Raglan Area School, Te Awamutu College, Otorohanga College, Te Kuiti High School, Te Wharekura o Oparure (in Te Kuiti), Piopio College, and Taumarunui High School.[110] Te Wharekura o Oparure is a kura kaupapa, but until 2009 taught only years 1 to 8 (new entrant to form 2). Because of this, no New Zealand Qualifications Authority (NZQA) statistics were available for Te Wharekura and so it is excluded from most of the data given below. It received a generally positive Education Review Office (ERO) report in 2011. Te Wharekura and Raglan Area School take pupils from years 1 through 13, while all the other schools listed are secondary only (years 9 to 13). Taumarunui High School and Te Wharekura are decile 2 (out of 10), meaning that they draw their pupils from communities with the second-highest levels of socio-economic deprivation in the country, Te Kuiti High School is decile 3, Te Awamutu College is decile 6, and the other schools listed are decile 4. It should be noted that while most or all of the pupils at Otorohanga, Te Kuiti, Te Wharekura and Piopio secondary schools would be from inside the Rohe Potae inquiry district, a substantial proportion of Raglan, Te Awamutu and Taumarunui pupils would be from elsewhere, as these schools are either outside the inquiry district or just inside its boundaries.

The Ministry of Education gives data for each school in July 2011as follows:[111]

School	No. of pupils	% of Maori	Decile
Raglan Area School	360	47.5%	4
Te Awamutu College	212	47.2%	6
Otorohanga College	408	60.0%	4
Te Kuiti High School	424	62.7%	3
Te Wharekura o Oparure	85	100.0%	2
Piopio College	1,129	30.0%	4
Taumarunui High School	321	58.9%	2

Table 4: Number of pupils, percentage of Maori, and decile of Rohe Potae secondary schools, Ministry of Education.

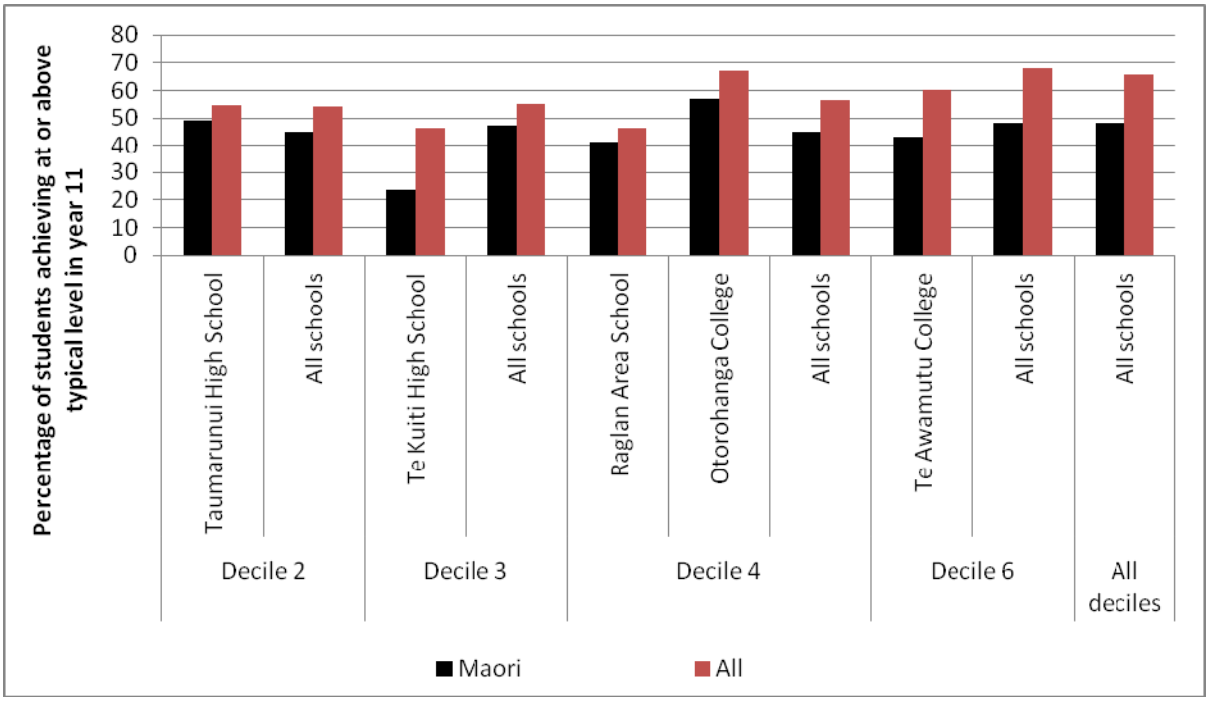
[110] All information in this section derived from Ministry of Education School Directory and its links to schools' NZQA and ERO reports, unless otherwise stated. Available at http://www.minedu.govt.nz/Parents/AllAges/SchoolSearch.aspx, accessed 5 January 2012.
[111] School Roll, Maori medium and Te reo Maori as subject for selected schools in Rohe Potae, provided to Waitangi Tribunal by Ministry of Education.

The schools' ERO reports show that all have some degree of commitment to biculturalism. Te Wharekura is the only kura kaupapa, focusing specifically on Maniapototanga. However all teach te reo Maori as a subject, Raglan Area School and Taumarunui High School both have level 1 Maori medium classes (85-100% of content in te reo), while Piopio College and Raglan both have level 4 (12-30% te reo) medium classes.[112] All of Te Wharekura's pupils are in te reo immersion classes. At other schools the percentage in either immersion or te reo language classes ranges from 28.3% at Raglan to 2.9% at Piopio.

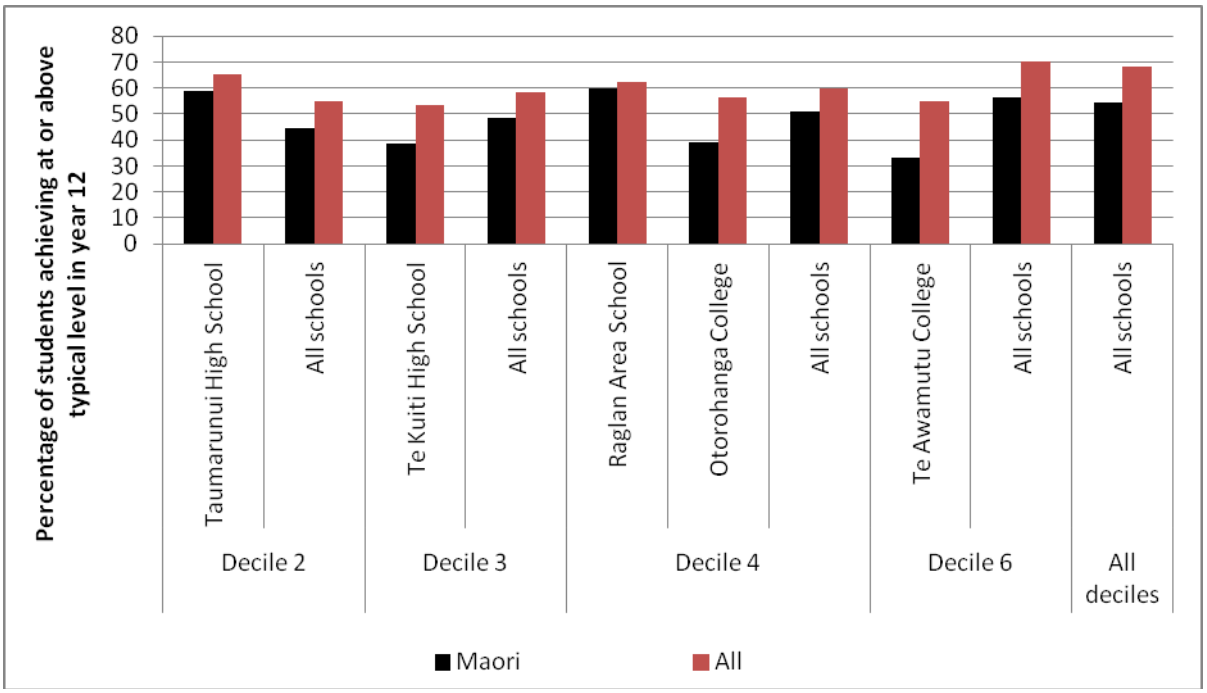
Ministry of Education statistics for 2010 show a lower level of Maori achievement in Rohe Potae secondary schools relative to Rohe Potae secondary pupils in general.[113] The available statistics measure the percentage of students who attained NCEA at or above the typical level for certain years. For year 11, this was NCEA or NQF (National Qualifications Framework) level 1 or above, for year 12, level 2, and for year 13, level 3. Relevant data for year 13 is not available for any of the Rohe Potae secondary schools except Te Awamutu, due to the small number of Maori students achieving NCEA at the typical level for that year. It was also unavailable for Piopio College and Te Wharekura for other years.

The data show that most Rohe Potae secondary schools had lower achievement rates than their national decile average, for both Maori students and students generally (see graphs 41 and 42). The exceptions were Taumarunui in years 11 and 12, Otorohanga in year 11 and Raglan in year 12. It should be noted that the actual numbers of students, particularly Maori students, at each school is quite small. This means that care should be taken in making comparisons, as small differences are unlikely to be significant.

[112] School Roll, Maori medium and Te reo Maori as subject for selected schools in Rohe Potae, provided to Waitangi Tribunal by Ministry of Education.
[113] Achievement at typical level or above, Year 11-Year 13 (2010) by school, provided to Waitangi Tribunal by Ministry of Education.



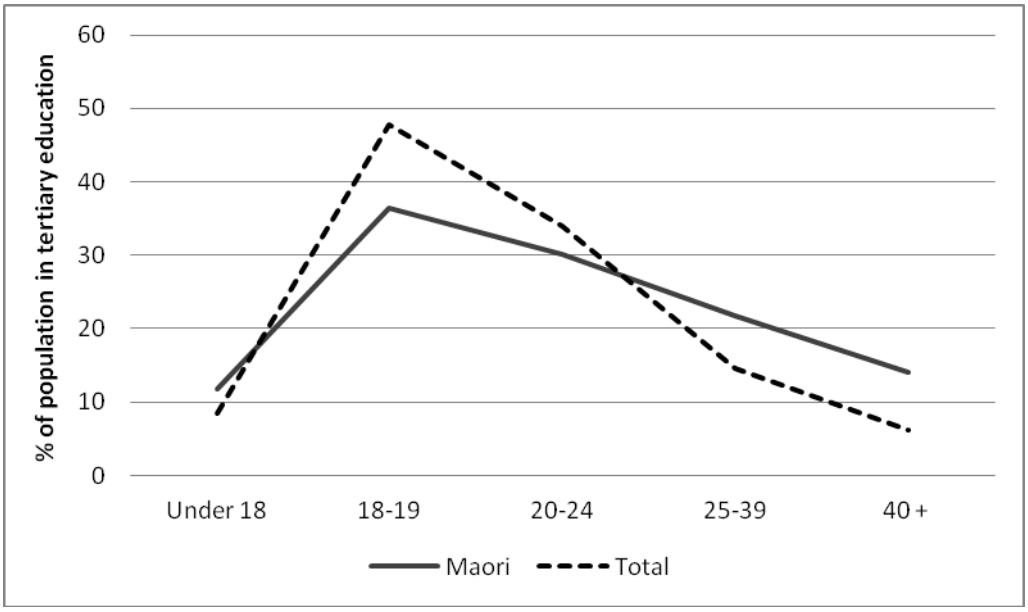
Graph 41: Percentage of students achieving at or above typical level in year 11 by school and decile, 2010. Ministry of Education.



Graph 42: Percentage of students achieving at or above typical level in year 12 by school and decile, 2010. Ministry of Education.

Tertiary participation

In 2009, Maori nationwide had the highest age-standardised tertiary education participation rate of any major ethnic group. The Maori rate of 17.1% was significantly higher than that of Asians (12.5%), Pacific peoples (12.1%) or Pakeha (11.4%).[114] The Maori rate was a dramatic increase from 7.2% in 1998. Maori had very different participation patterns from other ethnic groups, however. Other ethnic groups had high rates of participation between the ages of 18 and 25 and low rates before and after. By contrast, Maori were significantly less likely than other New Zealanders to participate in tertiary education between the ages of 18 and 25 but more likely to participate at younger and older ages (see Graph 43).



Graph 43: Percentages of Maori and total population participating in tertiary education at specific ages, 2009, Ministry of Social Development.

Te reo Maori

In *Ko Aotearoa Tenei*, a report on Maori culture and identity, the Wai 262 Tribunal found that te reo Maori 'is a taonga. It is the platform upon which matauranga Maori stands, and the means by which Maori culture and identity are expressed. Without it, that identity – indeed the very existence of Maori as a distinct people – would be compromised'.[115] From an

[114] All information in this section from Ministry of Social Development, *Social Report 2010*, p43.
[115] Waitangi Tribunal, *Ko Aotearoa Tenei: A report into claims concerning New Zealand law and policy affecting Maori culture and identity: Te taumata tuatahi* (Wellington: Legislation Direct, 2011), p154.

analytical point of view, proficiency in te reo is indicative of general engagement with Maori culture and communities, and the ability to fully participate in te ao Maori.[116]

Unlike other parts of this report, this section does not compare Maori with non-Maori. This is because te reo Maori is generally much less culturally important for non-Maori than for Maori, and the acquisition of te reo Maori fluency has different meanings for non-Maori. It is sufficient to note that the vast majority of te reo speakers (83.6% in 2006) are Maori.[117]

Assessing the level of fluency in a language can be difficult. The best method is probably for a fluent speaker to assess individuals' abilities, either via a formal test or a conversation supplemented by reading and writing exercises. However most statistics on fluency in te reo, including those from the Census and the Survey of the Health of the Maori Language, are based on self-assessment.[118] A Te Puni Kokiri literature review and field testing for the 2001 Survey of the Health of the Maori language found that 'reasonable confidence' could be placed in the accuracy of self-assessment.[119]

The 2006 census showed that 23.3% of Maori and 3.9% of all New Zealanders were able to hold a conversation about everyday things in te reo Maori.[120] For the purposes of this chapter this degree of proficiency will be described as fluency, although it is acknowledged that true fluency requires a higher standard of language ability. The percentage of Maori fluent in te reo Maori was higher in most parts of the Rohe Potae than in New Zealand as a whole. The Rohe Potae-connected district with the highest percentage of te reo speakers was Waikato, with 31.4%, while the lowest was New Plymouth, with 18.9%. This made Waikato the district with the sixth-highest percentage of Maori fluent in te reo, out of the 73 districts in New Zealand.[121] For the other Rohe Potae-connected districts the rankings were: Waitomo, 12th, Otorohanga, 13th, Ruapehu, 14th, Waipa, 34th, and New Plymouth, 43rd. In the Rohe Potae CAUs as a whole, 25.7% of Maori were fluent in te reo (see graph 44). In the towns the percentage was 27.3%, in rural areas, 27.1%, and in the extension area, 21.6%. The relatively

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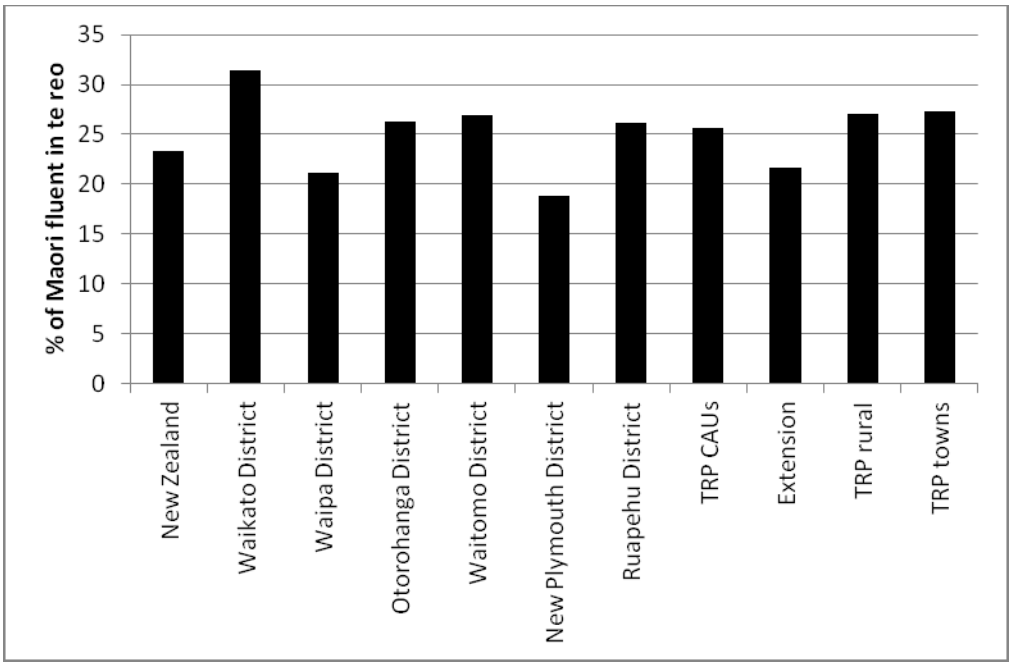
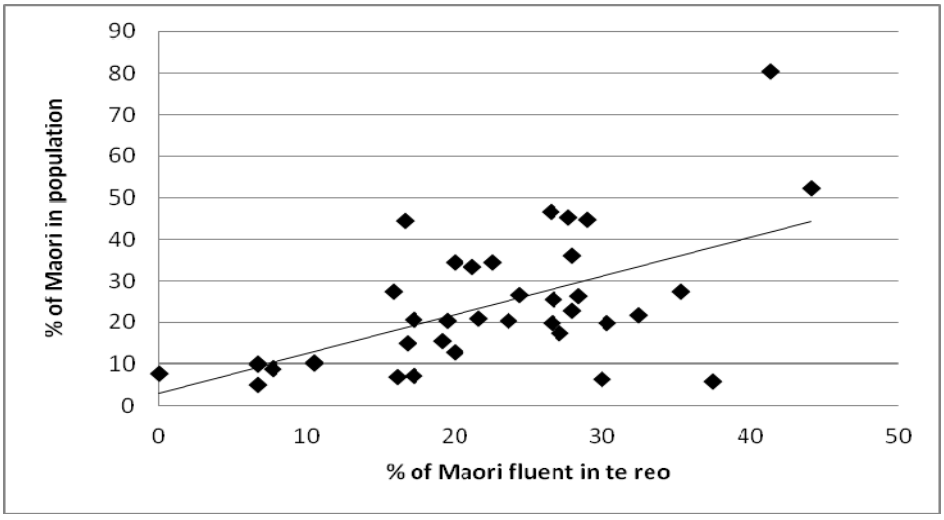
[116] Ministry of Social Development, *Social Report 2010*, p88.
[117] Te Puni Kokiri, 'Te Oranga o te Reo Maori 2006: The Health of the Maori Language 2006', July 2008, p18.
[118] Research New Zealand, '2006 Survey on the Health of the Maori Language: Final Report' (July 2007), pp 22, 27.
[119] Research New Zealand, p27.
[120] Area of Usual Residence and Age by Maori Ethnic Group Indicator and Language Indicator for the Census Usually Resident Population Count, 2006 census. Data provided to Waitangi Tribunal by Statistics New Zealand.
[121] The districts with the highest percentages were Opotiki (38.3%), Whakatane (37.7%), Far North (33.0%), Gisborne (31.8%), and Kawerau (31.7%).

high percentage of Maori in the Rohe Potae CAUs meant that the percentage of the total population who could speak Maori was, at 7.0%, nearly double that of the total New Zealand population.



Graph 44: Percentages of Maori in particular areas fluent in te reo Maori, 2006 census.

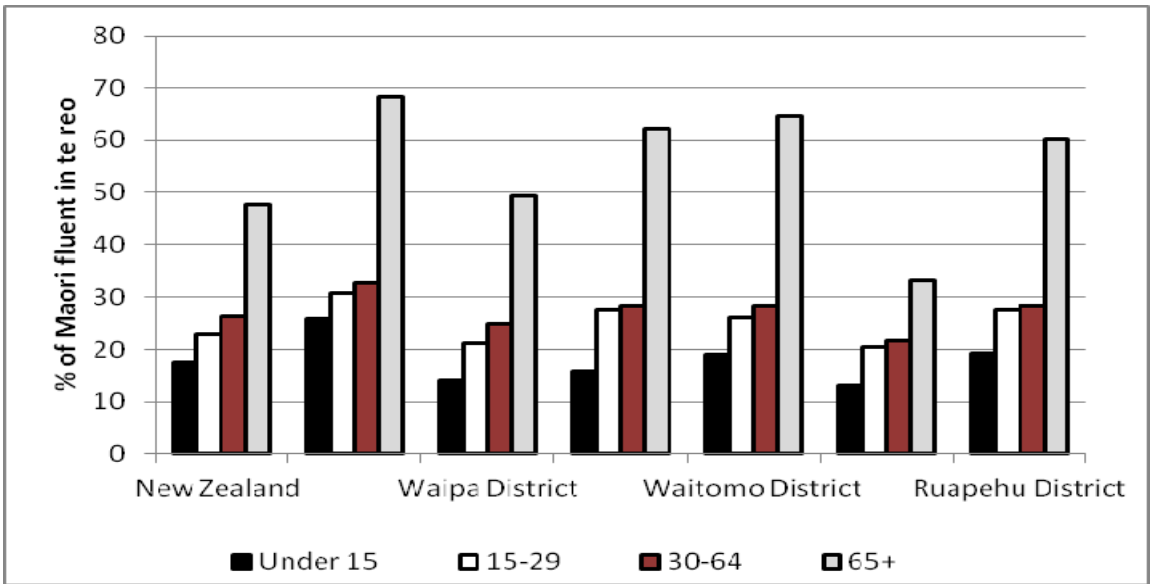
The percentage of Maori in each Rohe Potae CAU who could speak te reo ranged from 44.1% in Kawhia Community to zero in Allen Road, with an average percentage of 22.8%. Overall, there was a moderate correlation of +0.55 between a CAU having a high proportion of Maori and having a high proportion of Maori fluent in te reo (see graph 45).



Graph 45: Correlation between percentage of Maori in population of Rohe Potae CAUs and percentage of Maori fluent in te reo, 2006 census.

Amongst the Maori population in the Rohe Potae and New Zealand generally, there were higher levels of fluency in older age groups, particularly over the age of 64 (see graph 46). In New Zealand as a whole, 47.7% of Maori aged 65 and over were fluent in te reo, compared to 17.6% of under 15s, 22.9% of 15 to 29 year olds, and 26.4% of 30 to 64 year olds. The proportion of fluent older Maori was even higher in every Rohe Potae-connected district except New Plymouth, with 68.4% of Waikato District Maori aged 65 and over being fluent in te reo. Of the Rohe Potae-connected districts, Waikato had the highest percentages of fluent Maori in every age group.

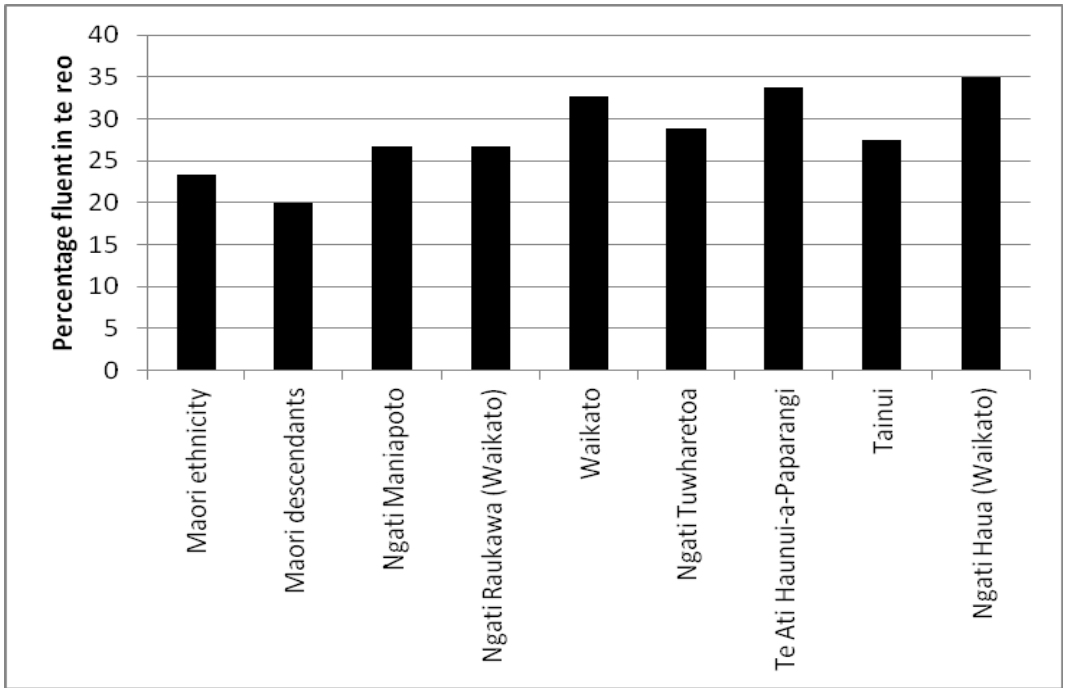
In every district, and in New Zealand generally, there was a large jump in fluency between the 30 to 64 and 65 and over age group, with the percentage in the older group being at least double that of the 30 to 64 group in all the Rohe Potae districts except New Plymouth and Waipa. The most likely explanation for this is that many Maori aged 65 and over were raised in mostly Maori communities before mass Maori urbanisation took place. This has worrying implications for the future health of the language.



Graph 46: Percentages of Maori in each age group fluent in te reo Maori, 2006 census.

Iwi with connections to the Rohe Potae had significantly higher rates of te reo Maori fluency than Maori generally (see graph 47). According to the 2006 census, the proportions able to speak Maori were 35.0% of Ngati Haua (Waikato), 33.7% of Te Ati Haunui-a-Paparangi, 32.7% of Waikato, 28.8% of Ngati Tuwharetoa, 27.5% of Tainui, and 26.7% of Ngati Maniapoto and Ngati Raukawa (Waikato), compared to 23.3% of those who identified as

Maori and 19.9% of Maori descendants. These figures were generally slightly higher for the Waikato Region.



Graph 47: Percentage of selected iwi fluent in te reo Maori, 2006 census.

Chapter four summary

Maori have tended to be over-represented in negative statistics relating to education. Maori participation in Early Childhood Education (ECE) has been lower than that of Pakeha and the total population, in New Zealand generally and in the Rohe Potae-connected districts. At secondary school, Maori pupils in the Rohe Potae and New Zealand generally were less likely to acquire formal qualifications. The Rohe Potae generally had a higher percentage of residents with no qualifications, but Maori in all geographical areas examined in this report were less likely to be qualified than their non-Maori counterparts, and less likely to have higher level qualifications. Secondary schools in and near the Rohe Potae had mixed results in terms of their students' achievements, with some doing better than the national average for their decile and some doing worse. Despite all this, Maori were more likely than non-Maori to be in tertiary education.

Rohe Potae Maori were more likely to be fluent in te reo Maori than were Maori in New Zealand generally. Of the districts overlapping the Rohe Potae, fluency rates were highest in the Waikato District and lowest in the New Plymouth District. Fluency was also much higher

amongst Maori aged 65 and over than in younger age groups. There was a moderate correlation between an area having a high percentage of Maori and having a high percentage of Maori fluent in te reo.

Chapter Five: Health

The report on Maori health issues between 1840 and 1990 commissioned for this inquiry has shown that, since the nineteenth century, Maori in the Rohe Potae and New Zealand generally have tended to suffer worse health than their Pakeha counterparts.[122] This chapter will show that there was a continuing disparity between Maori and non-Maori in the early twenty-first century.

Poor health and high mortality rates are generally associated with low socio-economic status. As has been shown in previous chapters, Maori have been disproportionately likely to have lower incomes, not be in paid employment, and to be without educational qualifications. However, a study published in 1984 showed that social class differences accounted for only about a fifth of the excess Maori mortality rate.[123] Twenty-first century data continues to show that Maori have higher mortality rates than non-Maori of the same socio-economic status. Maori in the least deprived areas also had higher mortality rates than non-Maori in the most deprived areas, and there was a stronger association between area deprivation and high mortality for Maori than for non-Maori.[124] A breast cancer study found that Maori women had poorer outcomes even when socio-economic deprivation was taken into account.[125] While poverty and other indicators of low socio-economic status played a role in the health disparity between Maori and non-Maori, in other words, they do not fully explain it.

This chapter will first examine the general state of Maori health, with a focus on the Rohe Potae where possible. Mortality rates at all ages and in infancy will be examined, followed by rates of disability and receipt of health-related income support such as the sickness benefit. Census statistics on care of ill or disabled people will also be analysed. The chapter then moves on to data on specific health conditions, namely cancer, ischaemic heart disease, cerebrovascular disease, chronic obstructive pulmonary disease, rheumatic fever, diabetes, asthma, oral health, and injury. These conditions have been chosen because they are either

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[122] Helen Robinson, 'Te Taha Tinana: Maori Health and the Crown in the Rohe Potae inquiry district, 1840 to 1990', a report commissioned by the Waitangi Tribunal for the Te Rohe Potae district inquiry, March 2011, Wai 898, A31.
[123] Pearce et al., p35.
[124] B. Robson and R. Harris, eds, *Hauora: Maori Standards of Health IV: A study of the years 2000-2005* (Wellington: Te Ropu Rangahau Hauora a Eru Pomare, 2007), p38.
[125] B. Robson, G. Purdie and D. Cormack, 'Unequal Impact II: Maori and Non-Maori Cancer Statistics by Deprivation and Rural-Urban Status, 2002-2006', Ministry of Health, 2010, p5.

common causes of death or ill-health amongst the general or Maori population, or because they disproportionately affect Maori. A section on mental health follows, followed by brief sections on various determinants of health, namely immunisation, smoking, air quality, breast-feeding, obesity, and diet and exercise. These factors have been chosen because they are significant determinants of health for which there is usable data available. Mention of these factors should not be interpreted as meaning that they are the sole or primary determinants of Rohe Potae Maori health, nor should the exclusion of data on other factors be taken to mean that those factor are not significant. Another major determinant of health is housing, which will be addressed in a dedicated chapter following this one.

Most of the data sets presented in this chapter have been age-standardised. This is necessary because of the different age structures of the Maori and non-Maori populations. As discussed in chapter one, the non-Maori population has a much greater proportion of elderly people than the Maori population. Elderly people are much more prone to degenerative diseases such as cancer than are younger people, and are more likely to die in any given year. This means that non-Maori are likely to have higher rates of non age-standardised mortality, both generally and from degenerative diseases, than Maori, even if non-Maori are in fact healthier at specific ages. Age-standardisation addresses this problem by adjusting rates to fit a population (the WHO World Standard Population) with a specific age structure, thereby allowing populations with different age structures to be compared to each other.[126]

Data is sometimes unavailable for areas smaller than District Health Board (DHB) areas, and in other cases the numbers involved in statistics for smaller areas are too low for meaningful statistical analysis. As a result, some of the information in this chapter is presented for the Waikato DHB area, which covers most of the Rohe Potae inquiry district (see map 3). Some of this has been sourced from the Waikato DHB, and excludes New Plymouth District and part of Ruapehu District. All of the part of Ruapehu District which is in the Rohe Potae inquiry district is also in the Waikato DHB area, so the partial Ruapehu data does not exclude any of the Rohe Potae. The absence of New Plymouth data does exclude a small part of the inquiry district (see map 4). However the majority of New Plymouth District is outside the Rohe Potae.

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[126] Ministry of Health, 'Mortality and Demographic Data 2008', August 2011, p70, available at http://www.health.govt.nz/publication/mortality-and-demographic-data-2008, accessed 10 January 2011.

Much of the DHB-level data used in this chapter is from the Waikato DHB organisation, particularly its *Future Focus* series of reports. Many of the datasets in these reports do not include national-level comparisons. Because in most cases the Waikato DHB information is based on several years' data, it was not possible to obtain comparable national data, either from the Waikato DHB or from the Ministry of Health, within the time available for this report.

A small amount of Waikato DHB data was only available in relation to the Maori, Pakeha, and total populations. In these cases it was not possible to construct a non-Maori dataset, and the data is therefore presented in its received form. Assuming that the Waikato DHB uses the same ethnicity definition protocols as the Ministry of Health, 'Pakeha', synonymous with 'New Zealand European' is anyone who has identified themselves as Pakeha and not also as a member of any other ethnic group other than 'New Zealander'. As explained in the introduction, specific data on Pacific peoples has not been included in this report, partly because of the very small number of Pacific peoples in the Rohe Potae, and partly because inclusion of this data will not aid fulfilment of this report's commission.

Mortality rates

In 2008, the national age-standardised Maori death rate was 717.4 per 100,000, nearly double the non-Maori rate of 397.3.[127] The difference was more pronounced for females (649.4 for Maori and 330.7 for non-Maori) than for males (792.6 for Maori and 474.9 for non-Maori). Death rates for all groups have been in decline since at least 1996, but there has been no significant reduction in the gaps between each group.[128]

At the national level, in 2008 Maori also had higher mortality rates than non-Maori in all age groups.[129] The difference was most pronounced at ages 25 to 74, at which ages the Maori mortality rates for both sexes were at least double that of non-Maori.[130] There was least difference for those aged 75 and above, with the Maori mortality rate being only 10% higher than that of non-Maori. No mortality rates could be found for the Waikato DHB area or other areas relating to the Rohe Potae inquiry district.

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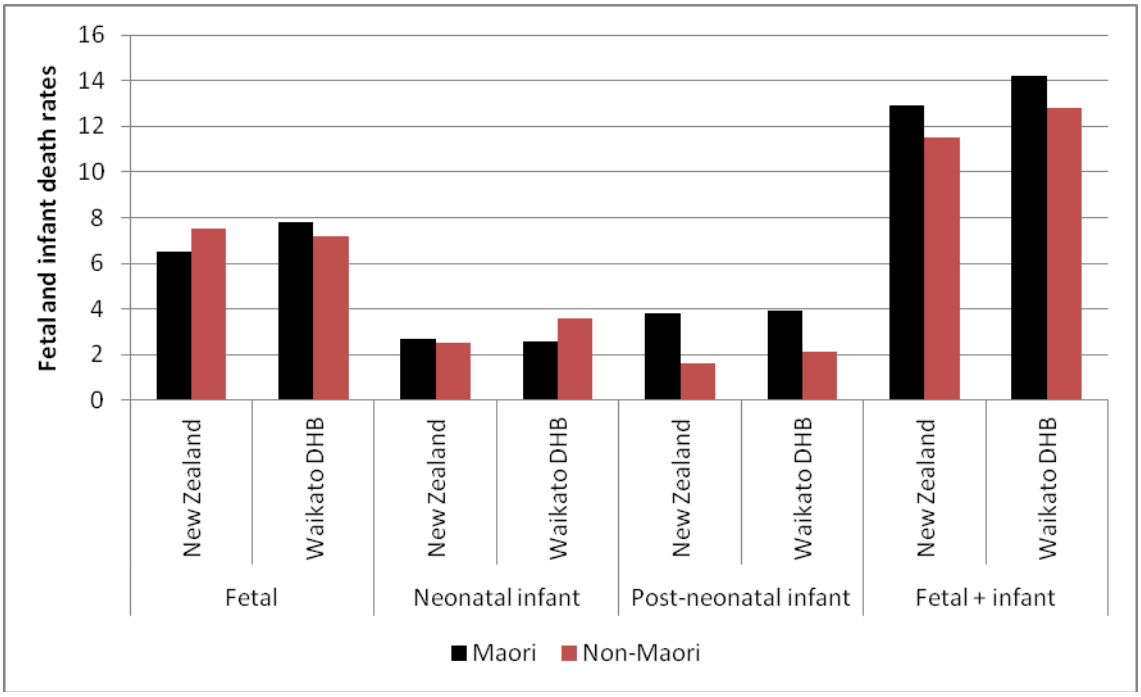
[127] Ministry of Health, 'Mortality and Demographic Data 2008', p5.
[128] Ministry of Health, 'Mortality and Demographic Data 2008', p9.
[129] Ministry of Health, 'Mortality and Demographic Data 2008', p7.
[130] For age groups 25 to 44, 45 to 64, and 65 to 74.

Fetal and infant mortality

Ministry of Health infant mortality statistics from 2007 show a higher rate of Maori infant mortality compared to the non-Maori population, both in the Waikato DHB area and nationwide (see graph 48).[131] This disparity was mostly due to differences in the post-neonatal period, that is, from the end of the first 28 days of life to the end of the first year. Maori post-neonatal death rates were around double those of non-Maori, both in Waikato and nationwide. At earlier stages of fetal and infant development, Maori death rates were sometimes lower than those of non-Maori, but this was not enough to cancel out the post-neonatal mortality gap. Infant and fetal mortality rates tended to be somewhat higher in the Waikato DHB area than nationwide, particularly for non-Maori.



Graph 48: Fetal death rates per 1,000 births, neonatal and post-neonatal infant mortality rates per 1,000 live births, and fetal plus infant mortality rates per 1,000 births. New Zealand and Waikato DHB area, 2007, Ministry of Health.[132]

[131] Fetal and infant deaths 2007 (MS Excel file), available at http://www.health.govt.nz/publication/fetal-and-infant-deaths-2007, accessed 10 January 2012.

[132] Fetal rates are per 1,000 births, other rates per 1,000 live births. Definitions used by the Ministry of Health are as follows. Fetal deaths: stillbirths of 20 weeks or more gestation, or 400g or more birthweight; neonatal death: death of liveborn infant before 28th day of life; post-neonatal death: death of a liveborn infant between the 28th day and first year of life; infant death: death of a liveborn infant before the first year of life completed. Ministry of Health, 'Infant and perinatal mortality 2005, 2006 and 2007 (provisional)', available at http://www.health.govt.nz/publication/infant-and-perinatal-mortality-2005-2006-and-2007, accessed 10 January 2012.

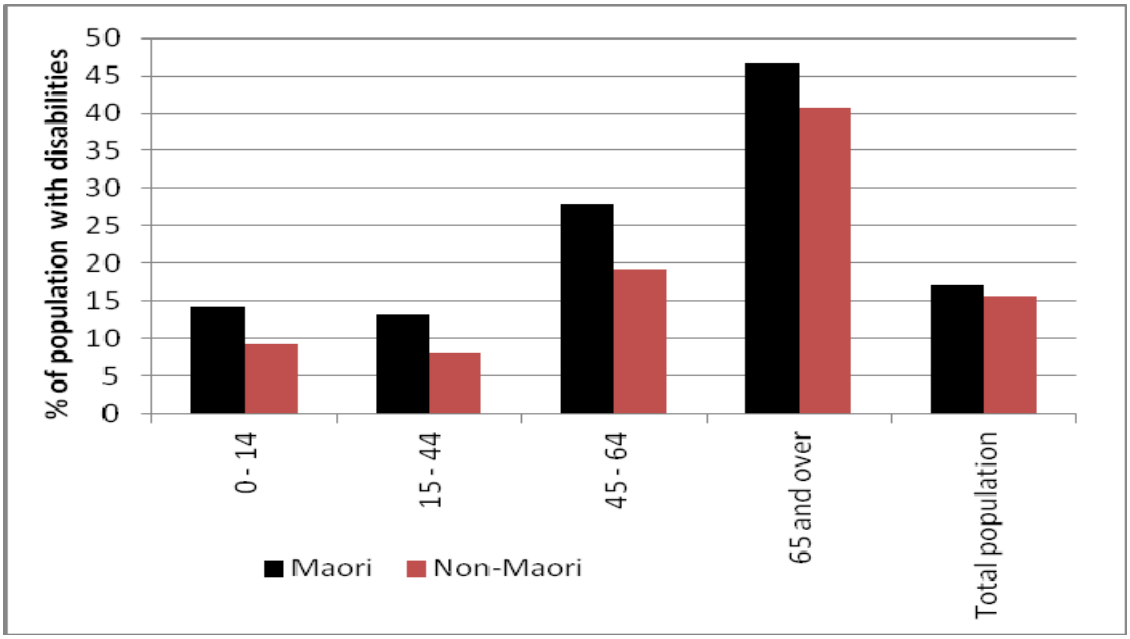
Ministry of Health data for New Zealand as a whole from the 1996 to 2007 period show a decline in Maori mortality rates at the fetal stage and at all stages of infancy. This was a decline both in absolute terms and in relation to the total population.[133]

Disabilities

The 2006 Disability Survey, conducted by Statistics New Zealand, showed that Maori were more likely than non-Maori to be disabled (see graph 49). Amongst people aged under 65, Maori were around a third more likely to have a disability, whereas at ages 65 and over Maori were 12.5% more likely.[134] The more elderly composition of the non-Maori population meant that there were large numbers of disabled elderly non-Maori relative to other groups, making the all-ages difference between Maori and non-Maori only 8.5%.

The all-ages figure hides a pattern of non-Maori disability being primarily a feature of old age, whereas Maori were more likely to be disabled at younger ages. Whereas only 31.9% of disabled non-Maori were aged under 45, 63.9% of disabled Maori were in this age range. A third of disabled non-Maori were aged 65 and over compared to just 10.9% of disabled Maori. In part this reflects the differing age structures of the Maori and non-Maori populations, since the non-Maori population was significantly older overall. However graph 49 shows that it also reflects a higher rate of disability amongst Maori, particularly at younger ages.

[133] Fetal and infant deaths 2007.
[134] Disability Status By Place of Residence, Age Group, Sex and Ethnic Group, 2006, available at http://www.stats.govt.nz/tools_and_services/tools/TableBuilder/disability-survey-tables.aspx, accessed 5 January 2012.



Graph 49: Percentage of populations with disabilities, national population, 2006 disability survey.

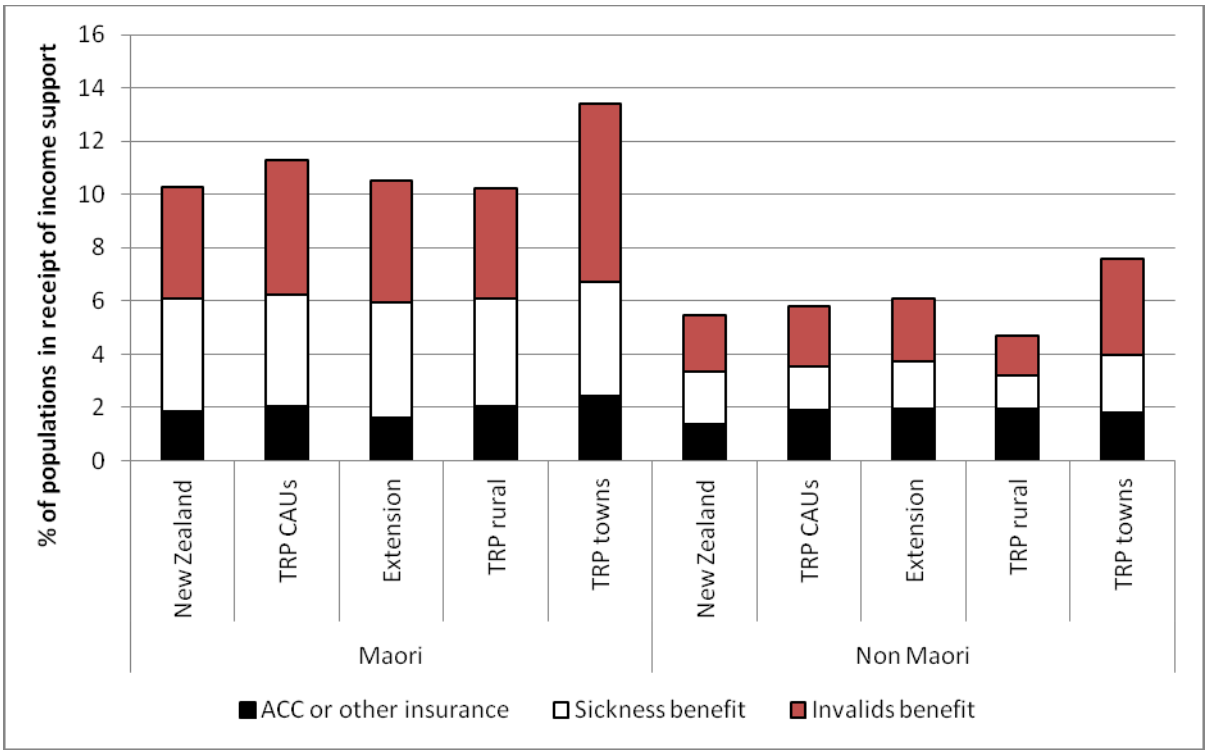
Health-related income support

The 2006 census recorded the number of people in receipt of health-related income support, namely ACC or private insurance payments, the sickness benefit, and the invalid's benefit. These figures indicate the number of people temporarily or permanently unable to work because of disability or a medical condition, and therefore provide a rough guide to levels of disability, serious illness, and injury in a population. They have the advantage of allowing for age, since infirm elderly people would usually be in receipt of a pension rather than a health-related benefit.

The census showed that Maori in the Rohe Potae and New Zealand generally were around twice as likely as non-Maori to be in receipt of the sickness or invalid's benefit, and somewhat more likely to be in receipt of ACC or other insurance payments (see graph 50). [135] There were particularly high rates of invalid's benefit receipt in the Rohe Potae towns. In the case of non-Maori there was a correspondingly low rate of invalid's benefit receipt in the rural Rohe Potae CAUs, suggesting that non-Maori invalids tended to move into the towns. For Maori, the rate of invalid's benefit receipt in rural areas was virtually the same as for New Zealand as a whole. Another difference between the Maori and non-Maori populations

[135] Sources of Personal Income (Total Responses) by Ethnic Group (Grouped Total Responses), for the Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.

was that non-Maori in all parts of the Rohe Potae were more likely to be in receipt of ACC or other insurance payments than non-Maori in New Zealand generally, whereas there was no such pattern for Maori. It is likely that the insurance disparity relates to the high percentage of the Rohe Potae workforce, particularly non-Maori, working in agriculture, which has a higher than average rate of work-related injury.[136]



Graph 50: Percentages of populations aged 15 years and over in receipt of health-related income support, by ethnicity and area, 2006 census.

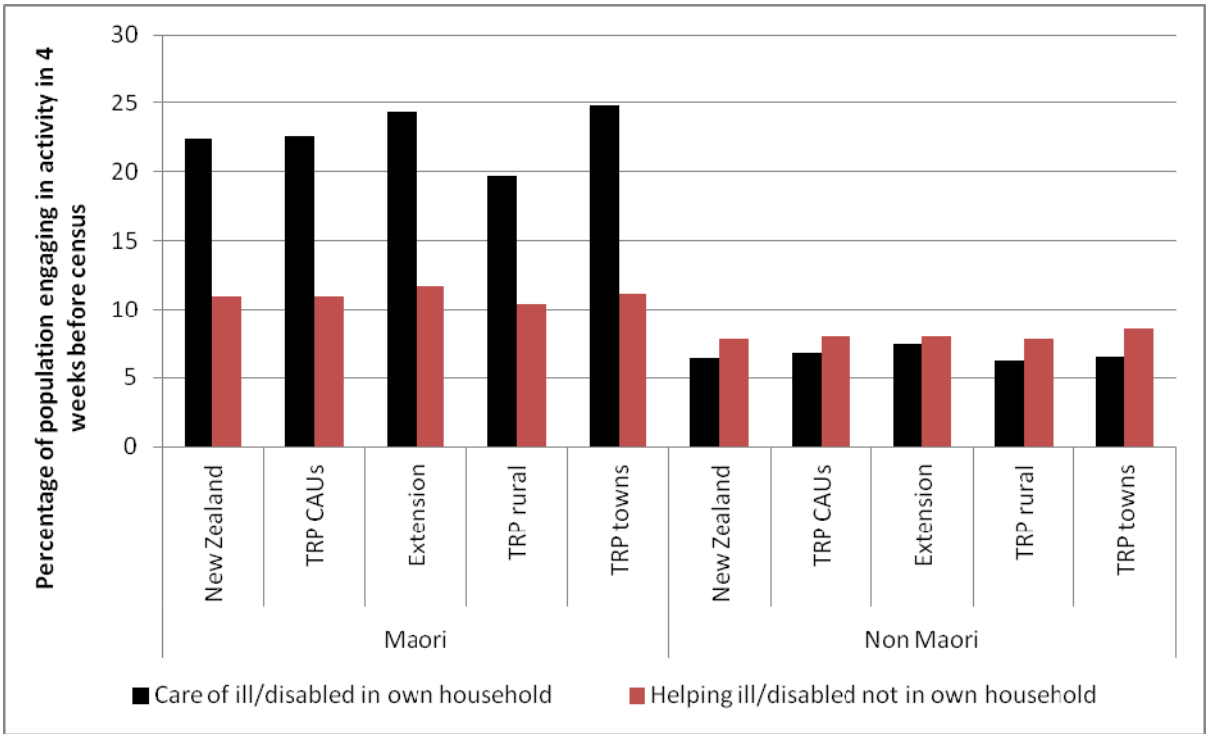
Care of the sick and disabled

Another set of census statistics which give a rough idea of the level of illness and disability in a community are those which record the number of people who, in the four weeks prior to the census, spent time (not including paid work) caring for the sick or disabled. These statistics relate to the ethnicity of the person doing the caring rather than the person being cared for, so are only an approximate guide to levels of illness and disability. However it seems reasonable

[136] All Claims for Work-related Injuries by Territorial Authority – 2006, available at http://www.stats.govt.nz/tools_and_services/tools/TableBuilder/injury-tables.aspx, accessed 5 January 2012, and Occupation (NZSCO99 V1.0 Major Group) by Ethnic Group (Grouped Total Responses), for the Employed Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.

to assume that most people were caring for relatives, and that most of these relatives would be of the same ethnic group as the carer.

The 2006 census showed that Maori in the Rohe Potae and New Zealand generally were more than three times as likely as non-Maori to have looked after a sick or disabled member of their own household in the four weeks before the census, and nearly 50% more likely to have looked after a sick or disabled person who was not a household member (see Graph 51).[137] Nationwide, 22.4% of Maori had looked after a sick or disabled household member, and 10.9% had looked after a sick or disabled member of another household, compared to 6.4% and 7.8% of non-Maori. The percentages for the Rohe Potae CAUs were similar to the national figures. Maori in the rural Rohe Potae CAUs were less likely to have looked after a sick or disabled person than the national average, whereas Maori in the extension area and Rohe Potae towns were more likely to have done so. For non-Maori the differences between areas were not very pronounced.



Graph 51: Percentages of populations who cared for ill or disabled people in four weeks prior to 2006 Census.

[137] Ethnic Group (Grouped Total Responses) and Unpaid Activities (Total Responses) by Sex, for the Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.

Some of the disparity can be explained by demographic factors. The Maori population has a higher percentage of children, who require more attention than adults when sick. However this may be partly cancelled out by the higher percentage of elderly people in the non-Maori population, although elderly people who need help with everyday activities may not necessarily be regarded as ill or disabled. It is likely, however, that care of the elderly accounts for non-Maori being more likely to have looked after someone outside their own household than someone inside it, and possibly for the relatively small gap between Maori and non-Maori in these statistics. Some of the disparity between Maori and non-Maori with regard to care for those in their own households may also be explained by larger household sizes. However it seems very likely that a major cause of the disparity is simply that, as other statistics in this chapter indicate, Maori were more likely to be ill or disabled than non-Maori, and therefore Maori were more likely to have spent time caring for ill or disabled friends and relatives.

Cancer

Cancer was the leading cause of death for Maori and non-Maori of both sexes in 2008.[138] However Maori were more likely than non-Maori to die of cancer, and to die at younger ages (see Table 5). Amongst non-Maori, 75.1% of cancer deaths were amongst people aged 65 and over, compared to 47.7% of Maori cancer deaths.[139] Cancer deaths at ages 44 and under were relatively rare for both groups, accounting for 8.0% of Maori cancer deaths and 3.5% of non-Maori cancer deaths. However Maori cancer rates were significantly higher than those of non-Maori from ages 25-44 onward, especially for women. Women of both groups had significantly higher rates than men at ages 25 to 44.

[138] Ministry of Health, 'Mortality and Demographic Data 2008', pp 14, 21.
[139] Ministry of Health, 'Mortality and Demographic Data 2008', p22.

	Percentage						Age-specific rates					
	Maori			Non-Maori			Maori			Non-Maori		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
<25	1.4	1.8	1.1	0.6	0.5	0.8	3.5	4.0	3.0	4.1	3.3	4.9
25-44	6.6	3.4	9.3	2.9	2.2	3.6	33.8	16.4	49.3	21.9	19.2	24.5
45-64	44.2	42.9	45.4	21.5	19.6	23.7	358.8	328.0	386.8	174.9	175.9	173.9
65+	47.7	51.9	44.3	75.1	77.7	71.9	1450.8	1552.8	1366.3	1134.2	1410.1	907.3

Table 5: Age distribution of deaths from cancer, percentages and age-specific rates per 100,000, New Zealand, 2008. Ministry of Health.

The sub-sections below will show that Maori had higher rates of most common types of cancer, sometimes by very wide margins. One exception was melanoma: in 2008 there were 317 melanoma deaths, of which only four were recorded as Maori.[140] This low incidence of Maori melanoma mortality is likely to be because melanoma tends to affect light-skinned people, particularly those with blond or red hair and green or blue eyes.[141]

Lung cancer

Lung cancer was the leading type of cancer death in 2008.[142] Nationwide, the Maori lung cancer death rate was more than double that of non-Maori for all age groups in which deaths occurred.[143] For women, the Maori rate was more than four times higher at ages 45 and over. As with cancer generally, Maori tended to die at younger ages, with nearly half of all Maori lung cancer deaths in 2008 occurring before the age of 65, compared to about a quarter of non-Maori lung cancer deaths. Maori women had the highest rates of lung cancer death, at 154.7 per 100,000 at ages 45 to 64 and 572.5 per 100,000 at ages 65 and over. By contrast, non-Maori women had rates of 35.2 per 100,000 at ages 45 to 64 and 139.7 at ages 65 and over. In the Waikato DHB area in the years 2001 to 2005, the Maori lung cancer notification rate of 97 per 100,000 was more than three times the non-Maori rate of 29 per 100,000.[144] The difference between Maori and non-Maori death rates in the DHB area in this period was

[140] Ministry of Health, 'Mortality and Demographic Data 2008', p34.
[141] US National Library of Medicine, 'Melanoma', *PubMed Health*, 26 July 2011, available at http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001853/, accessed 10 April 2012.
[142] Ministry of Health, 'Mortality and Demographic Data 2008', p25.
[143] Ministry of Health, 'Mortality and Demographic Data 2008', p26.
[144] Health Waikato, 'Future Focus: Section 12: Chronic Conditions', 2010, p14, available at http://www.waikatodhb.govt.nz/page/pageid/2145848209, accessed 12 March 2012.

in proportion to the difference in notification rates.[145] No comparable national notification figures were available.

Breast cancer

Breast cancer was the second leading cause of cancer death amongst women in 2008.[146] Waikato DHB data from the years 2001 to 2005 show that Maori and non-Maori women in the DHB area had a similar age-adjusted notification rate for breast cancer, of around 100 per 100,000.[147] However, the Maori breast cancer death rate of 40 per 100,000 was double that of non-Maori.[148] National data from 2008 also show the Maori breast cancer rate to have been significantly higher than that of non-Maori.[149] At ages 45 to 64, the Maori rate was 72.0 per 100,000, compared to the non-Maori rate of 43.5, and at ages 65 and over the Maori and non-Maori rates were 175.7 and 105.0. As with other forms of cancer, Maori tended to die at younger ages, with nearly two-thirds of Maori breast cancer deaths occurring before the age of 65, compared to less than half of non-Maori breast cancer deaths.

Prostate cancer

Prostate cancer is a major cause of cancer death amongst men. Age-adjusted Waikato DHB data from 2001 to 2005 shows that Maori and non-Maori men were about equally as likely to be diagnosed with prostate cancer, but that Maori were about 65% more likely to die from it.[150] National figures from 2008 show that at ages 45 to 64 Maori were 60.1% more likely than non-Maori to die from prostate cancer, but that at ages 65 and above, non-Maori men were 22.1% more likely to do so.[151] The difference was caused partly by the fact that Maori who died of prostate cancer tended to do so at younger ages, although less commonly than for lung and breast cancers. Of Maori prostate cancer deaths, 77.1% occurred at ages 65 and over, compared to 92.8% of non-Maori prostate cancer deaths. No deaths were recorded below the age of 45.

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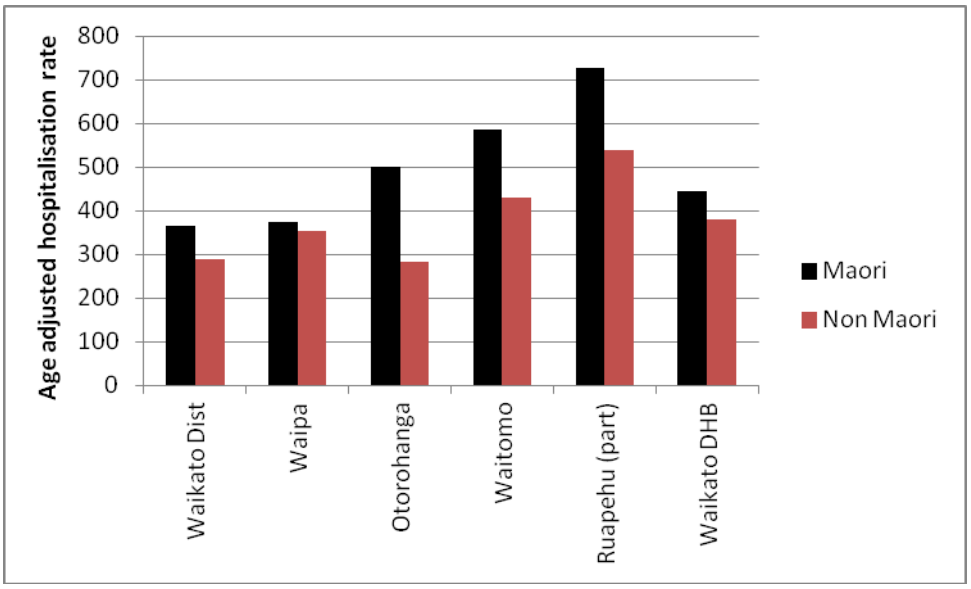
[145] Health Waikato, 'Chronic Conditions', p13.
[146] Ministry of Health, 'Mortality and Demographic Data 2008', p28.
[147] Health Waikato, 'Chronic Conditions', p14.
[148] Health Waikato, 'Chronic Conditions', p12.
[149] Ministry of Health, 'Mortality and Demographic Data 2008', p29.
[150] Health Waikato, 'Chronic Conditions', p13.
[151] Ministry of Health, 'Mortality and Demographic Data 2008', p32.

Ischaemic heart disease

Ischaemic heart disease (IHD, also known as coronary disease or coronary heart disease) is the reduced functioning of the heart muscle, caused by artery blockage due to coronary artery disease. It can lead to heart failure and is the most common heart disease in developed countries, including New Zealand. Coronary artery disease is caused by the hardening and narrowing of the arteries supplying the heart, due to build up of cholesterol and other material. This can cause heart damage and heart attacks. Risk factors include age, smoking, lack of physical exercise, diabetes, obesity, stress, and heavy drinking.[152] In 2008, it was the second leading cause of death for the general population, after cancer.[153]

Maori had a higher age-adjusted rate of hospitalisation for IHD than non-Maori in all the Rohe-Potae connected districts in the Waikato DHB area (see graph 52). The highest Maori rate was 727 per 100,000 population, in the Waikato DHB part of Ruapehu, and the lowest was 365, in Waikato District.[154] The biggest disparity was in Otorohanga, where the Maori rate of 502 was 1.8 times higher than the non-Maori rate of 282. With the exception of Otorohanga, Maori and non-Maori had similar geographical variations.



Graph 52: Age-adjusted rates of hospitalisation (per 100,000 population) for ischaemic heart disease, July 2001-June 2006. Health Waikato.

[152] Robinson, pp 188-9.
[153] Ministry of Health, 'Mortality and Demographic Data 2008', p39.
[154] Health Waikato, 'Chronic Conditions', p16.

Although the Maori IHD hospitalisation rate was consistently higher than that of non-Maori, age-adjusted rates of both coronary artery bypass and percutaneous transluminal coronary angioplasty surgery[155] indicate that Maori with IHD were less likely than non-Maori to undergo these operations.[156]

National figures for 2008 show that Maori were more likely that non-Maori to die from IHD, and to do so at younger ages.[157] Men of both ethnic groups were much more likely to die from IHD than women, although Maori women were slightly more likely to do so than non-Maori men.[158] At ages 45 to 64, the Maori male IHD death rate was 272.3 per 100,000, compared to 80.6 for non-Maori men.[159] For women, the rate was 97.1 for Maori and 17.3 for non-Maori. At ages 65 and over, the rates were: Maori men, 1024.8; non-Maori men, 973.8; Maori women, 832.8; non-Maori women, 825.9.

Cerebrovascular disease

Cerebrovascular disease is a group of diseases affecting the arteries supplying the brain; the most common of these diseases is stroke, which is the sudden death of brain cells after blood to the brain is impaired by the blockage or rupture of an artery in the brain.[160] Maori had higher age-adjusted rates of hospitalisation for strokes than non-Maori in the five years from July 2001 in all Rohe Potae-connected districts in the Waikato DHB area, although the difference was negligible in Waipa (see graph 53).[161] The highest Maori rate was in the Waikato DHB part of Ruapehu, at 527 per 100,000, and lowest in Waipa, at 146 per 100,000. For non-Maori, the rate was highest in Waitomo, at 210 per 100,000, and lowest in Waikato District, at 105 per 100,000. The biggest disparity was in the Waikato DHB part of Ruapehu, where the Maori rate was more than two and half times higher than non-Maori rate of 199 per 100,000.

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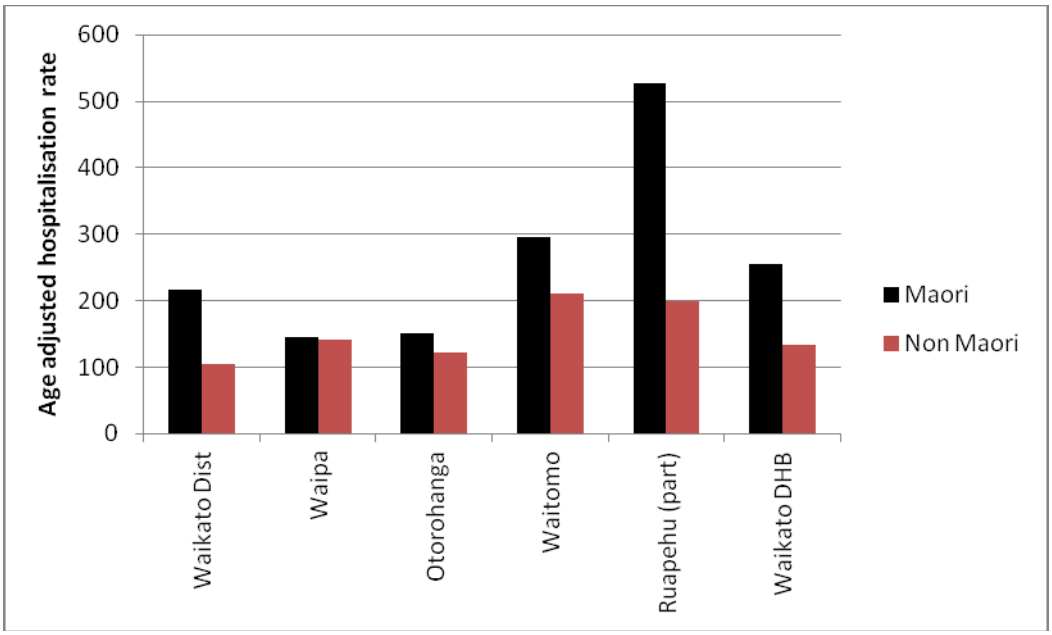
[155] An operation in which the artery is opened using a tiny balloon and kept open by one or a range of methods including the implantation of a stent (tube).
[156] Health Waikato, 'Chronic Conditions', p17.
[157] Ministry of Health, 'Mortality and Demographic Data 2008', pp 40-1.
[158] Ministry of Health, 'Mortality and Demographic Data 2008', p41.
[159] Ministry of Health, 'Mortality and Demographic Data 2008', p40.
[160] Ministry of Health, 'Mortality and Demographic Data 2008', p43.
[161] Health Waikato, 'Chronic Conditions', p18.

For New Zealand as a whole, the average (mean) age for stroke was 60.7 years for Maori compared to 75.6 for Pakeha. Comparable figures were not available for the Waikato DHB or smaller areas.[162]



Graph 53: Age-adjusted hospitalisation rates (per 100,000 population) for strokes, July 2001 to June 2006. Health Waikato.

In the Rohe Potae-connected districts in the Waikato DHB area, the numbers of Maori stroke deaths are too small for meaningful statistical analysis. There seems to have been less of a gap between Maori and non-Maori with regard to death than hospitalisation, but Maori rates were generally still much higher than non-Maori rates.[163]

Nationwide, in 2008 Maori had much higher rates than non-Maori of death from cerebrovascular disease at ages 45 to 64, but lower rates at ages 65 and over.[164] At 45 to 64, the Maori rate was more than three times higher than the non-Maori rate, whereas at ages 65 and over the non-Maori rate was nearly twice as high as the Maori rate. Overall, non-Maori women, and men of both ethnic groups, all had similar age-adjusted rates of death , while Maori women had a slightly higher rate.[165] As with other degenerative diseases, Maori were much more likely to die of cerebrovascular disease at younger ages than non-Maori, with 46.3% of Maori cerebrovascular deaths occurring before the age of 65, compared to just 6.2%

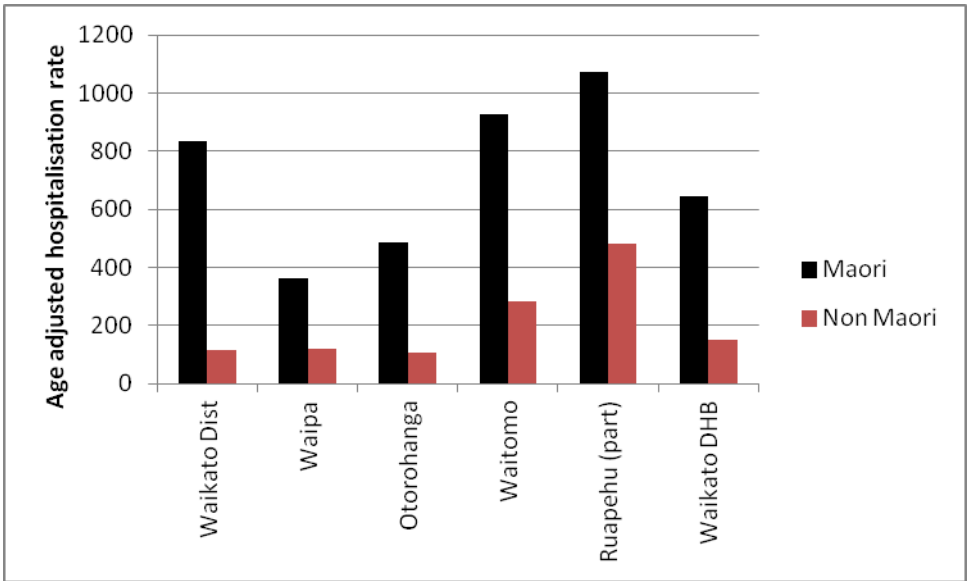
[162] Health Waikato, 'Chronic Conditions', p17.
[163] Health Waikato, 'Chronic Conditions', p19.
[164] Ministry of Health, 'Mortality and Demographic Data 2008', p45.
[165] Ministry of Health, 'Mortality and Demographic Data 2008', p46.

of non-Maori cerebrovascular deaths. It should be noted that 'cerebrovascular disease' in this paragraph is not synonymous with 'stroke' in the previous paragraphs, as the cerebrovascular disease data includes diseases other than stroke.[166]

Chronic obstructive pulmonary disease

Chronic obstructive pulmonary disease (COPD) is a group of lung diseases involving restricted airflow to the lungs.[167] The two major forms of COPD are chronic bronchitis and emphysema; most people with COPD have a combination of the two. It is most commonly caused by smoking, but can also be caused by some forms of air pollution.

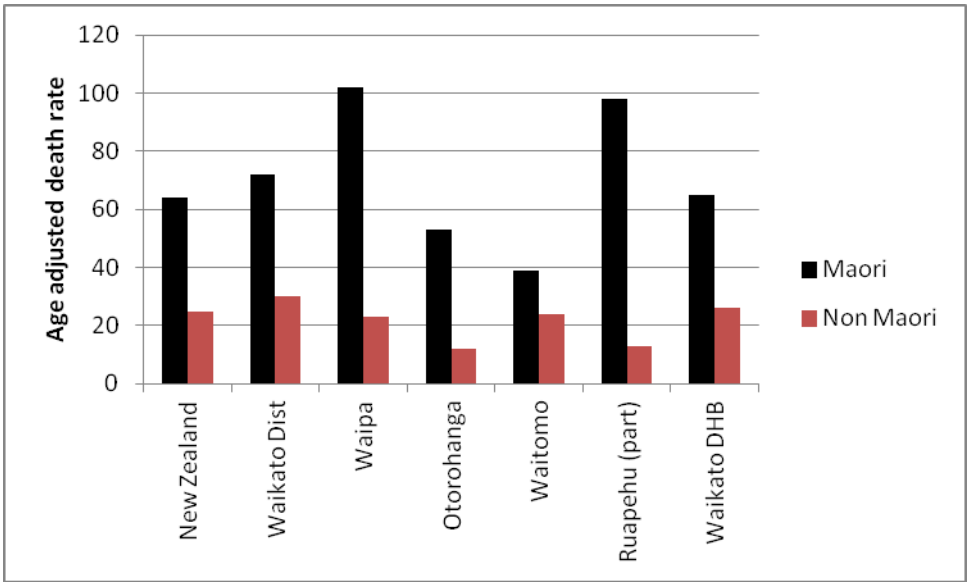
Waikato DHB figures for the five years from July 2001 show that Maori had much higher age-adjusted rates of hospitalisation from COPD than non-Maori (see graph 54). The biggest disparity was in Waikato District, where the Maori rate of 835 was more than seven times the non-Maori rate of 118.[168] The smallest disparity was in the Waikato DHB part of Ruapehu District, although even there the Maori rate was more than double the non-Maori rate.



Graph 54: Age-adjusted rates of hospitalisation (per 100,000 population) due to Chronic Obstructive Pulmonary Disease (COPD), July 2001-June 2006. Health Waikato.

[166] Ministry of Health, 'Mortality and Demographic Data 2008', p47.
[167] US National Library of Medicine, 'Chronic obstructive pulmonary disease', *PubMed Health*, 5 January 2011, available at http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001153/, accessed 16 March 2012; National Heart Lung and Blood Institute, 'What is COPD?', available at http://www.nhlbi.nih.gov/health/health-topics/topics/copd/, accessed 16 March 2012.
[168] Health Waikato, 'Chronic Conditions', p10.

Mortality figures are more variable due to the small numbers involved, especially for Maori. For New Zealand as a whole, the age-adjusted Maori COPD mortality rate in the years 1999 to 2003 was 64 per 100,000, more than two and a half times the non-Maori rate of 25 (see graph 55).[169] The Maori rate was at least 50% higher than the national average in Waipa and the part of Ruapehu District in the Waikato DHB, very similar in Waikato District, and lower in the core Rohe Potae districts of Otorohanga and Waitomo. For non-Maori, the rate was 20% higher in Waikato District, roughly the same in Waipa and Waitomo, and half the national rate in Otorohanga and the Waikato DHB part of Ruapehu.



Graph 55: Age-adjusted rates of death (per 100,000 population) due to Chronic Obstructive Pulmonary Disease (COPD), 1999-2003. Health Waikato.

Rheumatic fever

Rheumatic fever is an inflammatory disease which can follow certain types of infection, including streptococcal sore throat and scarlet fever. It can cause rheumatic heart disease, involving inflammation of, and potential damage to, the heart valves. Children aged between five and 14 are particularly vulnerable, and those suffering from rheumatic heart disease need to take antibiotics for many years afterwards to prevent another, potentially fatal, infection. Because of the infectious nature of the original disease and the need for ongoing medical treatment, rheumatic fever and rheumatic heart disease are conditions which tend to affect

[169] Health Waikato, 'Chronic Conditions', p11.

developing countries and marginalised groups in developed countries. It has been recognised as disproportionately affecting Maori since at least the 1960s.[170]

Nationwide, health authorities were notified of 1,360 cases of acute rheumatic fever between the start of 2000 and the end of the second quarter of 2011.[171] Of these, 703 (51.7%) were Maori.[172] Of the total, 139 (10.2%) were in the Waikato DHB area, and of those, 109 (78.4%) were Maori.

In the years 2006 to 2010, there were 80 notified cases of acute rheumatic fever in the Waikato DHB area, of which 65 (81%) were Maori, and all but one were aged 24 or under.[173] Maori aged one to 24 had 18 times the rheumatic fever rate of Pakeha the same age.[174] Amongst this age group, the hospitalisation rate for rheumatic fever was 36 per 100,000 population for Maori but only 2 per 100,000 for Pakeha.[175] Geographically, rates were highest in Waikato District, at 26 per 100,000 all-ethnicity population aged 0-24, and lower than the DHB average in Waitomo, Waipa and Otorohanga. There were no notified cases in the part of Ruapehu District within the Waikato DHB.[176] Statistics covering both ethnicity and district were not readily available.

Diabetes

Diabetes is a group of disorders in which the pancreas fails to produce adequate insulin to control blood sugar levels. There are three types of diabetes: type 1, type 2, and gestational, but the statistics used in this section do not distinguish between the different types. Type 1 diabetes is an auto-immune disorder in which the immune system attacks the pancreas and prevents it from manufacturing insulin. Type 2 diabetes is much more common, and is most frequent amongst overweight and sedentary people, and those with a family history of diabetes. Gestational diabetes can occur as a result of the body's increased need for insulin during pregnancy. As with type 2 diabetes, obesity and a family history of the disorder are

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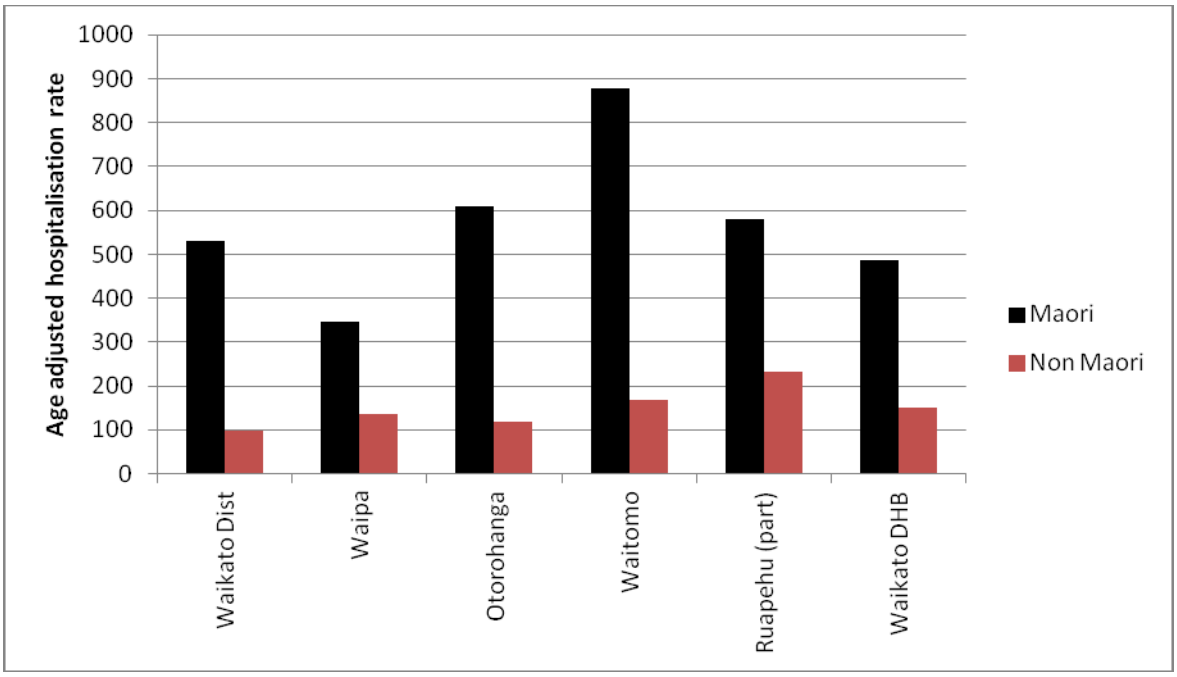
[170] Robinson, p190.
[171] RF initial episode Excel file, provided to Waitangi Tribunal by Ministry of Health.
[172] This includes all patients whose ethnicity included Maori, for example Maori/Chinese.
[173] Health Waikato, 'Future Focus: Children and Youth', p28, available at http://www.waikatodhb.govt.nz/page/pageid/2145848209, accessed 12 March 2012; Health Waikato, 'Future Focus: Infectious Disease', p13, available at http://www.waikatodhb.govt.nz/page/pageid/2145848209, accessed 12 March 2012.
[174] Health Waikato, 'Children and Youth', p28.
[175] Health Waikato, 'Children and Youth', p30.
[176] Health Waikato, 'Children and Youth', pp 30-31.

both significant risk factors, as is having had a large baby in the past. Diabetes can lead to numerous complications, including blindness, nerve damage and kidney disease. However with treatment and a healthy lifestyle, these risks can be significantly reduced.[177]

Waikato DHB statistics for the five years from July 2001 show that Maori in all Rohe Potae-connected districts in the DHB area had a far higher age-adjusted rate of hospitalisation due to all types of diabetes than non-Maori (see graph 56).[178] In Waikato and Waitomo districts, the Maori rate was more than five times the non-Maori rate. Even in Waipa, with the lowest Maori rate, and Ruapehu, with the highest non-Maori rate, the Maori rate was around two and a half times the non-Maori rate. In the core Rohe Potae districts of Otorohanga and Waitomo, the Maori rates per 100,000 population were 610 and 877.

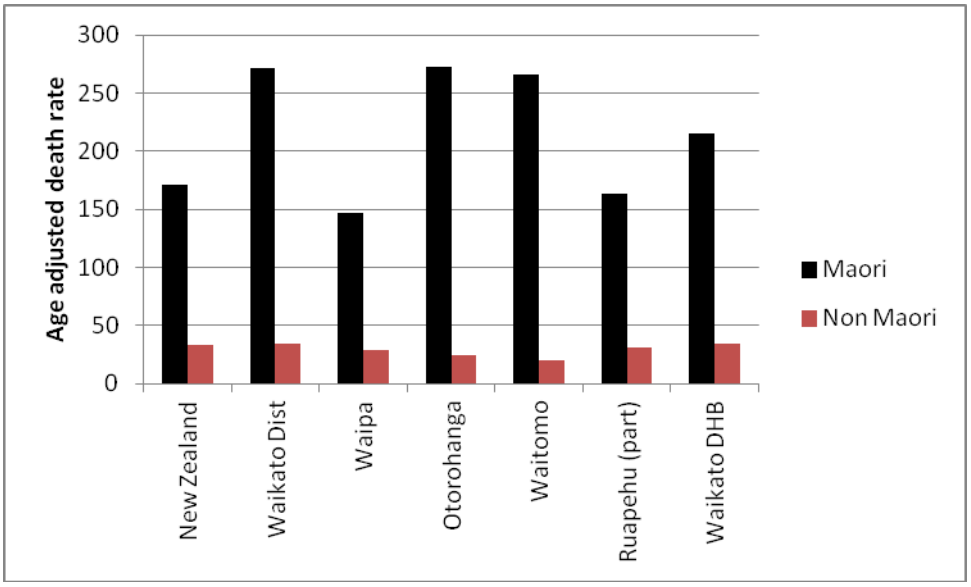


Graph 56: Age-adjusted hospitalisation rates for diabetes (per 100,000 population), July 2001-June 2006. Health Waikato.

Age-adjusted mortality rates show an even greater disparity. In the years from 1999 to 2003, the New Zealand-wide Maori mortality rate from diabetes was 5.2 times that of non-Maori (see graph 57).[179] In all Rohe Potae-connected districts in the Waikato DHB except Waipa, the disparity was even higher. This was partly because of lower non-Maori mortality rates,

[177] Robinson, pp 191-2.
[178] Health Waikato, 'Chronic Conditions', p7.
[179] Health Waikato, 'Chronic Conditions', p8.

but also because of higher Maori rates. The New Zealand rate for Maori was 171 per 100,000 population, compared to 33 for non-Maori. In the core Rohe Potae districts of Otorohanga and Waitomo the Maori rates were 273 and 266, while the non-Maori rates were just 25 and 20, making the Maori rates more than ten times higher than the non-Maori rates. In 2008, the national Maori diabetes mortality rate for 45 to 64 year olds was more than six times higher than that of non-Maori (70.8 per 100,000 compared to 11.2).[180] Amongst those aged 65 and over the Maori rate was nearly three times higher than the non-Maori rate (332.6 compared to 114.3). For both genders the male diabetes mortality rate was higher than the female rate.



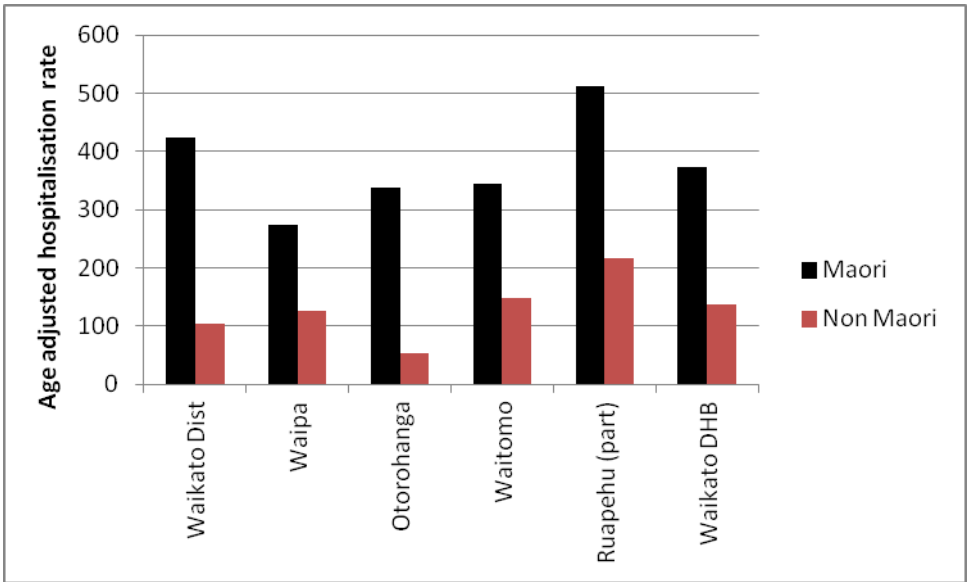
Graph 57: Age adjusted mortality rates for diabetes (per 100,000 population), 1999-2003. Health Waikato.

Asthma

New Zealand has one of the world's highest rates of asthma, and one of the highest rates of hospitalisation for asthma. It is estimated to affect 15-20% of the population.[181] Waikato DHB figures show that, in all the Rohe Potae-connected districts in the Waikato DHB area, Maori had much higher age-adjusted rates of hospitalisation due to asthma than non-Maori (see graph 58). In the five years from July 2001, the Maori rate for the Waikato DHB as a whole, 373 per 100,000 population, was 2.7 times higher than the non-Maori rate of 137.[182] Both groups had significantly higher rates in the Waikato DHB part of Ruapehu District. The

[180] Ministry of Health, 'Mortality and Demographic Data 2008', p50.
[181] Health Waikato, 'Chronic conditions', p11.
[182] Health Waikato, 'Chronic conditions', p12.

biggest disparity was in Otorohanga District, where the Maori rate of 337 was somewhat lower than the DHB average but more than six times the unusually low non-Maori rate of 54.



Graph 58: Age-adjusted rates of hospitalisation for asthma (per 100,000 population), July 2001-June 2006. Health Waikato.

In the Waikato DHB region, Maori children and youth (0-24 years) had a particularly high rate of hospital admission for asthma. The average rate for this group in the years 2005 to 2009 was 391 per 100,000 population, compared to 169 for Pakeha of the same age and 229 for the Waikato DHB child and youth population as a whole.[183] Waitomo District and the Waikato DHB part of Ruapehu District had asthma hospitalisation rates higher than the DHB average. Statistics covering both ethnicity and district were not available for this age group.

The death rate from asthma is low; the New Zealand rate for the years 1999 to 2003 was just 2.2 per 100,000 population, despite the high rates of asthma in the population.[184] The national age-adjusted Maori rate of 6.5 was more than four times the non-Maori rate of 1.6. The disparity was smaller in the Waikato DHB due to a lower Maori rate and higher non-Maori rate, but the Maori rate of 5.3 was still nearly three times the non-Maori rate of 1.8.

Oral health

Various statistics indicate that Maori children in the Waikato DHB area have worse oral and dental health than their Pakeha counterparts and the total population average. Waikato DHB

[183] Health Waikato, 'Children and Youth', p26.
[184] Health Waikato, 'Chronic conditions', pp 11-12.

figures show that, in 2009, 5.6% of Maori children aged four and five failed the dental component of their B4School health check.[185] This compared to 3.1% of all children examined and 1.7% of Pakeha children examined.

Also in 2009, one of the leading grouped causes of hospitalisation of Maori children aged five to nine in the Waikato DHB was conditions of the oral cavity, salivary glands and jaws, making up just under a quarter of total admissions for this group.[186] Conditions of this kind were also a common cause of admission for Pakeha children in this age group, although behind injuries. Oral conditions accounted for about 14% of admissions for this group. Amongst Maori children aged from birth to four years, these conditions accounted for about 6% of hospital admissions.[187] Comparable figures are not available for other groups.

One of the contributing factors behind poor dental health may be that none of the Rohe Potae water supplies are fluoridated.[188] The Ministry of Health's 2009 Oral Health Survey showed that children and adults living in areas without fluoridated water supplies had significantly more decaying, filled or missing teeth on average, even when results were adjusted for age, gender, ethnic group and deprivation level.[189] People living in fluoridated areas were no more likely to suffer from dental fluorosis, a developmental dental problem caused by exposure to high levels of fluoride.[190]

A report by the United States Public Health Service found that there was a clear causal relationship between water fluoridation and prevention of dental caries (cavities). The report also stated that although dental decay could be reduced through other methods such as fluoridated toothpaste and dietary supplements,

> ...fluoridation of water is the most cost-effective method. It provides the greatest benefit to those who can least afford preventative and restorative dentistry and reduces dental disease, loss of teeth, time away from work or school, and anesthesia-related risks associated with dental treatment.[191]

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[185] Health Waikato, 'Children and Youth', p24.
[186] Health Waikato, 'Children and Youth', p14.
[187] Health Waikato, 'Children and Youth', p13.
[188] Health Waikato, 'Future Focus: Maori' [draft report, July 2011], p25. Report provided to Waitangi Tribunal by Waikato DHB.
[189] Ministry of Health, 'Our Oral Health: Data tables: Protective factors' (Excel document), December 2010, available at http://www.health.govt.nz/publication/our-oral-health-key-findings-2009-new-zealand-oral-health-survey, accessed 14 March 2012.
[190] Ministry of Health, 'Our Oral Health'.
[191] Public Health Service, 'Review of Fluoride: Benefits and Risks: Report of the ad hoc subcommittee on fluoride of the committee to coordinate environmental health and related programs', February 1991, available at

Since Maori are disproportionately likely to have lower incomes, this suggests that the lack of widespread fluoridation in the Rohe Potae disproportionately affects Maori dental health.

Accident and injury

Injuries are amongst the most common causes of hospitalisation for children and youth of all ethnic groups, primarily because this age group is not normally susceptible to serious illness. Health Waikato's Future Focus: Children and Youth report lists the three most common causes of hospitalisation for children and youth in 2009, differentiated by ethnicity and age group.[192] Injuries were the most common cause of hospital admission for Maori aged 10 to 14 and the second most common cause for Maori aged 5 to 9 and 15 to 24. For non-Maori it was the most common cause at ages 5 to 19 and the second most common cause at ages 20 to 24. Unfortunately rates of injury hospitalisation are not available. The Future Focus report also includes ethnically-differentiated data on rates of injury due to falls amongst children aged zero to 14. These show that Maori had a rate of 714 per 100,000 population, compared to the DHB average of 705 and the Pakeha rate of 771.[193]

Amongst the all-ages population in the five years from July 2002, falls were the most common cause of hospitalisation injury for both Maori and non-Maori, and in all parts of the Waikato DHB area.[194] For Maori, the second most common cause in all the Rohe Potae districts in the Waikato DHB area, except Waitomo, was motor vehicle crashes. The third most common cause in all these areas, except Waitomo and Waipa, was cutting and piercing accidents. In Waitomo the second and third causes were reversed, while in Waipa assault was the third most common cause of injury. Causes of injury were similar for non-Maori, although other land transport crashes were also a common cause. New Zealand Health Information Service data for the years 1999 to 2003 show that the Maori injury mortality rate was significantly higher than that of non-Maori in New Zealand as a whole, in the Waikato DHB area as a whole, and in the Waikato, Waipa and Ruapehu districts.[195] However, the

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http://health.gov/environment/ReviewofFluoride/, accessed 14 March 2012. Quote from 'Major Findings' section.

[192] Health Waikato, 'Children and Youth', pp 14-17.

[193] Health Waikato, 'Children and Youth', p33.

[194] Health Waikato, 'Future Focus: Section 10: Injuries', 2010, p2, available at http://www.waikatodhb.govt.nz/page/pageid/2145848209, accessed 12 March 2012.

[195] Health Waikato, 'Injuries', p6.

Maori rate was lower than that of non-Maori in the core Rohe Potae districts of Otorohanga and Waitomo.

At the national level, in 2008 Maori had higher rates of death from motor vehicle accidents at all age groups than non-Maori, as the table below indicates.[196] Men of both ethnic groups had higher rates than women. For Maori, motor vehicle deaths were most common amongst under 25s and over 65s, and the age distribution of the Maori population meant that more than half of all Maori motor vehicle deaths were amongst under 25 year olds.

	Maori			Non-Maori		
	Total	Male	Female	Total	Male	Female
<25	17.9	23.7	12.0	7.9	10.7	4.9
25-44	18.4	25.2	12.3	7.3	12.0	2.9
45-64	12.3	13.9	10.8	7.1	9.7	4.6
65+	21.2	15.5	26.0	10.4	10.4	10.4

Table 6: Age-specific rates per 100,000 of death from motor vehicle accidents, 2008, New Zealand. Ministry of Health.

Mental health

Mental health is difficult to quantify, since the subjective nature of mental health, combined with the social stigma sometimes associated with mental illness, means that people with mental health problems will not necessarily seek help from health services. As a result, it is likely that many mental health problems go unrecorded. Because of this, it is not clear that statistics relating to use of mental health services are indicative of levels of mental health problems in a population. For example, in the year from 1 July 2010, New Zealand DHBs saw 120,341 mental health clients, of whom 30,161 were Maori.[197] The number of Maori accessing mental health services was disproportionate to the Maori share of the New Zealand population. However, it is impossible to tell whether this indicates that Maori were more likely to have mental health problems, more likely to have severe mental health problems, or simply more likely to seek help. The statistics are also problematic in that they do not include clients of private mental health providers. Because of these problems, the statistics used in this section relate only to suicide and hospitalisation due to intentional self-harm.

[196] Ministry of Health, 'Mortality and Demographic Data 2008', p55.
[197] Ministry of Health, 'Mental Health, Alcohol and Drug Sector Performance Monitoring and Improvement Report: Annual Report for the year ended June 2011', p12, available at http://www.nsfl.health.govt.nz/apps/nsfl.nsf/pagesmh/406, accessed 20 March 2012.

Self-harm and suicide

Statistics for suicide and for hospitalisation due to self-harm, particularly the former, have fewer problems that other mental health statistics. Deaths are almost always recorded, and it seems likely that most suicide deaths would be recorded as such. Although it is likely that some would be inaccurately recorded as accidents, there seems no reason to suspect that this problem would affect Maori statistics any more or less than those for other groups. Recorded suicide rates are therefore a reasonably accurate indication of actual suicide rates, and therefore a reliable indicator of mental health levels. Statistics on hospitalisation due to self-harm are more problematic, since not all self-harm results in hospitalisation.

Suicide and self-harm statistics show that Maori tended to be more likely to die by suicide or to seriously harm themselves than non-Maori, especially men and young women. The health report for this inquiry shows that this is a relatively recent phenomenon: until the 1980s suicide rates for both genders were consistently lower amongst Maori than non-Maori.[198]

From 2004 to 2008, New Zealand had an average of around 500 suicide deaths per year, of which around 100 were Maori. This means that annual suicide rates by ethnicity and area would involve numbers too small for meaningful statistical analysis. This was particularly the case for youth (15 to 24) suicide. This section therefore uses averaged national numbers and age-standardised rates from the 2004 to 2008 period.

In the 2004 to 2008 period, national data show that Maori women were about 70% more likely to die by suicide than non-Maori women, and that Maori men were about 50% more likely.[199] Within each group, men were around three times more likely to die by suicide than women.

	Maori				Non-Maori			
	Male		Female		Male		Female	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
2004	82	29.0	27	8.4	297	16.5	82	4.5
2005	78	26.9	26	8.3	302	16.8	105	5.4

[198] Robinson, p210.
[199] Ministry of Health, 'Suicide Facts: Deaths and intentional self-harm hospitalisations 2008: Publication tables: Suicide deaths', (Excel spreadsheet), available at http://www.health.govt.nz/publication/suicide-facts-deaths-and-intentional-self-harm-hospitalisations-2008, accessed 10 January 2012.

2006	75	25.9	33	10.7	313	17.0	105	5.3
2007	74	25.9	23	7.3	297	15.7	93	4.4
2008	53	18.9	29	8.4	313	16.4	102	5.1
Average	**72.4**	**25.3**	**27.6**	**8.6**	**304.4**	**16.5**	**97.4**	**4.9**

Table 7: Numbers and age-adjusted rates per 100,000 of deaths by suicide, all ages, 2004 to 2008. Ministry of Health.

Amongst the 15 to 24 age group, there was an annual average of about 110 deaths by suicide in the years 2004 to 2008, of which around 37 were Maori.[200] The youth suicide rate was significantly higher than the all ages rate across all groups, with the biggest disparity amongst Maori women, whose youth suicide rate was 2.4 times higher than their all ages rate on average. As with the all-ages suicide rate, men were more likely to die by suicide than women, and Maori were more likely to do so that their non-Maori equivalents. Young Maori women were more than three times more likely to die by suicide than young non-Maori women, while young Maori men were a little less than twice as likely to die in this manner than young non-Maori men. The gender gap was less pronounced for Maori (2.4 male suicides for every female suicide) than for non-Maori (3.6: 1). There has been a decline in male youth suicide since the mid 1990s, especially for Maori. For young Maori men, the 2008 suicide rate of 26.9 is less than half the 1996 rate of 59.6, whereas the young non-Maori male 2008 rate of 25.5 is less than three-quarters of the 1996 rate of 34.6. There is no clear pattern with regards to female youth suicide.

	Maori				Non-Maori			
	Male		Female		Male		Female	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
2004	28	50.5	13	23.3	55	22.5	17	7.3
2005	29	50.5	10	17.4	55	22.2	14	6.0

[200] Ministry of Health, 'Suicide Facts: Deaths and intentional self-harm hospitalisations 2008: Publication tables: Suicide deaths', (Excel spreadsheet), available at http://www.health.govt.nz/publication/suicide-facts-deaths-and-intentional-self-harm-hospitalisations-2008, accessed 10 January 2012.

2006	29	50.6	8	13.5	66	26.6	16	6.6
2007	23	39.5	10	16.8	47	18.6	13	5.3
2008	16	26.9	17	28.3	65	25.5	17	6.9
Average	**25.0**	**43.6**	**11.6**	**19.9**	**57.6**	**23.1**	**15.4**	**6.5**

Table 8: Numbers and rates per 100,000 of deaths by suicide, ages 15 to 24, 2004 to 2008. Ministry of Health.

Ministry of Health statistics on hospitalisation due to intentional self-harm show that, in the years 2006 to 2008, Maori in the Waikato DHB region had one of the country's highest rates of male hospitalisation due to intentional self-harm. The age-standardised rate per 100,000 was 70.7 in this area, compared to the lowest rate, 24.9 in the West Coast DHB region, and the highest rate, 103.8 in the South Canterbury DHB region.[201] Exactly comparable national figures are not available, but in 2008 the national rate for Maori men was 52.3. In the Waikato DHB region, the Maori male self-harm hospitalisation rate was 1.4 times than of non-Maori. The differential was similar at the national level in 2008, although the comparison was between Maori and non-Maori, non-Pacific, rather than between Maori and non-Maori.

For Maori women in the Waikato DHB region, the age-standardised rate of hospitalisation due to intentional self-harm (82.6 per 100,000) was higher than that of their male counterparts, but significantly lower than that of Maori women in some other parts of the country, and of non-Maori women in the Waikato DHB region (101.1). The lowest rate for Maori women was in Hawke's Bay, with 45.6, while the highest was in Wairarapa, with 319.5. The national rate for Maori women in 2008 was 79.9. In the Waikato DHB region, the rate of self-harm hospitalisation for Maori women was 80% of the rate for non-Maori women. The national rate for non-Maori, non-Pacific in 2008 was 77.4. Except amongst Pacific peoples, rates of self-harm hospitalisation were consistently higher for women than men, across ethnic groups and in all DHB regions.

High Maori suicide rates may be connected to the high percentage of Maori living in deprived communities. Ministry of Health data show that people living in the most deprived

[201] Ministry of Health, 'Suicide Facts: Deaths and intentional self-harm hospitalisations 2008: Publication tables: Intentional self-harm hospitalisations', available at http://www.health.govt.nz/publication/suicide-facts-deaths-and-intentional-self-harm-hospitalisations-2008, accessed 10 January 2012.

quintile areas had the highest suicide rates in 2008.[202] However, the female suicide rate was only slightly higher in the most deprived quintile than in the middle quintile (7.3 compared to 6.8). Above the most deprived quintile there was no relationship between suicide rates and levels of deprivation. There was more of a connection between deprivation and self-harm hospitalisation, with rates rising with every quintile deprivation level except the most deprived.[203] In the most deprived quintile the female and total self-harm hospitalisation levels were lower than in the second-most deprived quintile, and male levels were only slightly higher. These deprivation statistics are not available by ethnicity.

Immunisation

As of late 2011, the New Zealand health system provided, free of charge, child immunisation against the following diseases: diphtheria, tetanus, whooping cough, polio, hepatitis B, some types of influenza, pneumococcal disease, measles, mumps, rubella, and (for girls at 12 years) human papillomavirus.[204] Immunisation has largely reduced the impact of most of these diseases, some of which were once major causes of death. In 1938, for example, a measles epidemic killed at least 212 Maori, including 65 infants. This equated to 240 deaths per 100,000 population.[205] Measles epidemics still occasionally occur in New Zealand, but are less common, less widespread, and cause fewer fatalities than in the pre-immunisation era.[206]

Immunisation statistics for the year to 30 June 2011 show that there were no major differences between groups at the age of two years (see graph 59). Nationwide, Maori were somewhat less likely than non-Maori to be fully immunised at this age.[207] However, in the Waikato DHB region there was no significant difference between the Maori and non-Maori

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[202] Ministry of Health, 'Suicide Facts: Deaths and intentional self-harm hospitalisations 2008: Publication tables: Suicide deaths', available at http://www.health.govt.nz/publication/suicide-facts-deaths-and-intentional-self-harm-hospitalisations-2008, accessed 10 January 2012. Quintiles are derived from the New Zealand Deprivation Index. They are based on dividing the population into five according to deprivation, and have twice the population of deciles.

[203] Ministry of Health, 'Suicide Facts: Deaths and intentional self-harm hospitalisations 2008: Publication tables: Intentional self-harm hospitalisations', available at http://www.health.govt.nz/publication/suicide-facts-deaths-and-intentional-self-harm-hospitalisations-2008, accessed 10 January 2012.

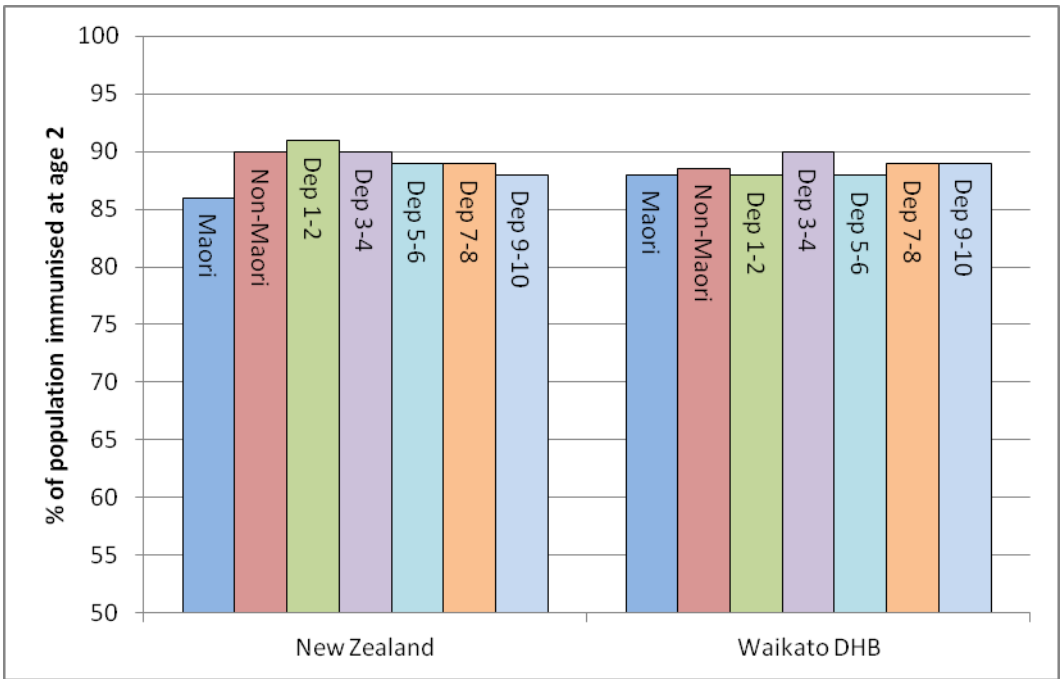
[204] Ministry of Health, National Immunisation Schedule, available at http://www.health.govt.nz/our-work/preventative-health-wellness/immunisation/new-zealand-immunisation-schedule, accessed 10 January 2012.

[205] 'Maori Hygiene', *Appendix to the Journal of the House of Representatives* (AJHR) 1939 H-31, p10.

[206] As of November 2011, the most recent epidemic was in 1997 and had no fatalities. Immunisation Advisory Centre, 'Measles', available at http://www.immune.org.nz/?T=977, accessed 23 November 2011.

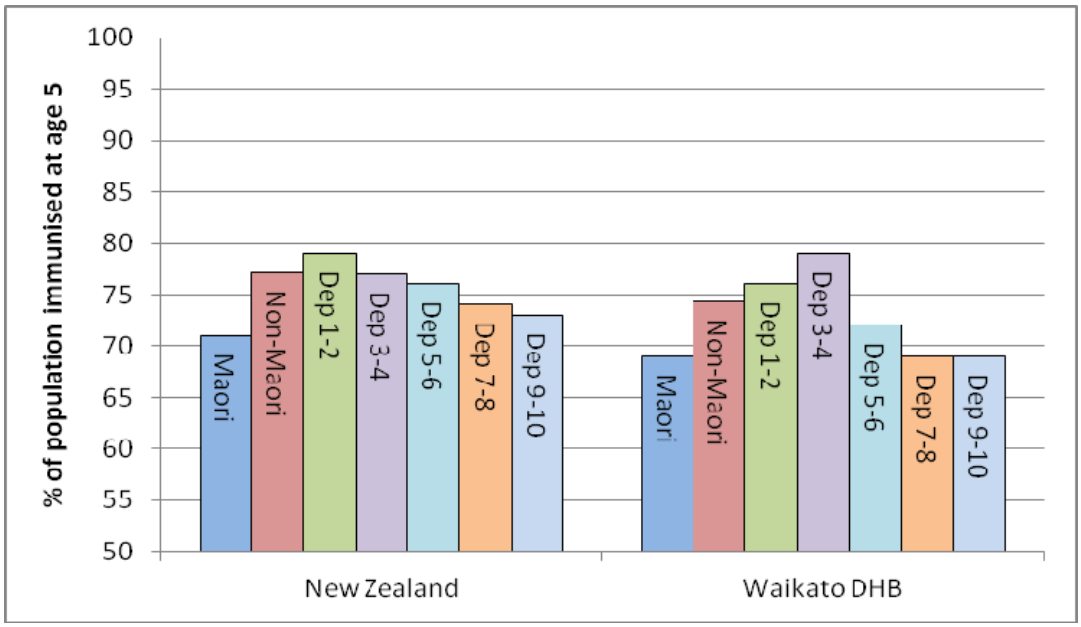
[207] Ministry of Health, Immunisation Coverage at Milestone Ages, 12 month period ending June 2011 (Excel file), available at http://www.health.govt.nz/our-work/preventative-health-wellness/immunisation/immunisation-coverage/national-and-dhb-immunisation-data, accessed 10 January 2012.

rates. Differences between deprivation deciles were also very small at this age, with the two most deprived deciles in the Waikato DHB area having better coverage than the least deprived decile. The pattern changes for five year olds, with coverage rates significantly lower for all groups, Waikato having worse coverage amongst nearly all groups than the national population, and the gap between Maori and non-Maori widening (see graph 60). Statistics are not readily available by both deprivation decile and ethnic group. The current Ministry of Health target is to have 95% of children fully immunised by the age of two; as of July 2011 this had not been achieved by any group either in the Waikato DHB region or nationally.[208] High coverage is necessary to prevent epidemics, and to protect those who have not been immunised, whether through choice or because of a medical condition which makes immunisation inadvisable.



Graph 59: Percentages of children fully immunised at age two by ethnicity and deprivation level, New Zealand and Waikato DHB area, year to June 2011. Higher 'Dep' numbers indicate higher levels of deprivation. Ministry of Health.

[208] Ministry of Health, Immunisation Coverage at Milestone Ages, 12 month period ending June 2011 (Excel file), available at http://www.health.govt.nz/our-work/preventative-health-wellness/immunisation/immunisation-coverage/national-and-dhb-immunisation-data, accessed 10 January 2012.



Graph 60: Percentages of children fully immunised at age five by ethnicity and deprivation level, New Zealand and Waikato DHB area, year to June 2011. Higher 'Dep' numbers indicate higher levels of deprivation. Ministry of Health.

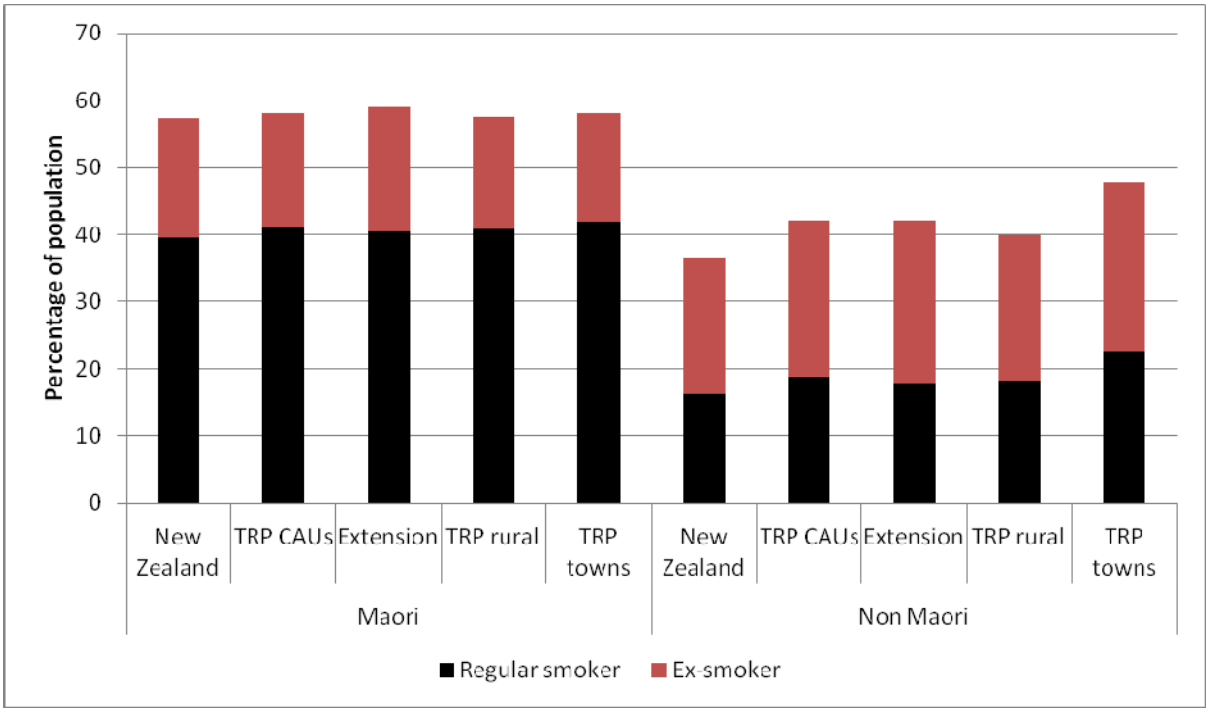
Smoking

A study of Maori mortality rates in the 1970s attributed 15% of excess Maori male mortality, adjusted for social class, to higher rates of smoking.[209] At that point 57.9% of Maori men smoked, compared to 40.1% of non-Maori men.[210] Smoking is strongly linked to several health conditions which disproportionately affect Maori, particularly lung cancer and chronic obstructive pulmonary disease (COPD). As well as the negative effects on the smokers themselves, there are links between second-hand smoke and a range of health problems, particularly for children. A Ministry of Health study, based on information from 2009, showed that Maori were significantly more likely than non-Maori to be exposed to second-hand smoke, with 20.9% of Maori households having at least one member who smoked indoors, compared to 7.9% of non-Maori households.[211]

Data from the 2006 census show that Maori in the Rohe Potae and elsewhere were much more likely to smoke regularly than non-Maori. Non-Maori were more likely to have never

[209] Allan H. Smith and Neil E. Pearce, 'Determinants of differences in mortality between New Zealand Maoris and non-Maoris aged 15-64', New Zealand Medical Journal, 97, 749 (22 February 1984), p107.
[210] Smith and Pearce, p103.
[211] Ministry of Health, 'Maori Smoking and Tobacco Use 2011', July 2011, available at http://www.health.govt.nz/publication/maori-smoking-and-tobacco-use-2011, accessed 10 January 2012.

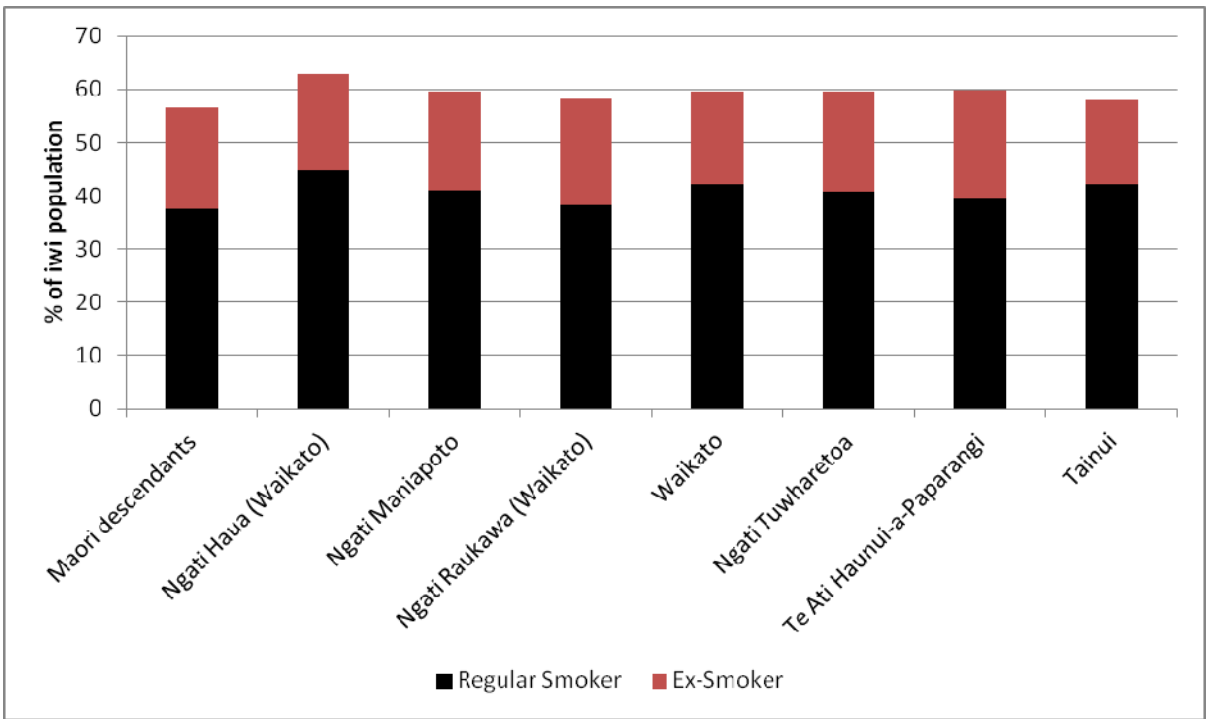
smoked regularly, and also more likely to have given up smoking. In New Zealand as a whole, 39.5% of Maori aged 15 and over were regular smokers at the time of the census, compared to just 16.2% of the non-Maori population aged 15 and over (see graph 61).[212] Meanwhile, 17.8% of Maori were ex-smokers and 36.2% had never smoked, while for non-Maori the figures were 20.5% and 54.4%. Maori smoking rates were slightly higher than average in the Rohe Potae CAUs, especially in the towns, where 41.9% smoked regularly. There was a bigger difference for non-Maori, again especially in the towns, where 22.6% smoked regularly. However non-Maori in the Rohe Potae towns were more likely than the national average to have given up smoking (25.2%), whereas Maori in the same areas were less likely to have done so (16.2%). In each area, more non-Maori were former than current smokers, and more than half had never smoked regularly. For Maori, by contrast, the biggest group in each area was current smokers, and those who had never smoked made up little more than a third of the population.



Graph 61: Selected smoking statuses by ethnicity and area (percentages), ages 15 and over, 2006 census.

[212] Area of Usual Residence Areas (2006) and Maori Ethnic Group Indicator by Cigarette Smoking Status for the Census Usually Resident Population Count, Aged 15 Years and Over. Data provided to Waitangi Tribunal by Statistics New Zealand.

Census statistics on smoking are also available by iwi. These show that members of Rohe Potae-connected iwi were more likely to be regular smokers than Maori descendants generally, although also more likely to have given up smoking (see graph 62).[213] Nationwide, 37.6% of Maori descendants were regular smokers at the time of the census, a slightly lower percentage than that for self-identified Maori. Of the Rohe Potae-connected iwi, Ngati Haua (Waikato) had the highest smoking rates, at 44.9%, and Ngati Raukawa (Waikato) the lowest, at 38.3%. Raukawa had the highest rate of ex-smokers, at 20.3%, and Tainui had the lowest rate, 15.8%, compared to the national Maori descendant rate of 18.9%. Within the Waikato Region, members of all groups were slightly more likely than their nationwide counterparts to be regular smokers and less likely to be ex-smokers.



Graph 62: Selected smoking statuses by iwi (percentages), nationwide, people aged 15 and over, 2006 census.

Air quality

Air pollution is associated with increased mortality, sickness rates, and hospital admissions.[214] One means of measuring air quality is the level of PM_{10}, or particulate matter

[213] Iwi (Total Responses) by Cigarette Smoking Status, for the Maori Descent Census Usually Resident Population Count Aged 15 Years and Over, 2006 census.
[214] Health Waikato, 'Future Focus Section 8: Healthy Environments'2010, p14, available at http://www.waikatodhb.govt.nz/page/pageid/2145848209, accessed 12 March 2012.

less than 10 microns in size. The current Ministry for the Environment standard for PM_{10} is an average of 50$\mu g/m^{-3}$ in a 24 hour period.[215] Environment Waikato has recorded levels of PM_{10} in Te Kuiti of up to 58 $\mu g/m^{-3}$, with levels in excess of the Ministry for the Environment standard on four occasions in the year from September 2006.[216] The Taumarunui area has also been identified as having poor air quality.[217] The majority of PM_{10} in the Waikato DHB area comes from domestic heating such as wood burners and open fires.[218] There are no available figures differentiating between air quality in Maori and non-Maori households, or in communities with varying percentages of Maori in the population.

Breastfeeding

Breastfeeding is the best means by which to meet an infant's nutritional needs for its first four to six months of life, and helps protect the child from a range of diseases and other medical conditions, including respiratory infections, diabetes, Sudden Infant Death Syndrome, and asthma.[219] According to Waikato DHB data, 51% of Maori infants in the DHB region were fully and exclusively breastfed at three months during the years 2008 and 2009, compared to 61% of non-Maori, non-Pacific infants and 57% of all infants in the region.[220]

Overweight and obesity

Being overweight or obese is associated with a range of health problems, particularly type 2 diabetes, cardiovascular disease, hypertension, stroke, and some forms of cancer.[221] The Ministry of Health defines obesity as having a Body Mass Index (BMI) of 32 or above for Polynesians (including Maori) and 30 or above for other groups.[222] Overweight is defined as a BMI of 26 to 31.9 for Polynesians and 25 to 29.9 for other groups.[223]

The 2002-03 New Zealand Health Survey showed high rates of overweight and obesity amongst both Maori and non-Maori, although Maori were generally more likely to be above a

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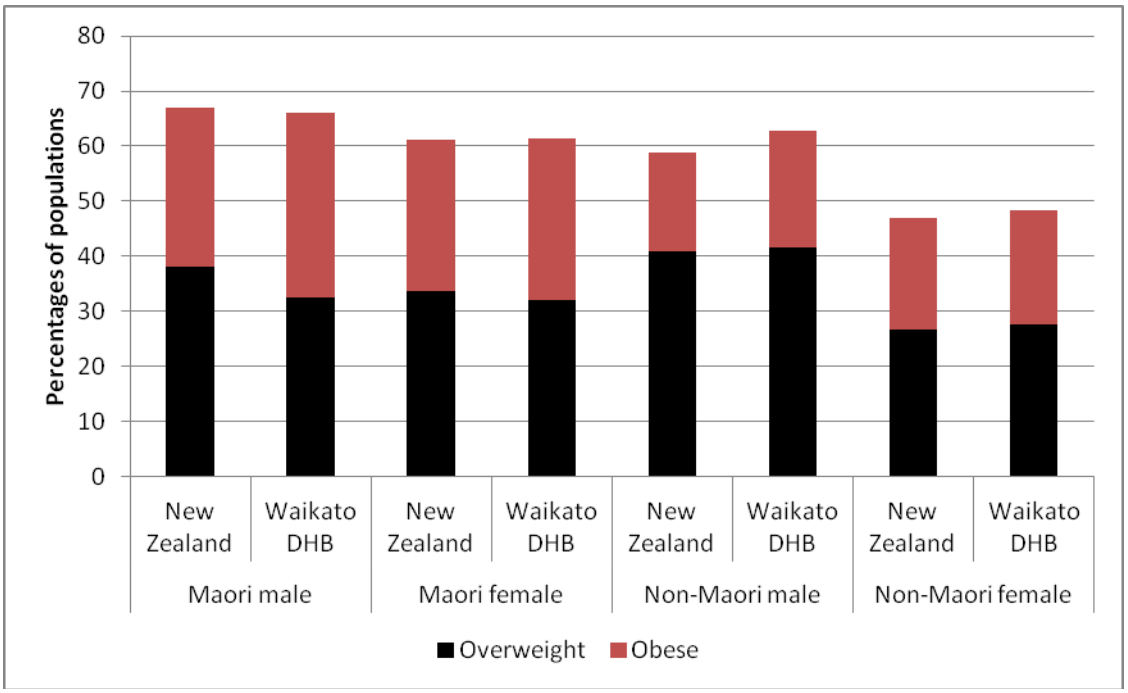
[215] Health Waikato, 'Healthy Environments', p15.
[216] Health Waikato, 'Healthy Environments', p18.
[217] Health Waikato, 'Healthy Environments', p17.
[218] Health Waikato, 'Healthy Environments', p16.
[219] Health Waikato, 'Children and Youth', p23.
[220] Health Waikato, 'Children and Youth', p23.
[221] World Health Organisation, 'Obesity and Overweight', available at http://www.who.int/dietphysicalactivity/publications/facts/obesity/en/, accessed 15 March 2012.
[222] Health Waikato, 'Chronic Conditions', p4.
[223] BMI is calculated by dividing a person's weight in kilograms by their height in metres squared. It is something of a blunt instrument as it does not take into account body fat percentage.

healthy weight.[224] In New Zealand as a whole, the study found that 38.0% of Maori men were overweight and 29.0% obese, while amongst Maori women the proportions were 33.7% and 27.5% (see graph 63). Amongst non-Maori the figures for men were 40.8% overweight and 18.0% obese, and for women 26.7% overweight and 20.2% obese. Members of all groups tended to be somewhat heavier in the Waikato DHB area than in New Zealand as a whole, although the geographical differences were less pronounced than those of gender and ethnicity.



Graph 63: Percentages of populations aged 15 and over who were overweight or obese (age-adjusted), 2002-2003. Health Waikato.

Diet and exercise

The Ministry of Health recommends that healthy adults engage in at least 30 minutes of moderate exercise at least five times a week; a total of 2.5 hours (150 minutes).[225] It also recommends eating at least three servings of vegetables and two servings of fruit per day.[226]

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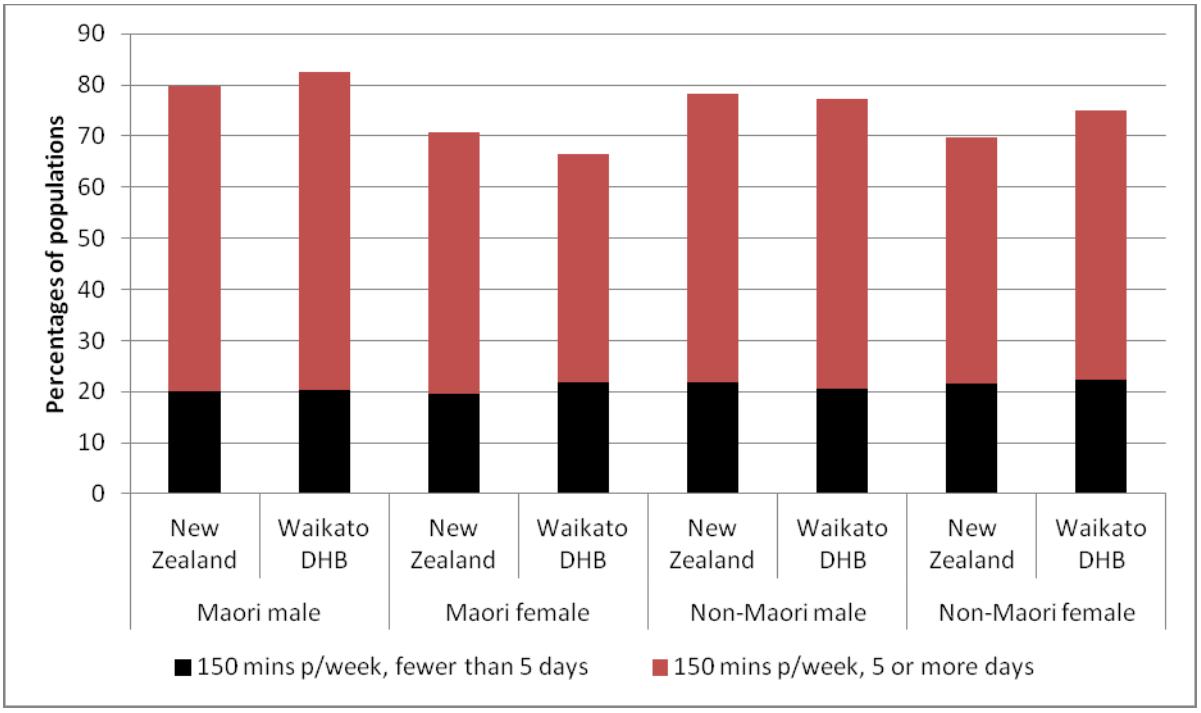
[224] Health Waikato, 'Chronic Conditions' , p4.
[225] Ministry of Health, 'How much activity is recommended?', 16 February 2012, available at http://www.health.govt.nz/yourhealth-topics/physical-activity/how-much-activity-recommended, accessed 7 May 2012.
[226] Ministry of Health, 'Food and Nutrition Guidelines for Healthy Adults: A Background Paper', October 2003, available at http://www.health.govt.nz/our-work/preventative-health-wellness/nutrition/food-and-nutrition-guidelines/nz-food-and-nutrition-guideline-statements-healthy-adults, accessed 7 May 2012.

Although Maori men were the group most likely to be overweight or obese, the same survey showed that they were also the group most likely to engage in at least 150 minutes of physical activity each week.[227] In the Waikato DHB area, 62.2% did so for least 30 minutes at least five days a week (see graph 64). Conversely, although non-Maori women were the least likely to be overweight or obese, in New Zealand as whole they were the group least likely to do this much physical activity, with only 48.2% doing at least 30 minutes on five or more days a week. Generally speaking, there was more of a gap between men and women than between Maori and Pakeha, with men of both groups being more likely to engage in physical activity than their female counterparts. Maori men and non-Maori women were more likely to engage in physical activity in the Waikato DHB area than in New Zealand generally, whereas Maori women were less likely to do so. The percentages of each group doing at least 150 minutes of exercise a week, concentrated into four or fewer days, were remarkably similar, at around 21% of each group.

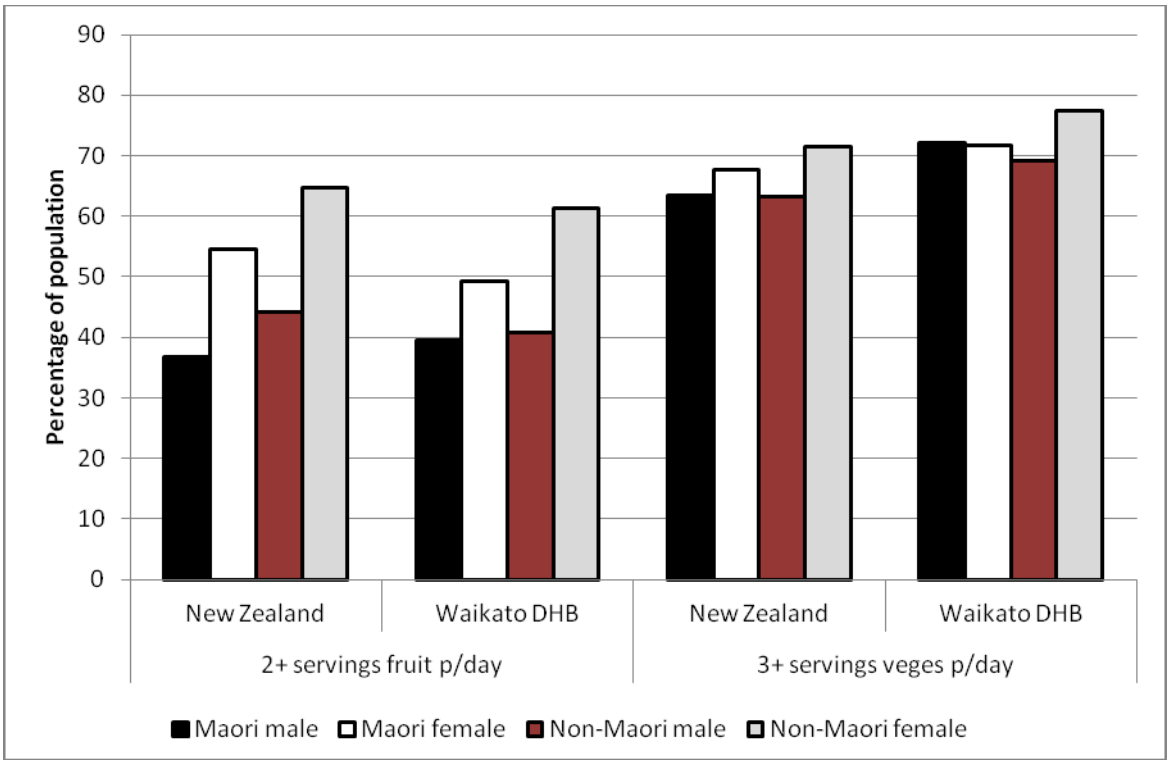


Graph 64: Percentages of each group doing at least 150 minutes of physical activity per week, ages 15 and over, age adjusted. Health Waikato.

With regard to fruit and, to a lesser extent, vegetable consumption, gender differences were again more significant than ethnicity or location. Maori and non-Maori women were much

[227] Health Waikato, 'Chronic Conditions', p5.

more likely than their male counterparts to eat at least two servings of fruit a day, although non-Maori women were more likely to do so than Maori women (see graph 65).[228] All groups except Maori men were somewhat less likely to eat two or more servings of fruit a day in the Waikato DHB area than in New Zealand as a whole. For New Zealand as a whole, the gender and ethnicity patterns were similar, but with less pronounced variations, with regard to those eating three or more servings of vegetables per day. In the Waikato DHB area, Maori men were the group second most likely to eat three or more servings of vegetables a day. All groups were more likely to eat this many servings of vegetables in the Waikato DHB area than in New Zealand generally. All groups were more likely to eat enough vegetables than enough fruit.



Graph 65: Percentages of each group eating at least two servings of fruit or at least three servings of vegetables per week, ages 15 and over, age adjusted. Health Waikato.

Chapter five summary

As with other topics examined in this report, Maori in the Rohe Potae and elsewhere in New Zealand were over-represented in many negative health statistics. Maori had higher mortality rates than non-Maori at most ages, but especially in the post-neonatal period and in middle

[228] Health Waikato, 'Chronic Conditions', p6.

age. Maori perinatal mortality rates were lower than those of non-Maori, but this was not enough to cancel out the mortality gap later in infancy. Maori were more likely to be disabled than non-Maori, particularly at younger ages, and more likely to be in receipt of all kinds of health-related income support, especially the sickness and invalid's benefits. Maori were also more likely to have spent time in the four weeks before the 2006 census caring for the sick or disabled.

Maori had higher rates of death or illness from many major diseases, including cancer, ischaemic heart disease, cerebrovascular disease, chronic obstructive pulmonary disease, rheumatic fever, diabetes, asthma and dental problems, as well as accident and injury. Maori also tended to die of degenerative diseases at younger ages. At ages 65 and over there was less of a health gap between Maori and non-Maori, with Maori mortality rates for some diseases being lower at this age than for non-Maori.

Maori in the Waikato DHB region and elsewhere were more likely than their non-Maori counterparts to commit suicide, especially between the ages of 15 to 24. Maori men in the Waikato DHB region were also more likely than their non-Maori counterparts to be hospitalised due to self-harm, but Maori women were less likely to be hospitalised for this reason than their non-Maori counterparts.

At the age of two, Maori immunisation rates in the Waikato DHB region were the same as those of the total population, although lower than those of Pakeha. By the age of five, however, Maori rates had slipped behind those of the total population. Maori were much less likely than non-Maori to have never smoked or to have given up smoking, both in the Rohe Potae and nationwide, although rates of smoking were higher for all groups in the Rohe Potae, especially the towns. Maori were generally less likely than non-Maori of the same gender to eat adequate quantities of fruit and vegetables, and were more likely to be overweight or obese, although Maori men had the highest rates of regular physical exercise. Some determinants of health occurred at a community rather than a personal level: Rohe Potae communities suffered from a lack of water fluoridation and, in at least some areas, poor air quality.

Chapter Six: Housing and amenities

Housing is important for a range of economic and socio-cultural reasons. Good housing can provide financial security for current and future generations; helps occupants maintain good health; is located within reasonable distance of whanau, schools, workplaces and vital services; can serve as a focal point for whanau and community life; provides a safe, stable, and secure environment; enables occupants to fulfil hospitality obligations; and can generally be a source of pride and status. Bad housing can be a financial burden; can cause illness or facilitate its spread; can be isolated from community and services; and can be a source of shame and embarrassment. Not all of the qualities of good housing can be measured, as some are partly or entirely subjective, or dependant on the exact nature of the household. This chapter will therefore provide only an approximate guide to the quality of Maori housing in the Rohe Potae inquiry district, based on those qualities which are capable of measurement and for which statistics are available: nature of tenure, amount of rent, type of landlord, occupancy, overcrowding, and amenities.

There appear to be higher percentages of substandard housing in rural areas nationwide, and it is therefore likely that this is a problem in the Rohe Potae.[229] However substandard housing is difficult to measure or even define, and no readily available statistics could be found covering the inquiry district. New Zealand also has a high percentage of cold, damp and uninsulated houses, with an estimated third of the country's housing stock being below the World Health Organization minimum temperature of 18°C, and in 2001 about a quarter lacked insulation.[230] No regional or ethnically-differentiated statistics could be found on insulation, dampness or housing temperature.

Household statistics are even more difficult to differentiate by ethnicity than those on individuals. Many households contain people who – individually or as a group – belong to multiple ethnicities. As a result, it is somewhat misleading to discuss 'Maori' or 'non-Maori' households. In keeping with standard demographic practice, this report classes as 'Maori

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[229] Charles Waldegrave, Peter King, Tangihaere Walker and Eljon Fitzgerald, 'Maori Housing Experiences: Emerging Trends and Issues', prepared by the Family Centre Social Policy Research Unit / Research Centre for Maori Health and Development, Massey University, for the Centre for Housing Research and Te Puni Kokiri, October 2006, p24.
[230] Whaingaroa Affordable Housing Trust, 'Feasibility Study: Whaingaroa Raglan Housing Affordability 2008', p25.

households' any households which include at least one individual who has identified as Maori on their census return.[231] All other households are classed as 'non-Maori households'. This means that some 'Maori households' may in fact be households in which Maori are a small minority.

The number of households in a geographic area will always be significantly smaller than the number of individuals. This means that there were a very small number of Maori households in many CAUs at the time of the 2006 census. The figures for these groups have therefore been confidentialised by Statistics New Zealand, making them unavailable. Because of this, most data presented in this chapter is by district rather than CAU.

Tenure

Benefits of home ownership include freedom from accommodation costs later in life, and the investment value of property, which can be passed onto younger generations.[232] Home ownership generally confers some degree of security and makes it less likely that the household will have to relocate, with potential impacts in areas such as children's education. Rented households are also more likely to be overcrowded than owner-occupied households, although it seems likely that this is because both factors are linked to lower incomes, rather than there being any causative link.[233] There are some disadvantages to home ownership, particularly when a large mortgage is involved, such as high debt levels, reduced flexibility to respond to changed circumstances, and the fact that major repairs become the financial responsibility of the owner-occupier rather than the landlord.

The 2006 census showed that Maori households were significantly less likely to own their own dwelling than non-Maori households (see graphs 67 and 68).[234] Nationwide, 45.0% of Maori households owned their dwelling, compared to 65.9% of non-Maori households ('ownership' includes ownership by family trusts). Home ownership rates were slightly higher for both groups in the Rohe Potae CAUs, with 46.0% of Maori households and 67.2%

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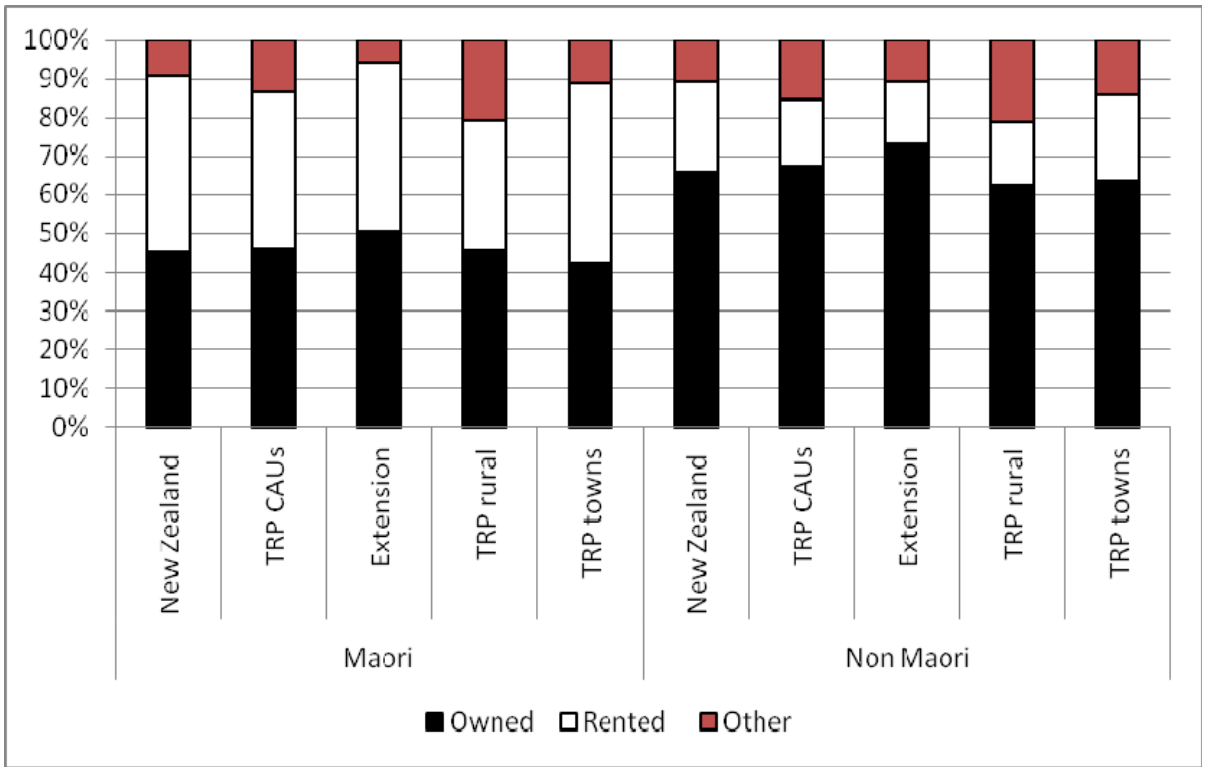
[231] Statistics New Zealand, 'Maori ethnicity in households', available at http://www.stats.govt.nz/browse_for_stats/people_and_communities/Households/housing-profiles-maori-ethnicity-in-households/household-income.aspx, accessed 13 April 2012.
[232] Franziska Pfitzner, Michael Flynn and Sherry Carne, 'Maori Housing Trends 2009', Housing New Zealand Corporation, June 2009, pp 47, 53-4.
[233] Statistics New Zealand, 'What is the extent of crowding in New Zealand? An analysis of crowding in New Zealand households 1986-2001', August 2003, p17.
[234] Area and Maori Households by Tenure of Household for Households in Private Occupied Dwellings, 2006 census. Data provided to Waitangi Tribunal by Statistics New Zealand.

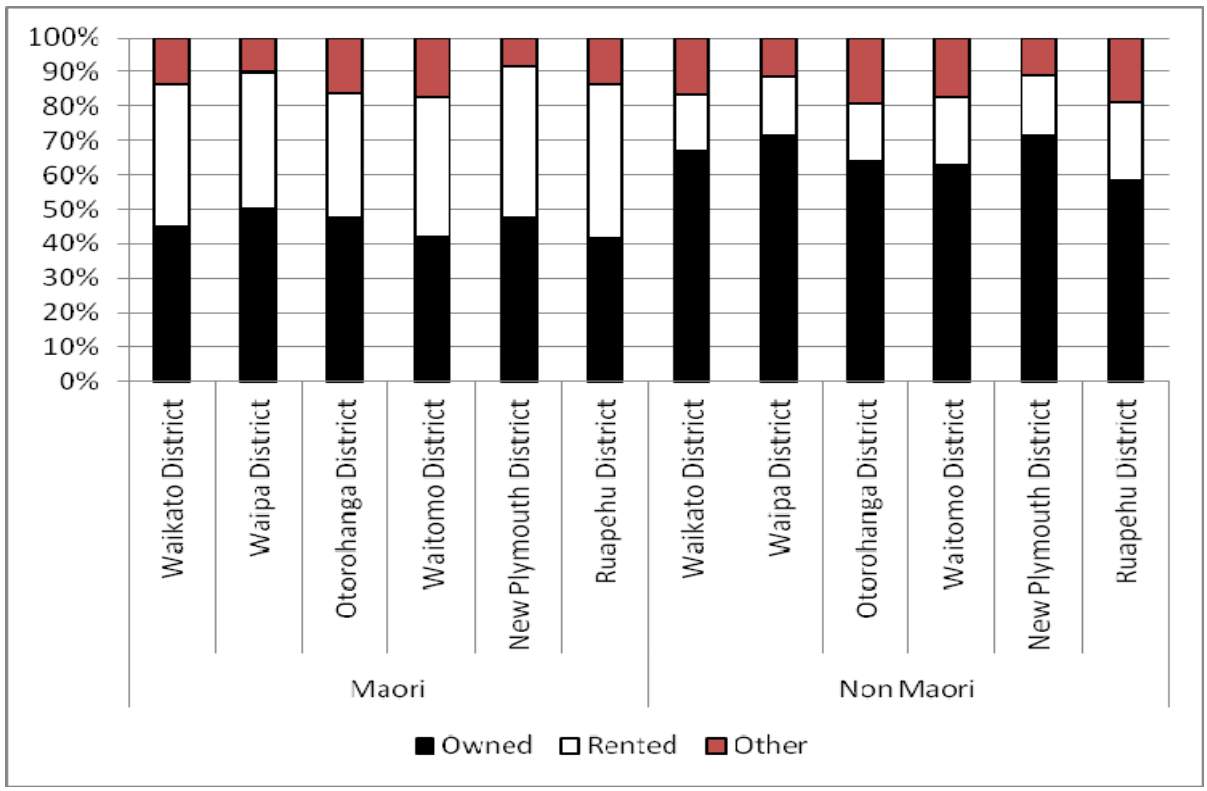
of non-Maori households owning their homes. Rates were highest for both groups in the extension area, at 50.6% of Maori households and 73.3% of non-Maori households. For Maori the lowest rate of home ownership was in the Rohe Potae towns, at 42.5% (compared to 63.4% for non-Maori), whereas for non-Maori it was in the rural CAUs, at 62.2% (compared to 45.4% for Maori). In the districts connected to the Rohe Potae, the highest rate for Maori was in Waipa District, at 50.3%, and the lowest in Ruapehu District, at 41.5%. The area with the lowest rate for non-Maori was also Ruapehu, at 58.3%, while the highest rate was in New Plymouth District, closely followed by Waipa District (71.3% and 71.2%). In every area examined here, non-Maori households were consistently 1.4 to 1.5 times more likely than non-Maori households to own their dwelling.

In most areas and for both groups, the majority of non home-owning households rented their dwelling (see graphs 66 and 67). Nationwide, 45.9% of Maori households and 23.2% of non-Maori households rented their homes, while 9.1% of Maori households and 10.9% of non-Maori households had tenure arrangements which were neither ownership nor renting.[235] Miscellaneous tenure arrangements were much more common in parts of the Rohe Potae than for New Zealand generally, with 20.6% of Maori households and 21.2% of non-Maori households in the rural Rohe Potae CAUS falling into this group. Such arrangements include employer- and family-provided housing, and are generally most common in rural areas.[236]

[235] This category includes the census data categories 'Dwelling not owned by usual resident(s), rental arrangements not further defined', 'Dwelling not owned by usual resident(s), who do not make rent payments', and 'Not elsewhere included'. It does not include any category of family trust ownership, which has been grouped with ownership.
[236] Pfitzner, Flynn and Carne, p58.



Graph 66: Percentages of households by tenure category, 2006 census.



Graph 67: Percentages of households by tenure category and district, 2006 census.

Some of the home ownership disparity may be attributed to the lower incomes and younger age structure of the Maori population. However, a Housing New Zealand study completed in 2009 showed that Maori home ownership rates were lower than those of Pakeha even when age and income were taken into account.[237] It is likely that at least some of the difference is due to differences in family structure, particularly larger families and higher rates of single parent families, and also to child-bearing at younger ages.[238] All of these factors make it more difficult to save for and buy a house.

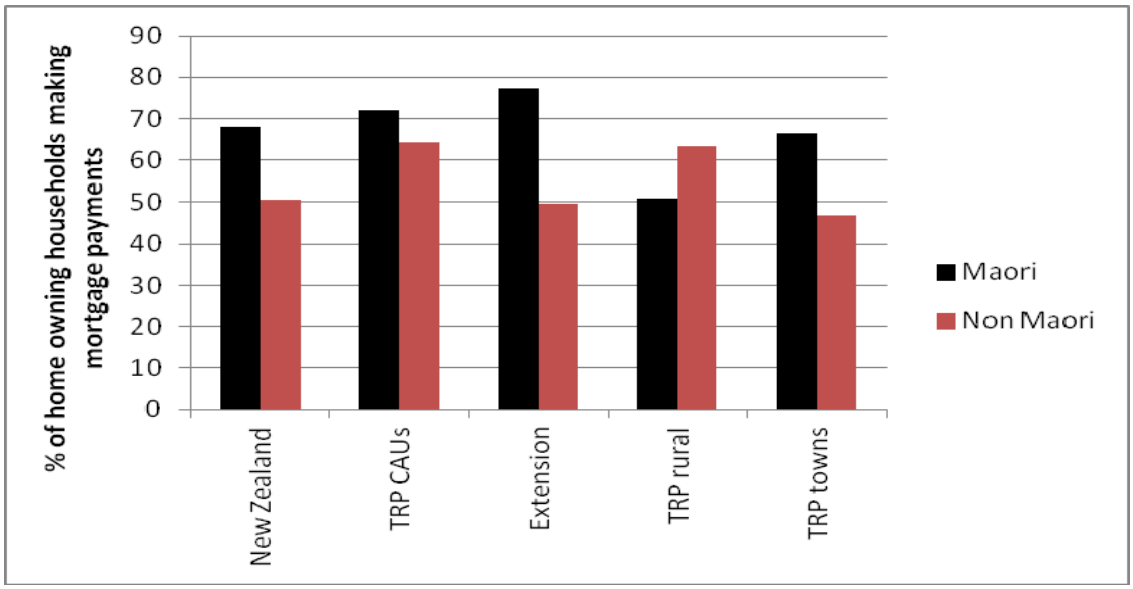
In general, housing is less expensive in rural parts of New Zealand than in urban areas. However, this does not seem to have translated into significantly higher rates of home ownership in the Rohe Potae-connected districts, especially for Maori. In some parts of the Rohe Potae, such as Raglan, housing is as expensive as in New Zealand's major urban areas due to factors such as proximity to Hamilton and demand for holiday homes.[239] This is a common problem in seaside resort areas around the country, with Maori families being pushed inland as coastal housing becomes unaffordable.[240] In addition, property prices have shown a higher increase in the Rohe Potate-connected districts than in New Zealand as a whole. Between December 2003 and March 2011, house prices in Ruapehu District increased by 130%, compared to 45% for New Zealand as a whole.[241] The increases for the other Rohe Potae-connected districts were: Waikato 69%, Waipa 71%, Otorohanga 95%, Waitomo 63%, and New Plymouth 69%.

Mortgages

Amongst those who owned their own homes, Maori in most areas were significantly more likely to be making mortgage payments (see graph 68). Nationwide, 68.0% of Maori homeowners had a mortgage compared to 50.5% of non-Maori homeowners.[242] For Maori the rate was higher than the national rate in the Rohe Potae extension area, at 77.2%, slightly lower in the Rohe Potae towns (66.3%), and much lower in the rural CAUs (51.1%). For non-Maori households, by contrast, the rate was much higher than the national rate in the rural

[237] Pfitzner, Flynn and Carne, pp 50-1.
[238] Waldegrave et al., pp 27-8.
[239] Whaingaroa Affordable Housing Trust, p6.
[240] Waldegrave et al., p121.
[241] Quotable Value, Residential Price Index – Houses, available at http://www.qv.co.nz/onlinereports/marketstatistics/propertystatistics.htm, accessed 13 October 2011.
[242] Area and Maori Households by Tenure of Household for Households in Private Occupied Dwellings, 2006 census. Data provided to Waitangi Tribunal by Statistics New Zealand.

CAUs (63.5%), slightly lower in the extension area (49.8%), and lower in the towns (46.9%). The overall disparity between Maori and non-Maori is likely to relate at least partly to the older age structure of the non-Maori population.



Graph 68: Percentages of home-owning households making mortgage payments, 2006 census. Includes homes owned by family trusts.

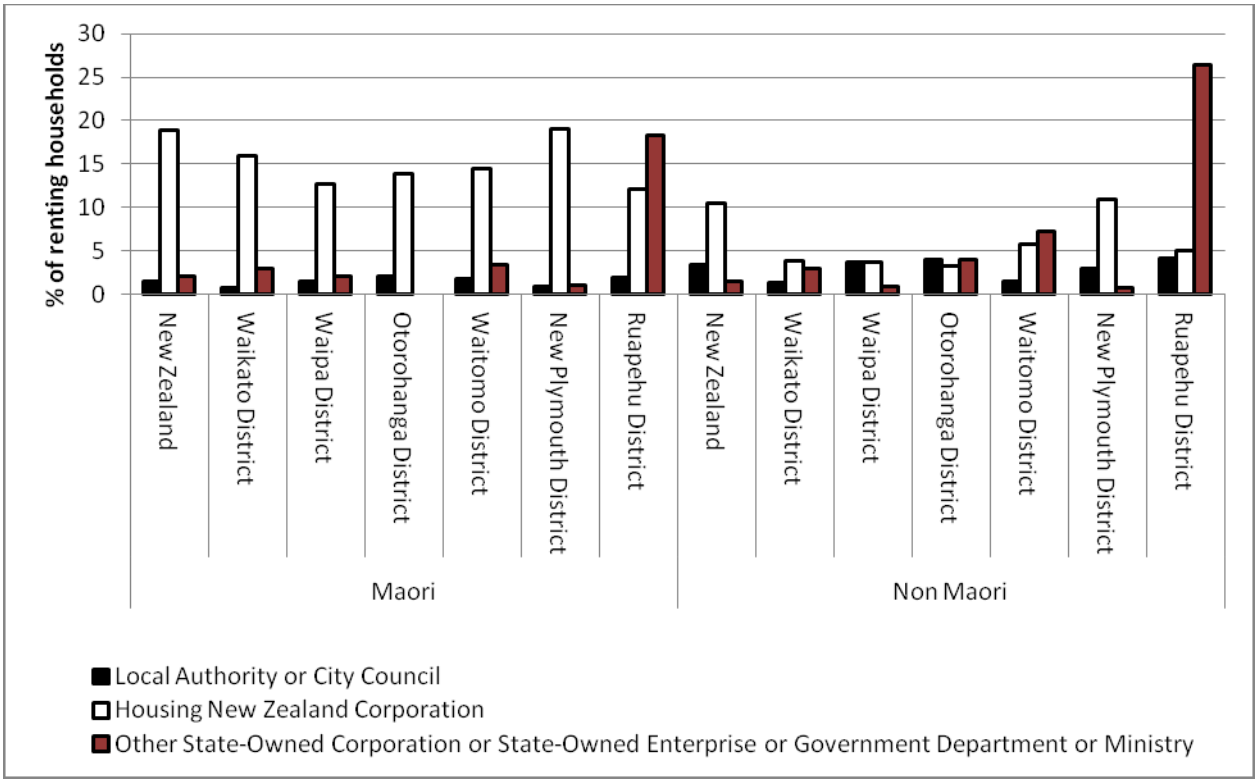
Rental

In 2006, the majority of all New Zealand households that rented their homes did so from private landlords; however Maori households were less likely than non-Maori households to do so. Nationwide, 72.2% of Maori home rentals were from private landlords, compared to 79.0% of non-Maori home rentals.[243] Non-Maori renters in Rohe Potae-connected districts were more likely than non-Maori renters nationally to have private landlords, except in Ruapehu District, while amongst Maori renters there was much more geographic variation. Both groups were much less likely to have private landlords in the Ruapehu District. This anomaly seems to be caused primarily by the Waiouru Army Camp: 'other' state-owned rental housing made up 22.2% of all rental homes in Ruapehu District and 88.0% of all rental homes in the Waiouru Census Area Unit.

Maori renters were much more likely than non-Maori to rent from Housing New Zealand, although except in New Plymouth District the organisation had a smaller percentage of

[243] Area and Maori Households by Sector of Landlord for Households Not Owned by Usual Residents, Who Make Rent Payments, in Private Occupied Dwellings, 2006 census. Data provided to Waitangi Tribunal by Statistics New Zealand.

tenants in the Rohe Potae-connected districts than nationwide (see graph 69). Non-Maori renters were somewhat more likely than Maori renters to have a local authority as their landlord, both in the Rohe Potae districts and elsewhere, probably because the housing policy of many local authorities focuses on the elderly.[244]

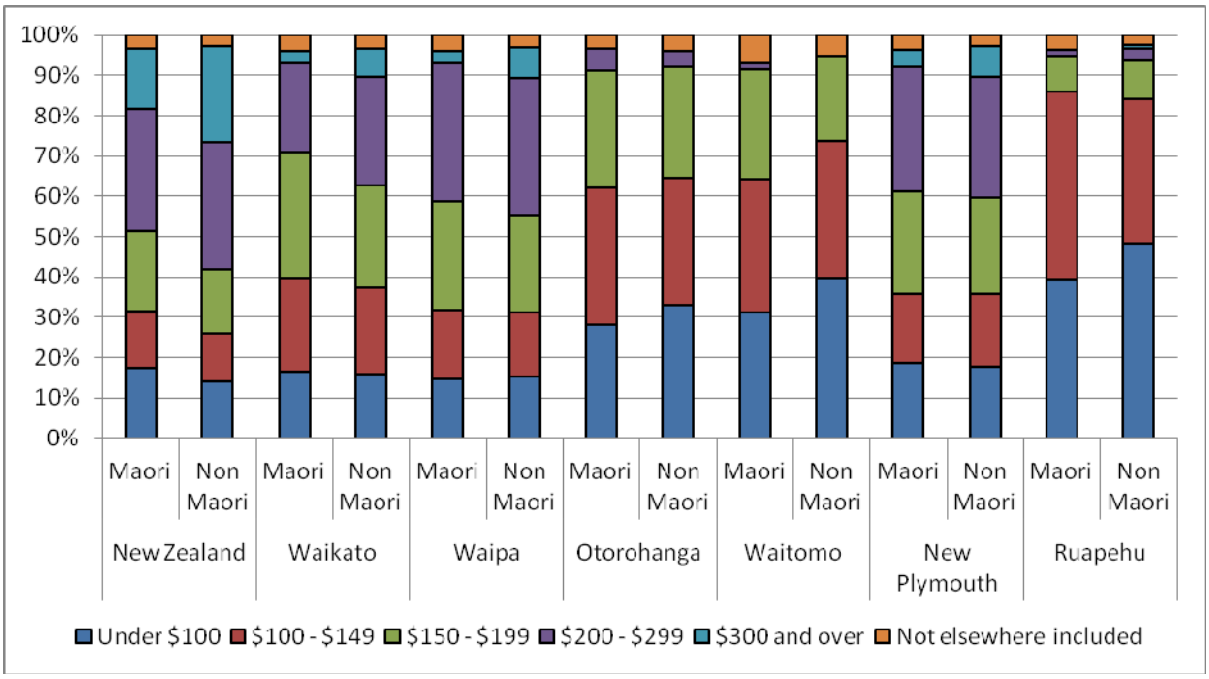


Graph 69: Percentage of renting households by type of public landlord, 2006 census.

For all renters, the amounts paid in rent tended to be less in the Rohe Potae-connected districts than elsewhere in New Zealand, particularly in Otorohanga, Waitomo and Ruapehu districts, although rents in Ruapehu District are likely to be distorted by the presence of large amounts of army-provided rental housing. Nationwide, 15.0% of Maori renting households and 24.0% of non-Maori renting households paid at least $300 per week in rent (see graph 70).[245] By comparison, fewer than 5% of Maori households and fewer than 8% of non-Maori households paid this much in any Rohe Potae-connected district, with the numbers paying this much in Otorohanga and Waitomo being so small that they are unavailable. Nationwide, 17.3% of Maori renting households and 14.1% of non-Maori renting households paid less

[244] Pfitzner, Flynn and Carne, p34.
[245] Areas and Weekly Rent Paid by Grouped Household Income and Maori Households for Households Not Owned by Usual Residents, Who Make Rent Payments, in Private Occupied Dwellings, 2006 census. Data provided to Waitangi Tribunal by Statistics New Zealand.

than $100 a week in rent. These percentages were much higher in Otorohanga, Waitomo and Ruapehu districts, but in these districts non-Maori households were more likely than Maori households to pay this little in rent.

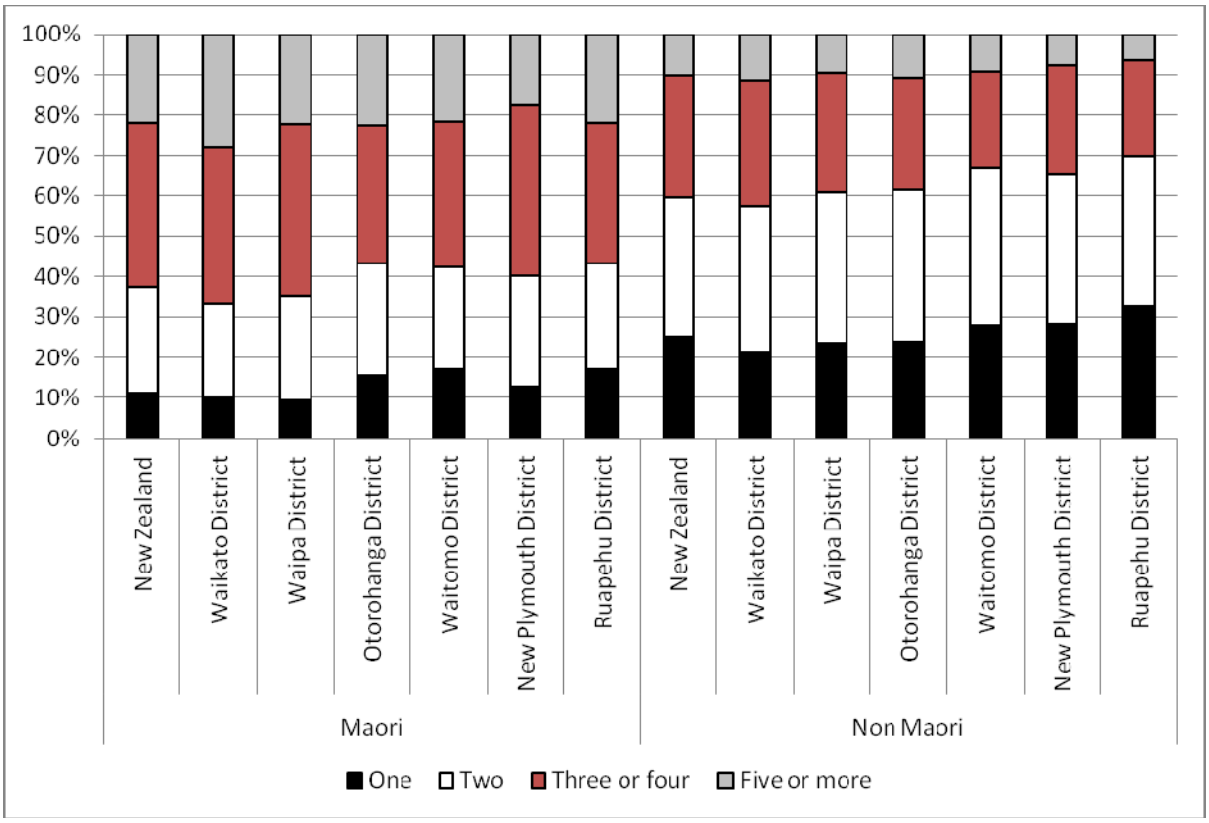


Graph 70: Weekly rent paid by ethnic group and district, 2006 census.

Size, occupancy and overcrowding

The 2006 census showed that Maori households, in the Rohe Potae-connected districts and elsewhere, tended to have more members than non-Maori households (see graph 71). Nationwide, 21.8% of Maori households had five or more members, compared to 10.1% of non-Maori households.[246] These percentages were similar for Maori in most Rohe Potae-connected districts, except Waikato, at 28.0%, and New Plymouth, at 17.4%. For non-Maori the percentages were somewhat higher in Waikato and Otorohanga districts, and lower in all other districts. Nationwide, 37.6% of Maori households contained only one or two people, compared to 59.8% of non-Maori households.

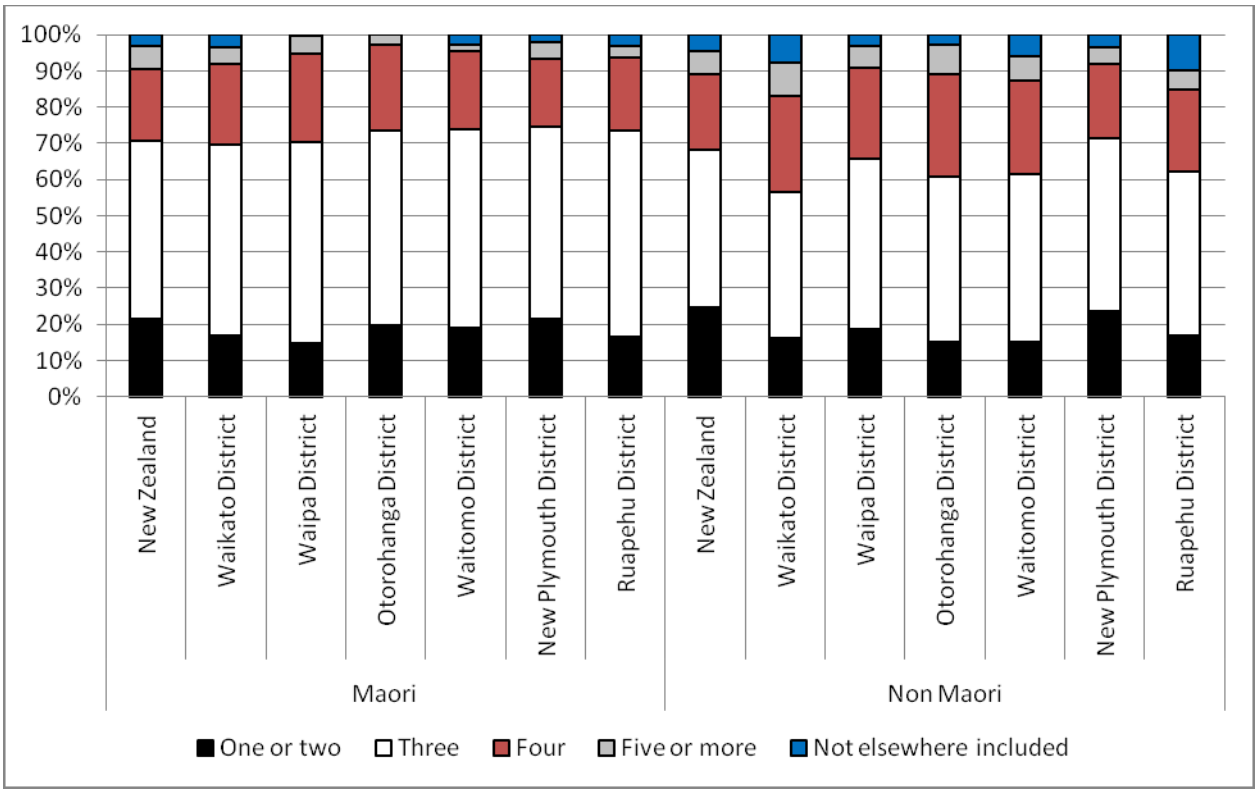
[246] Areas and Number of Bedrooms by Number of Occupants and Maori Households for Households in Private Occupied Dwellings, 2006 census. Data provided to Waitangi Tribunal by Statistics New Zealand.



Graph 71: Households by number of usual residents, 2006 census.

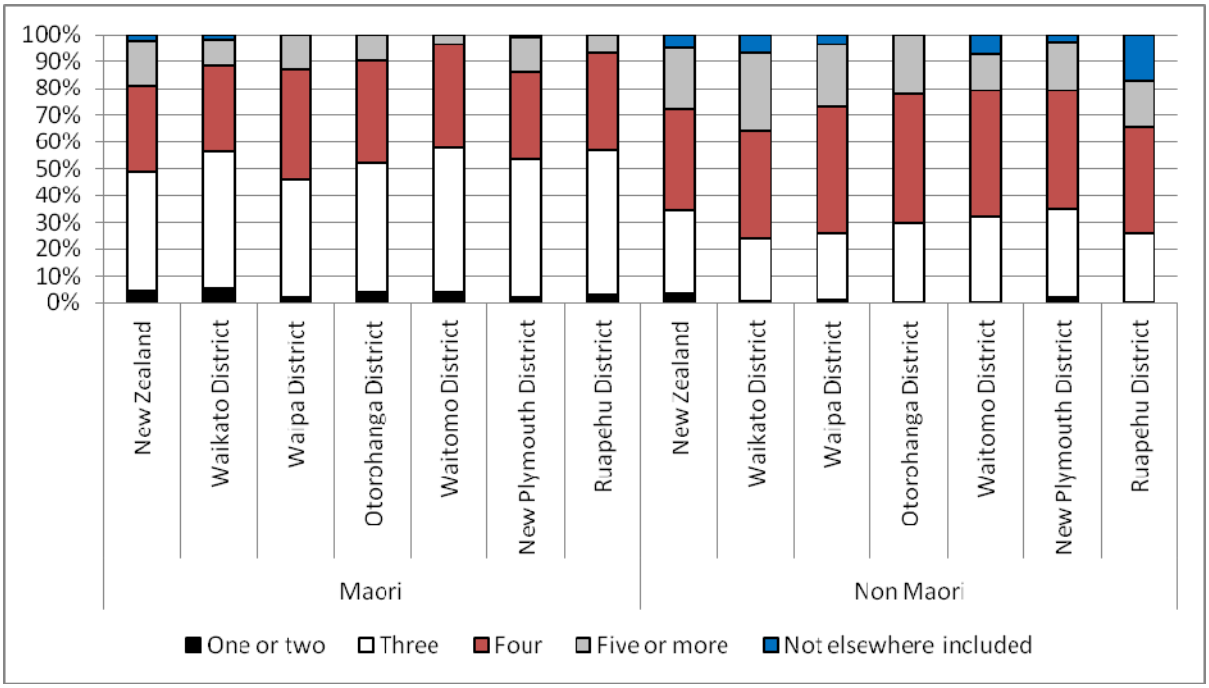
Even though they tended to be larger, Maori households were more likely to live in houses with three or fewer bedrooms than were non-Maori households, particularly in the Rohe Potae-connected districts (see graph 72). Nationwide, 70.6% of Maori households lived in houses with three or fewer bedrooms, compared to 68.2% of non-Maori households.[247] The differences were much larger in all the Rohe Potae-connected districts except New Plymouth and Waipa. The biggest difference was in Waikato District, where 68.1% of Maori households and 56.5% of non-Maori households were in three bedroom or smaller houses. In Otorohanga, Waitomo and Ruapehu, about 10% more Maori than non-Maori households lived in houses of three or fewer bedrooms. In Waikato, Otorohanga and Waitomo districts, non-Maori households were more than twice as likely as Maori households to have five or more bedrooms; in Waitomo District 6.7% of non-Maori households had this many bedrooms compared to just 1.6% of Maori households.

[247] Areas and Number of Bedrooms by Number of Occupants and Maori Households for Households in Private Occupied Dwellings, 2006 census. Data provided to Waitangi Tribunal by Statistics New Zealand.



Graph 72: Households by number of bedrooms, 2006 census.

The combination of generally larger household size with the lower likelihood of living in a large house meant that Maori households were more prone to overcrowding. Nationwide, 49% of Maori households with five or more members lived in houses with three or fewer bedrooms, compared to 34.3% of non-Maori households (see graph 73). The percentage for non-Maori was lower than the national average in all the Rohe Potae-connected districts except New Plymouth, whereas for Maori it was higher than the national average in all districts except Waipa and Otorohanga. In Waikato District, 54.2% of Maori households of five or more members lived in houses with three or fewer bedrooms, compared to 23.1% of non-Maori households of the same size. These houses were not necessarily overcrowded; a three bedroom house may be easily large enough for a couple and their three young children if the bedrooms are a reasonable size and there are ample communal rooms. However some of these houses would be too small for any group of five or more people, and in other cases the household composition would result in problematic sleeping arrangements such as overcrowded bedrooms or lounges doubling as bedrooms.



Graph 73: Households with five or more members by number of bedrooms, 2006 census.

The concepts of crowding and overcrowding are cultural rather than objective, as different cultures have different concepts of personal space, privacy, gender relations, and how households should be organised, all of which can be used to help determine what constitutes overcrowding. Most quantitative concepts of overcrowding are based on number of people per bedroom, for example, but it would be inappropriate if not impossible to apply these concepts to traditional Maori housing practices, in which several people might sleep in a large one-room whare.[248] However, the recognition that concepts of overcrowding are culturally determined does not mean that overcrowding does not really exist or that its negative effects are all cultural constructs. Having a large number of people in a relatively small space is linked to higher rates of various illnesses including meningococcal disease, acute rheumatic fever, tuberculosis, pneumonia and other respiratory diseases, and hepatitis A and B.[249]

The Equivalised Crowding Index (ECI) weights individuals according to their ages and relationships to each other, recognising that in Western culture it is normal for couples to

[248] Robinson, pp 95-9.
[249] Statistics New Zealand, 'What is the extent of crowding', pp 59-60.

share a bedroom and generally acceptable for children to share with each other.[250] This is still a somewhat crude measure of crowding, as it does not record the size of the bedrooms or take into account the general configuration of the house. Based on the ECI, Statistics New Zealand calculated the crowding index for Maori households in the Rohe Potae-connected districts in 2001 at 0.76 on average, compared to 0.56 for Pakeha households.[251] A household is considered overcrowded if it scores more than 1.0.

Another, slightly more complex, measure of crowding is the Canadian National Occupancy Standard. This is based on the criteria that there should be no more than two people per bedroom, and that only the following can share a room: couples; children under five years; and children under 18 of the same sex.[252] Using this measure, a Statistics New Zealand report on the subject calculated that, nationwide, 13.5% of Maori households were overcrowded in 2001, compared to around 5% of all households.[253] The Maori overcrowding rate had dropped significantly since 1991, when 22.4% of Maori households were classed as overcrowded. Waikato, Otorohanga, Waitomo and Ruapehu districts were in the quintile with the second highest rate of overcrowding in the country in 2001.[254] Waikato had the fourth highest rate of over-crowding in Maori households of any district in the country.[255]

Using the same standard, a Waikato DHB report shows that Maori households in all the Rohe Potae-connected districts in the DHB area were several times more likely than Pakeha households to be overcrowded (see graph 74). In 2006, 19 to 30% of Maori households were overcrowded, compared to just 4 to 6 percent of Pakeha households and 6 to 13% of all households.[256] The highest rate of Maori overcrowding was in Waikato District, and was six times higher than the Pakeha overcrowding rate.

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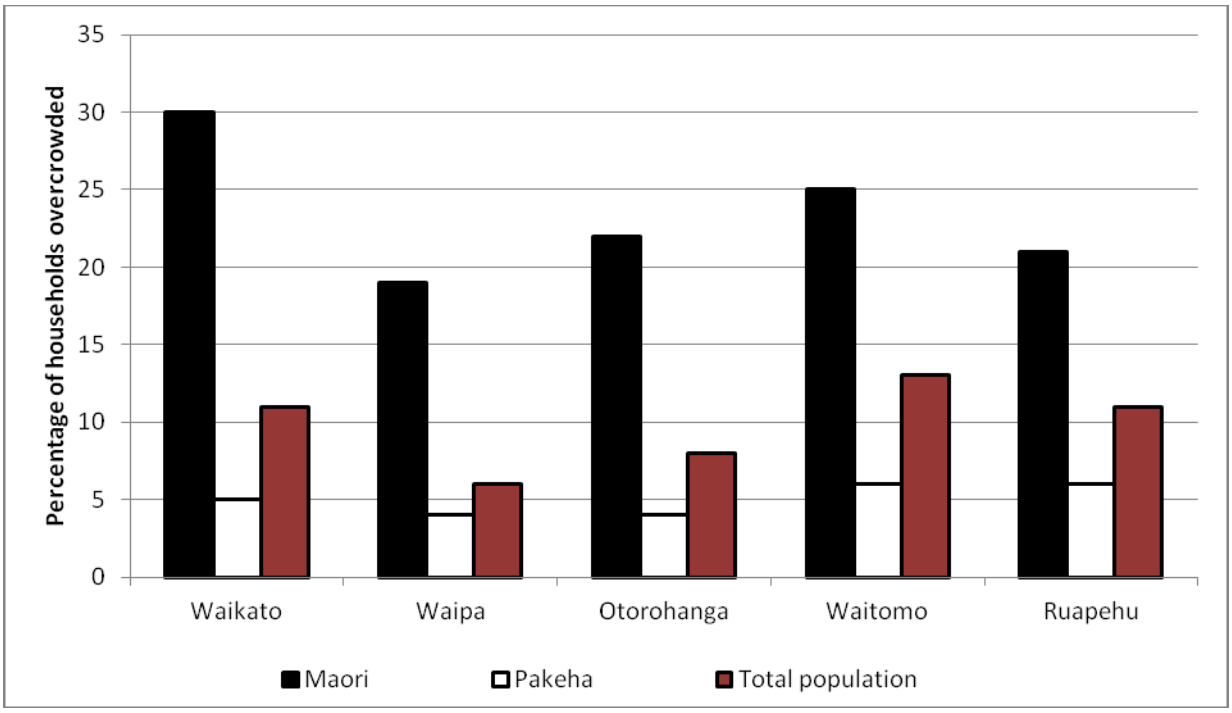
[250] Definition from http://www.stats.govt.nz/tools_and_services/tools/TableBuilder/housing-quality-tables/crowding-occupancy-rate.aspx, accessed 5 January 2012.
[251] Crowding Measures by Ethnic Group, available at http://www.stats.govt.nz/tools_and_services/tools/TableBuilder/housing-quality-tables/crowding-occupancy-rate.aspx, accessed 5 January 2012.
[252] Statistics New Zealand, 'What is the extent of crowding', p98.
[253] Statistics New Zealand, 'What is the extent of crowding', p16.
[254] Statistics New Zealand, 'What is the extent of crowding', p45. This means that if all the districts in New Zealand were split into five equal sized groups based on levels of overcrowding, the districts named would be in the second-most crowded group.
[255] Statistics New Zealand, 'What is the extent of crowding', p47.
[256] Health Waikato, 'Future Focus: Maori' [draft report, 2011], p21. Provided to Waitangi Tribunal by Waikato DHB.



Graph 74: Percentages of households which were overcrowded in 2006. Health Waikato.

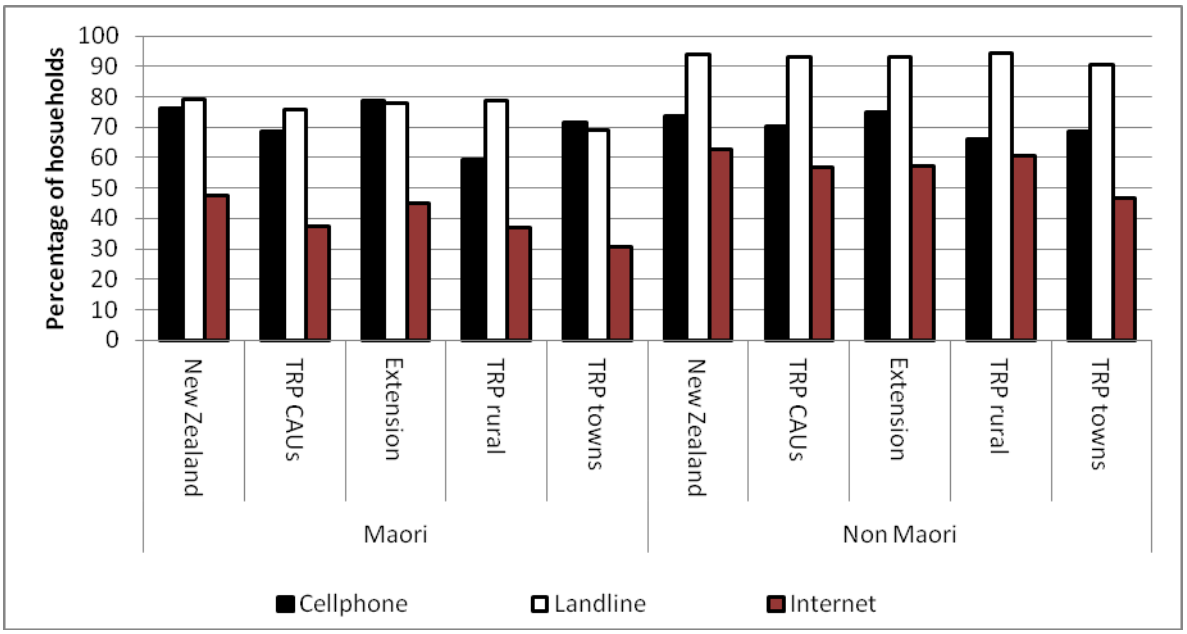
A Housing New Zealand report found that the relatively high percentage of overcrowded Maori households was due to a range of factors, including low incomes, high numbers of children, extended families or multiple families living together, the relatively young age structure of the Maori population, cultural obligations of hospitality and, in rural areas, return migration to traditional areas and a shortage of large houses.[257] As well as crowding from permanent occupants, Maori households frequently hosted visitors and temporary residents, even when doing so caused serious overcrowding.[258] It is possible that the census data under-records overcrowding, as some households may not have mentioned long-term guests or even some permanent residents if their living arrangements violated the terms of their tenancy or conditions of a household member's benefit.[259]

Telecommunications

In 2006, Maori households in the Rohe Potae and elsewhere were less likely than non-Maori households to have a landline telephone or an internet connection, but about as likely to have

[257] Pfitzner, Flynn and Carne, p27.
[258] Waldegrave et al., pp 104-5.
[259] Statistics New Zealand, 'What is the extent of crowding', p4.

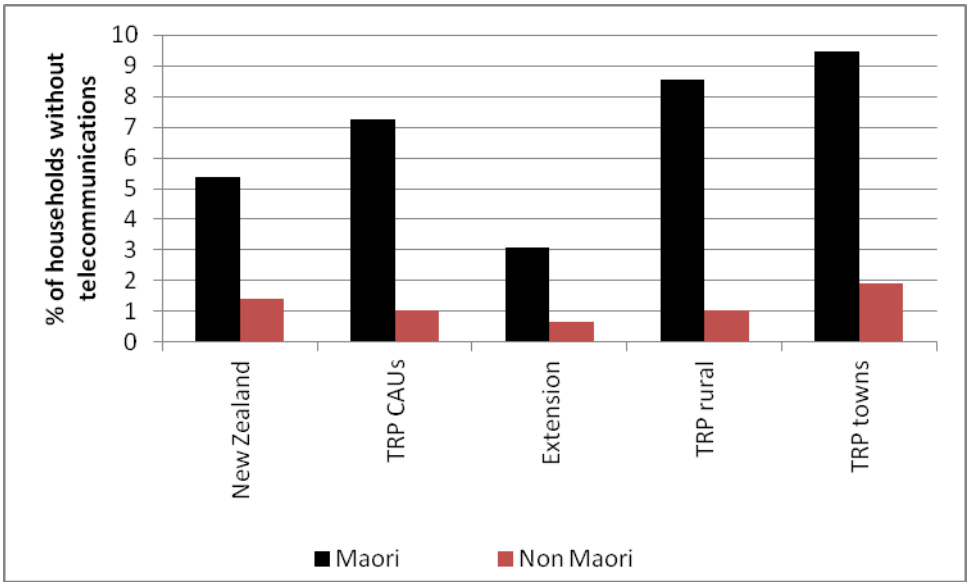
a cellphone (see graph 75).[260] Internet connection rates were lower in the Rohe Potae CAUs, especially for Maori. For both groups, the lowest rates of both landline and internet access were in the Rohe Potae towns, whereas for cellphones, the lowest rates were in the rural Rohe Potae CAUs. In the extension area and the Rohe Potae towns, Maori households were more likely than non-Maori households to have a cellphone.



Graph 75: Households by available telecommunications, 2006 census.

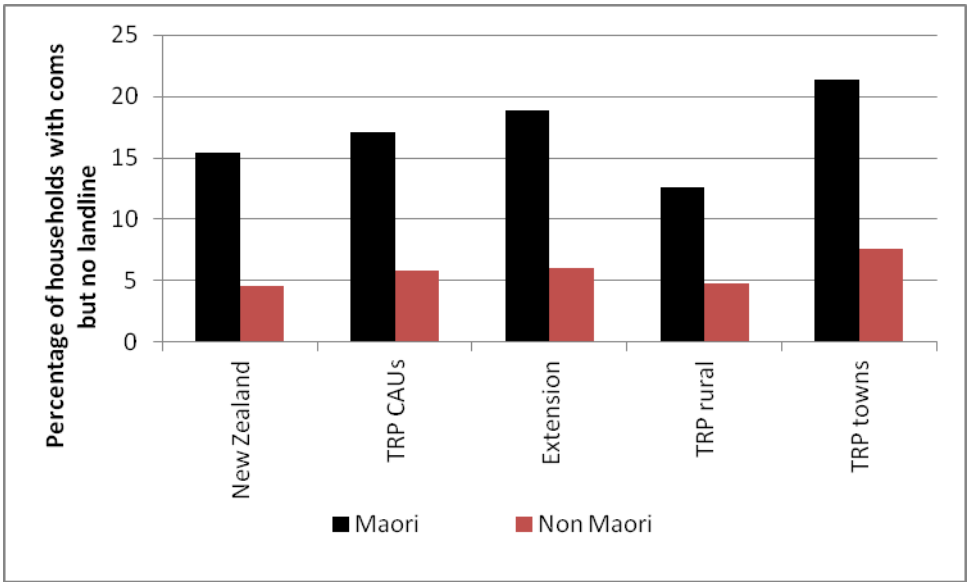
As these statistics indicate, Maori households were much more likely than non-Maori households to have no telecommunications. Nationwide, 5.4% of Maori households had no means of telecommunication, compared to just 1.4% of non-Maori households (see graph 76). The difference was even more pronounced in the Rohe Potae CAUs, where 7.3% of Maori households had no telecommunications, compared to 1.0% of non-Maori households. This has serious implications with regard to the occupants' ability to access information, remain connected with family and support networks, and seek help in an emergency. This was particularly so in rural areas, and Maori households in the rural Rohe Potae CAUs had a particularly high rate – 8.6% – of not having any telecommunications (the non-Maori rate was 1.0%).

[260] Areas and Maori Households by Access to Telecommunication Systems (Total Responses) for Households in Private Occupied Dwellings, 2005 census. Data provided to Waitangi Tribunal by Statistics New Zealand.



Graph 76: Households without any form of telecommunication, 2006 census.

Maori households, in the Rohe Potae and elsewhere, also had much higher rates than non-Maori households of having telecommunications but no landline telephone. Nationally, 15.4% of Maori households had one or more of a cellphone, internet connection or fax machine but no landline, compared to 4.6% of non-Maori households (graph 77). Both groups had significantly higher rates in the Rohe Potae CAUs: 17.0% for Maori households and 5.8% for non-Maori households. Both groups had the highest rates in the Rohe Potae towns and the lowest rates in the Rohe Potae rural CAUs. It seems likely that most of these households had replaced their landline telephone with one or more cellphones. Whether this is a positive or negative statistic is difficult to determine. Reliance on cellphones may be problematic, especially in rural areas with poor coverage, and in households with fewer cellphones than people. On the other hand, cellphones and cellphone numbers are both more portable than landlines and landline numbers, and cellphones may be significantly more affordable for low-income households if they are able to avoid making many outgoing calls.

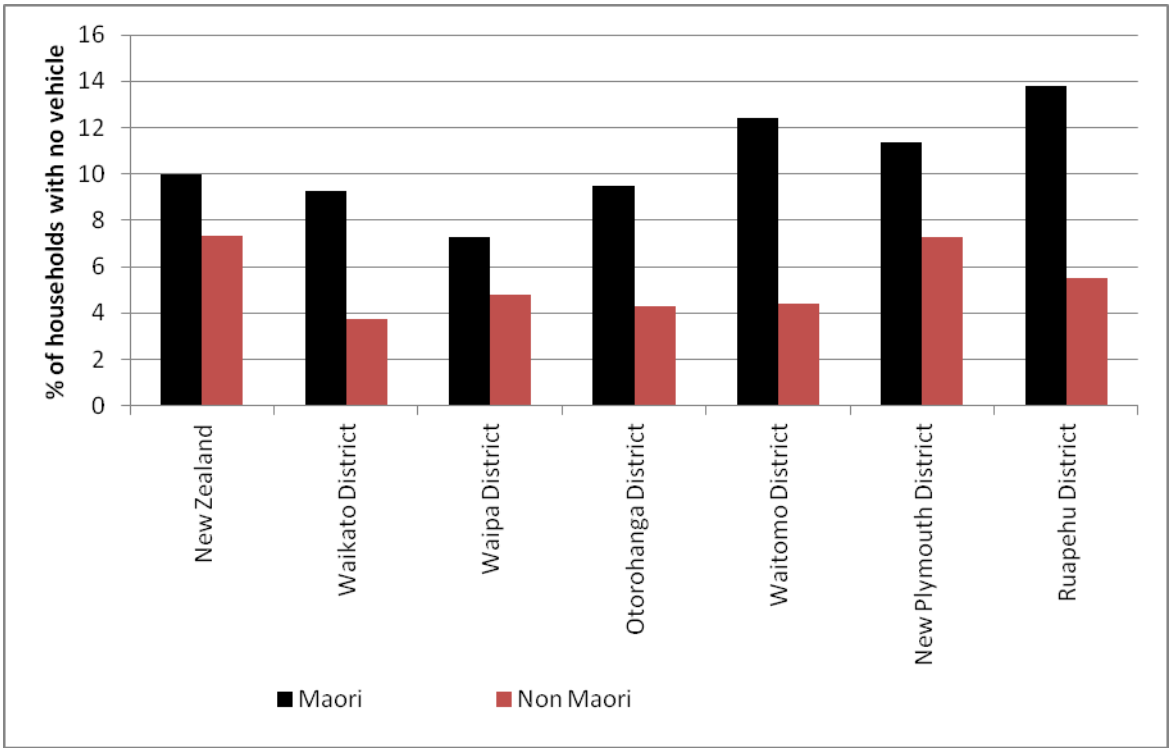


Graph 77: Households with telecommunications but not landline telephones, 2006 census.

Motor vehicles

As with telecommunications, Maori households in the Rohe Potae and elsewhere were more likely to be without a motor vehicle than were non-Maori households (see graph 78). Nationwide, 10.0% of Maori households and 7.3% of non-Maori households had no motor vehicle.[261] For Maori households the percentages were higher in Waitomo, New Plymouth and Ruapehu districts and lower in Waikato, Waipa and Otorohanga districts, whereas for non-Maori households the percentages were lower in all Rohe Potae-connected districts except New Plymouth, where they were the same as for New Zealand as a whole. Lack of a motor vehicle can cause significant difficulties in accessing work, education, healthcare and other social services, especially in rural areas.[262] A household without a motor vehicle or telecommunications, especially in an isolated rural area, can easily be cut off from the outside world and unable to seek help in an emergency.

[261] Areas and Maori Households by Number of Motor Vehicles for Households in Private Occupied Dwellings, 2006 census. Data provided to Waitangi Tribunal by Statistics New Zealand.
[262] Health Waikato, 'Healthy Environments', p9.



Graph 78: Households with no motor vehicle, 2006 census.

Chapter six summary

Maori in the Rohe Potae and in New Zealand generally were over-represented in negative statistics relating to housing. Maori were less likely than non-Maori to own their own homes, and Maori home-owners were more likely than their non-Maori equivalents to be making mortgage repayments. Maori renters were more likely than non-Maori renters to have Housing New Zealand as their landlord. The amount of rent paid by renters was on average lower in the Rohe Potae than in New Zealand generally, but Maori renters in most parts of the Rohe Potae were less likely than non-Maori renters to be paying less than $100 a week in rent. Maori households also tended to have fewer bedrooms and more people than non-Maori households. Maori households were more likely than non-Maori households to lack telecommunications or a motor vehicle, with rates of internet connection being particularly low for Maori households in the Rohe Potae.

Summary

This report has generally compared four groups of people: Maori in the Rohe Potae inquiry district and areas approximating or overlapping it; non-Maori in the equivalent area; Maori in New Zealand as a whole; and non-Maori in New Zealand as a whole. By most of the measures examined in this report, Rohe Potae Maori have much in common with Maori in New Zealand as a whole, and are distinct from their non-Maori neighbours.

Where differences between Maori and non-Maori socio-demographic data can be regarded as positive or negative, Maori are almost invariably worse off, both in the Rohe Potae and in New Zealand generally. Maori were more likely to live in areas of high deprivation, more likely to be unemployed or out of the labour force, less likely to be self-employed or to employ others, and more likely to work in unskilled or semi-skilled occupations. Maori also tended to earn less than non-Maori, even when demographic factors and differing employment levels are taken into account. With regard to education, Maori children were less likely to have attended Early Childhood Education, and Maori were less likely to have achieved formal qualifications. Maori had higher mortality rates, and were more susceptible to many major and common illnesses than non-Maori. Finally, Maori were over-represented in negative housing statistics, being less likely to own their own homes, more likely to be making mortgage payments if they were homeowners, and less likely to be paying very low rent if they were renting. Maori households also tended to have more people and fewer rooms.

Some of the differences between Maori and non-Maori cannot clearly be regarded as either positive or negative. For example, the Maori population was younger on average than the non-Maori population, and Maori women were more likely to have had four or more children. Maori were also generally more likely than non-Maori to do unpaid work, both inside and outside their own households. Maori households were more likely to be dependent on telecommunication devices other than landline telephones.

The Rohe Potae inquiry district population has a higher proportion of Maori than New Zealand as a whole. The relatively high Maori population appears to be linked with a number of other socio-demographic factors, many of them linked to Maori identity. Maori in the inquiry district were more likely than Maori in New Zealand generally to identify solely as

Maori, to know their iwi, and to be fluent in te reo Maori. Maori descendants in the Rohe Potae were also more likely than Maori descendants elsewhere to identify as Maori.

The Rohe Potae population, Maori and non-Maori, differed in a few ways from the national population. Rohe Potae women from both ethnic groups had more children than did New Zealanders generally. Both groups were less likely to have educational qualifications than their nationwide counterparts, although the gap between Maori and non-Maori in the Rohe Potae was more pronounced than the gap between the Rohe Potae and New Zealand generally. Rates of internet connectivity were significantly lower for both groups in the Rohe Potae than nationally, but again the gap between Maori and non-Maori was generally more pronounced than the gap between the Rohe Potae and New Zealand generally.

Overall, then, Maori of the Rohe Potae inquiry district were broadly representative of Maori in wider New Zealand, which meant that they were over-represented in most of the negative socio-economic statistics examined in this report.

Appendix

All census figures are randomly rounded to base 3. In some cases this has meant minor inconsistencies in figure totals. Statistics New Zealand also has a policy of not releasing data that allows the identification of individuals. As a result, some small categories, particularly CAU data, has been inaccurately calculated as zero. As a result, some figures underestimate population numbers.

Figure 1: Numbers and percentage of populations identifying as Maori, 2006 census.

	Non Maori	Maori	Total population	Maori as percentage
NZ	3,462,618	565,329	4,027,947	14.0
TRP CAUs	35,931	11,496	47,427	24.2
Extension	15,228	3,081	18,309	16.8
TRP rural	14,733	4,737	19,470	24.3
TRP towns	5,970	3,678	9,648	38.1
Waikato District	33,294	10,662	43,956	24.3
Waipa District	37,119	5,382	42,501	12.7
Otorohanga District	6,717	2,358	9,075	26.0
Waitomo District	5,802	3,639	9,441	38.5
New Plymouth District	59,529	9,369	68,898	13.6
Ruapehu District	8,613	4,956	13,569	36.5

Figure 2: Numbers and percentages of Maori population identifying solely as Maori, and as Maori and NZ European, 2006 census.

	Sole Maori	% of Maori population	Maori/European	% of Maori population
New Zealand	298,395	52.8	207,912	36.8
TRP CAUs	7,089	61.7	3,789	33.0
Extension	1,698	55.1	1,218	39.5
TRP rural	2,922	61.7	1,545	32.6
TRP towns	2,469	67.1	1,026	27.9
Waikato District	7,023	65.9	2,922	27.4
Waipa District	2,712	50.4	2,367	44.0
Otorohanga District	1,473	62.5	753	31.9
Waitomo District	2,559	70.3	930	25.6
New Plymouth District	4,530	48.4	4,149	44.3
Ruapehu District	3,150	63.6	1,518	30.6

Figure 3: Numbers and percentages of Maori in Rohe Potae CAUs, and numbers and percentages of Maori identifying solely as Maori, 2006 census.

	No of sole Maori	Sole Maori as % of Maori	No of Maori	% of Maori in population
Raglan	420	58.1	723	27.4
Te Uku	165	50.5	327	19.7
Te Pahu	33	37.9	87	7.3
Ohaupo	15	35.7	42	9.9
Kihikihi	483	68.2	708	36.1
Te Rore	15	62.5	24	5.8
Pirongia	33	35.5	93	7.0
Pokuru	12	40.0	30	6.5
Lake Ngaroto	12	22.2	54	10.2
Tokanui	126	64.6	195	45.5
Kaipaki	18	22.2	81	8.9
Te Rahu	15	33.3	45	5.0
Kihikihi Flat	33	36.7	90	12.8
Allen Road	0	0.0	12	7.7
Rotongata	72	50.0	144	17.5
Te Awamutu West	126	50.6	249	20.3
Te Awamutu Central	243	50.0	486	15.5
Te Awamutu East	306	59.3	516	20.7
Te Awamutu South	366	61.6	594	20.3
Kawhia Community	153	75.0	204	52.3
Otorohanga	579	64.8	894	34.5
Otorohanga Rural West	243	63.3	384	22.8
Te Kawa	45	51.7	87	20.7
Otorohanga Rural East	453	57.4	789	19.8
Piopio	156	74.3	210	44.9
Taharoa	153	87.9	174	80.6
Mahoenui	72	54.5	132	27.5
Marokopa	294	69.5	423	26.3
Waipa Valley	129	60.6	213	21.7
Tiroa	18	50.0	36	44.4
Mokauiti	264	66.7	396	33.5
Te Kuiti	1470	71.3	2061	46.6
Okoki-Okau	135	47.4	285	14.9
Ohura	36	63.2	57	34.5
Ngapuke	246	60.7	405	25.6
Otangiwai-Heao	150	61.0	246	26.5

Figure 4: Percentages of Maori in Rohe Potae CAUs, and score on New Zealand Deprivation Index interval variable, 2006.

	Dep Index interval variable	% of Maori in population
Raglan	1088	27.4
Te Uku	968	19.7
Te Pahu	925	7.3
Ohaupo	955	9.9
Kihikihi	1046	36.1
Te Rore	889	5.8
Pirongia	916	7.0
Pokuru	949	6.5
Lake Ngaroto	923	10.2
Tokanui	1084	45.5
Kaipaki	931	8.9
Te Rahu	916	5.0
Kihikihi Flat	921	12.8
Allen Road	932	7.7
Rotongata	948	17.5
Te Awamutu West	1015	20.3
Te Awamutu Central	1004	15.5
Te Awamutu East	1015	20.7
Te Awamutu South	1029	20.3
Kawhia Community	1139	52.3
Otorohanga	1057	34.5
Otorohanga Rural West	986	22.8
Te Kawa	950	20.7
Otorohanga Rural East	971	19.8
Piopio	1043	44.9
Taharoa	1139	80.6
Mahoenui	988	27.5
Marokopa	971	26.3
Waipa Valley	965	21.7
Tiroa	1087	44.4
Mokauiti	1028	33.5
Te Kuiti	1110	46.6
Okoki-Okau	972	26.5
Ohura	1151	14.9
Ngapuke	1005	34.5
Otangiwai-Heao	1008	25.6

Figure 5: Population change, 1991 to 2006 censuses.

	Non Maori	Maori	Total	% Non Maori pop change	% Maori pop change
New Zealand	523,539	130,482	654,021	17.8	30.0
TRP CAUs	237	1,347	1,584	0.7	13.3
Extension	1,974	762	2,736	14.9	32.9
TRP rural	-1,221	186	-1,035	-7.7	4.1
TRP urban	-516	399	-117	-8.0	12.2
Waikato District	5,148	1,395	6,543	18.3	15.1
Waipa District	5,754	1,230	6,984	18.3	29.6
Otorohanga District	-246	228	-18	-3.5	10.7
Waitomo District	-831	180	-651	-12.5	5.2
New Plymouth District	-435	2,139	1,704	-0.7	29.6
Ruapehu District	-2,511	-783	-3,294	-22.6	-13.6

Figure 6: Numbers and percentages of Maori descendants by ethnic identities, 2006 census.

	Maori	%	European	%	Other	%
New Zealand	522,579	81.1	307,161	47.7	94,620	14.7
TRP CAUs	10,545	84.4	5,145	41.2	1,158	9.3
Extension	2,889	78.7	1,794	48.9	381	10.4
TRP rural	4,326	84.3	2,076	40.5	510	9.9
TRP towns	3,330	90.0	1,275	34.4	267	7.2

Figure 7: Percentage of Maori in Rohe Potae CAU populations, and number and percentage of Maori not knowing their iwi, 2006 census.

	No. of Maori not knowing iwi	% of Maori not knowing iwi	% of Maori in area
Raglan	81	11.3	27.4
Te Uku	48	13.0	19.7
Te Pahu	15	12.5	7.3
Ohaupo	15	26.3	9.9
Kihikihi	90	12.2	36.1
Te Rore	15	35.7	5.8
Pirongia	42	25.9	7.0
Pokuru	9	23.1	6.5
Lake Ngaroto	9	13.0	10.2
Tokanui	27	13.2	45.5
Kaipaki	21	21.9	8.9
Te Rahu	45	48.4	5.0
Kihikihi Flat	12	12.1	12.8
Allen Road	N/A	N/A	7.7
Rotongata	24	15.4	17.5
Te Awamutu West	60	20.2	20.3
Te Awamutu Central	105	17.5	15.5
Te Awamutu East	105	18.2	20.7
Te Awamutu South	99	14.0	20.3
Kawhia Community	12	5.8	52.3
Otorohanga	117	12.4	34.5
Otorohanga Rural West	69	15.5	22.8
Te Kawa	15	16.1	20.7
Otorohanga Rural East	192	22.5	19.8
Piopio	15	6.8	44.9
Taharoa	9	5.7	80.6
Mahoenui	21	14.6	27.5
Marokopa	66	13.9	26.3
Waipa Valley	33	13.8	21.7
Tiroa	N/A	N/A	44.4
Mokauiti	42	10.9	33.5
Te Kuiti	189	9.2	46.6
Okoki-Okau	54	15.9	14.9
Ohura	N/A	N/A	34.5
Ngapuke	66	14.8	25.6
Otangiwai-Heao	48	18.2	26.5

Figure 8: Numbers and percentages of population in age ranges, 2006 census.

	Maori national	%	Non Maori national	%	Maori TRP CAUs	%	Non Maori TRP CAUs	%
0-4 Years	66,423	11.7	208,656	6.0	1,224	10.7	2,274	6.3
5-9 Years	66,771	11.8	219,717	6.3	1,326	11.5	2,493	6.9
10-14 Years	66,726	11.8	239,283	6.9	1,320	11.5	2,676	7.4
15-19 Years	58,533	10.4	241,665	7.0	1,149	10.0	2,301	6.4
20-24 Years	42,774	7.6	228,204	6.6	816	7.1	1,563	4.3
25-29 Years	38,106	6.7	204,336	5.9	702	6.1	1,716	4.8
30-34 Years	39,459	7.0	237,102	6.8	735	6.4	2,235	6.2
35-39 Years	38,598	6.8	262,956	7.6	753	6.6	2,718	7.6
40-44 Years	37,272	6.6	276,426	8.0	807	7.0	2,907	8.1
45-49 Years	31,905	5.6	261,516	7.6	723	6.3	2,907	8.1
50-54 Years	24,192	4.3	228,537	6.6	516	4.5	2,589	7.2
55-59 Years	18,627	3.3	214,947	6.2	447	3.9	2,445	6.8
60-64 Years	12,816	2.3	166,800	4.8	288	2.5	1,890	5.3
65-69 Years	10,155	1.8	138,393	4.0	261	2.3	1,587	4.4
70-74 Years	6,507	1.2	110,427	3.2	168	1.5	1,317	3.7
75-79 Years	3,807	0.7	97,407	2.8	96	0.8	1,074	3.0
80-84 Years	1,764	0.3	70,473	2.0	63	0.5	714	2.0
85 Years And Over	888	0.2	55,782	1.6	27	0.2	606	1.7

Figure 9: Number of children born alive to women aged 15 and over (numbers and percentages of women), 2006 census.

	Maori					Non-Maori				
	NZ	TRP CAUs	Extension	TRP rural	TRP urban	NZ	TRP CAUs	Extension	TRP rural	TRP urban
None	55,284	3,954	291	330	300	405,936	16,179	1,353	1,038	468
%	28.6	24.8	27.4	22.5	23.1	28.1	21.3	21.0	20.0	17.9
One	24,456	1,815	117	129	162	152,682	7,101	603	426	255
%	12.7	11.4	11.0	8.8	12.5	10.6	9.4	9.3	8.2	9.7
Two	31,491	2,520	183	240	204	342,507	18,408	1,545	1,170	621
%	16.3	15.8	17.2	16.4	15.7	23.7	24.2	24.0	22.6	23.7
Three	25,455	2,109	120	210	171	227,838	14,640	1,311	1,122	471
%	13.2	13.2	11.3	14.3	13.2	15.8	19.3	20.3	21.6	18.0
Four +	38,598	3,720	231	348	303	174,426	11,802	1,062	867	456
%	20.0	23.3	21.8	23.7	23.4	12.1	15.5	16.5	16.7	17.4
Refused / not otherwise incl.	17,901	1,749	96	132	156	142,209	7,800	579	555	354
%	9.3	11.0	9.0	9.0	12.0	9.8	10.3	9.0	10.7	13.5

Figure 10: Numbers and percentages of men aged 25 to 64 by labour force status, ethnicity and district, 2006 census.

		Employed	%	Unemployed	%	Not in labour force	%
Maori	New Zealand	86,397	76.9	6,168	5.5	19,803	17.6
	Waikato District	1,452	72.8	123	6.2	417	20.9
	Waipa District	900	84.7	30	2.8	135	12.7
	Otorohanga District	363	63.7	27	4.7	180	31.6
	Waitomo District	543	73.3	33	4.5	165	22.3
	New Plymouth District	1,473	76.8	105	5.5	336	17.5
	Ruapehu District	747	74.8	60	6.0	192	19.2
Non Maori	New Zealand	746,745	86.3	19,353	2.2	98,709	11.4
	Waikato District	7,578	88.7	135	1.6	840	9.8
	Waipa District	8,364	90.5	102	1.1	777	8.4
	Otorohanga District	1,644	85.8	18	0.9	252	13.1
	Waitomo District	1,398	91.7	6	0.4	123	8.1
	New Plymouth District	12,825	87.7	324	2.2	1,461	10.0
	Ruapehu District	2,049	88.2	36	1.6	237	10.2

Figure 11: Numbers and percentages of men aged 15 to 24 by labour force status, ethnicity and district, 2006 census.

		Employed	%	Unemployed	%	Not in labour force	%
Maori	New Zealand	27,762	56.2	5,850	11.8	15,759	31.9
	Waikato District	444	50.5	129	14.7	309	35.2
	Waipa District	312	62.7	45	9.0	138	27.7
	Otorohanga District	135	49.5	24	8.8	117	42.9
	Waitomo District	174	62.4	21	7.5	84	30.1
	New Plymouth District	492	54.8	111	12.4	294	32.8
	Ruapehu District	291	67.8	24	5.6	111	25.9
Non Maori	New Zealand	138,117	60.8	16,731	7.4	72,291	31.8
	Waikato District	1,182	65.4	114	6.3	507	28.1
	Waipa District	1,410	70.0	99	4.9	507	25.2
	Otorohanga District	300	65.8	9	2.0	147	32.2
	Waitomo District	216	73.5	12	4.1	63	21.4
	New Plymouth District	2,268	65.7	240	7.0	951	27.5
	Ruapehu District	447	81.0	15	2.7	93	16.8

Figure 12: Numbers and percentages of women aged 25 to 64 by labour force status, ethnicity and district, 2006 census.

		Employed	%	Unemployed	%	Not in labour force	%
Maori	New Zealand	82,353	64.0	8,334	6.5	37,920	29.5
	Waikato District	1,434	57.7	207	8.3	843	33.9
	Waipa District	846	69.3	72	5.9	309	25.3
	Otorohanga District	303	64.3	33	7.0	135	28.7
	Waitomo District	528	61.3	60	7.0	270	31.4
	New Plymouth District	1,224	61.3	144	7.2	633	31.7
	Ruapehu District	672	61.4	90	8.2	336	30.7
Non Maori	New Zealand	672,456	73.4	23,061	2.5	220,431	24.1
	Waikato District	6,459	76.0	165	1.9	1,884	22.2
	Waipa District	7,524	76.8	198	2.0	2,058	21.0
	Otorohanga District	1,287	77.6	30	1.8	339	20.4
	Waitomo District	1,164	80.2	21	1.4	267	18.4
	New Plymouth District	11,838	74.7	396	2.5	3,621	22.8
	Ruapehu District	1,605	76.4	51	2.4	429	20.4

Figure 13: Numbers and percentages of women aged 15 to 24 by labour force status, ethnicity and district, 2006 census.

		Employed	%	Unemployed	%	Not in labour force	%
Maori	New Zealand	23,487	45.2	7,335	14.1	21,111	40.7
	Waikato District	330	34.8	165	17.4	456	48.1
	Waipa District	231	49.0	60	12.7	174	36.9
	Otorohanga District	75	43.1	21	12.1	81	46.6
	Waitomo District	135	44.1	42	13.7	129	42.2
	New Plymouth District	366	44.7	126	15.4	327	39.9
	Ruapehu District	180	47.2	39	10.2	162	42.5
Non Maori	New Zealand	127,092	57.6	18,486	8.4	75,177	34.1
	Waikato District	903	55.9	114	7.1	588	36.4
	Waipa District	1,194	61.9	138	7.2	609	31.6
	Otorohanga District	201	61.5	24	7.3	102	31.2
	Waitomo District	132	55.7	18	7.6	90	38.0
	New Plymouth District	2,004	61.8	246	7.6	987	30.4
	Ruapehu District	219	61.3	24	6.7	123	34.5

Figure 14: Number and percentages of selected iwi and of Maori descent and ethnic group, nationwide, by labour force status, 2006 Census.

	Employed	%	Unemployed	%	Not in labour force	%
Maniapoto	13,260	61.9	1,704	8.0	6,459	30.1
Waikato	12,390	59.2	1,968	9.4	6,567	31.4
Ngati Haua (Waikato)	1,818	59.4	312	8.0	933	30.5
Ngati Raukawa (Waikato)	3,375	64.1	384	7.3	1,509	28.7
Ngati Tuwharetoa	13,491	62.8	1,722	8.0	6,285	29.2
Tainui	5,118	59.3	801	9.3	5,919	31.3
Maori descent	270,489	64.1	29,412	7.0	122,076	28.9
Maori ethnicity	225,360	61.7	27,873	7.6	112,173	30.7
Non Maori ethnicity	1,745,907	65.6	77,469	2.9	837,366	31.5

Figure 15: Selected employment status numbers and percentages by ethnic group, populations aged 15 and over, 2006 census.

		Paid Employee	%	Employer	%	Self-Employed and Without Employees	%
Maori	New Zealand	189,483	84.1	7,062	3.1	14,007	6.2
	Waikato District	3,108	82.7	111	3.0	213	5.7
	Waipa District	1,995	85.4	69	3.0	132	5.6
	Otorohanga District	690	76.2	45	5.0	69	7.6
	Waitomo District	1,182	82.1	39	2.7	66	4.6
	New Plymouth District	3,036	83.5	120	3.3	195	5.4
	Ruapehu District	1,575	80.5	72	3.7	99	5.1
Non Maori	New Zealand	1,321,764	75.1	135,819	7.7	220,947	12.6
	Waikato District	10,929	64.1	2,133	12.5	2,934	17.2
	Waipa District	13,647	69.7	2,094	10.7	2,964	15.1
	Otorohanga District	1,956	53.1	573	15.5	807	21.9
	Waitomo District	1,878	59.4	384	12.2	630	19.9
	New Plymouth District	22,524	74.4	2,547	8.4	3,765	12.4
	Ruapehu District	3,063	66.5	486	10.5	660	14.3
		Unpaid Family Worker	%	Not Else-where Included	%	Total	
Maori	New Zealand	4,008	1.8	10,797	4.8	225,357	
	Waikato District	84	2.2	240	6.4	3,756	
	Waipa District	48	2.1	99	4.2	2,337	
	Otorohanga District	30	3.3	75	8.3	906	
	Waitomo District	54	3.8	99	6.9	1,440	
	New Plymouth District	54	1.5	228	6.3	3,636	
	Ruapehu District	72	3.7	138	7.1	1,956	
Non Maori	New Zealand	35,562	2.0	46,326	2.6	1,760,421	
	Waikato District	696	4.1	363	2.1	17,061	
	Waipa District	552	2.8	315	1.6	19,566	
	Otorohanga District	219	5.9	120	3.3	3,687	
	Waitomo District	189	6.0	78	2.5	3,159	
	New Plymouth District	591	2.0	858	2.8	30,285	
	Ruapehu District	246	5.3	159	3.5	4,608	

Figure 16: Employment status numbers and percentages by iwi, 2006 census.

	Paid Employee	%	Employer	%	Self-Employed and Without Employees	%	Unpaid Family Worker	%	Not Elsewhere Included	%
Maori descent	226,737	83.8	10,695	4.0	19,260	7.1	4,779	1.8	9,015	3.3
Ngati Haua (Waikato)	1,563	86.0	39	2.1	78	4.3	45	2.5	90	5.0
Ngati Maniapoto	11,397	86.0	381	2.9	762	5.7	273	2.1	447	3.4
Ngati Raukawa (Waikato)	2,907	86.2	123	3.6	207	6.1	60	1.8	81	2.4
Waikato	10,701	86.4	312	2.5	633	5.1	213	1.7	528	4.3
Tuwharetoa	11,640	86.3	387	2.9	759	5.6	213	1.6	495	3.7
Te Ati Haunui a Paparangi	3,687	86.8	105	2.5	228	5.4	78	1.8	147	3.5
Tainui	4,263	83.3	183	3.6	330	6.4	108	2.1	234	4.6

Figure 17: Sources of income by ethnic group, ages 15 and over, numbers and percentages, 2006 census.

	New Zealand		TRP CAUs	
	Maori	Non Maori	Maori	Non Maori
Employment or business	250,659	2,016,705	4,929	21,852
%	68.6	72.2	64.8	76.6
Investments	25,896	688,836	504	7,275
%	7.1	24.6	6.6	25.5
Pensions, benefits etc	146,376	913,497	2,955	8,982
%	40.1	32.7	38.8	31.5
Other	7,602	58,809	147	420
%	2.1	2.1	1.9	1.5
No income	24,840	150,840	582	1,140
%	6.8	5.4	7.6	4.0
Not stated	17,466	180,672	477	1,929
%	4.8	6.5	6.3	6.8

	Extension		TRP rural		TRP towns	
	Maori	Non Maori	Maori	Non Maori	Maori	Non Maori
Employment or business	1,407	8,904	2,016	9,762	1,506	3,186
%	69.6	72.7	64.4	86.2	61.3	64.6
Investments	144	3,150	228	3,072	132	1,053
%	7.1	25.7	7.3	27.1	5.4	21.4
Pensions, benefits etc	714	4,362	1,194	2,556	1,047	2,064
%	35.3	35.6	38.1	22.6	42.6	41.8
Other	51	195	63	153	33	72
%	2.5	1.6	2.0	1.4	1.3	1.5
No income	159	513	273	471	150	156
%	7.9	4.2	8.7	4.2	6.1	3.2
Not stated	72	555	210	900	195	474
%	3.6	4.5	6.7	7.9	7.9	9.6

Figure 18: Income source by ethnic group and district, ages 15 and over, numbers and percentages, 2006 census.

	Waikato District		Waipa District		Otorohanga District	
	Maori	Non Maori	Maori	Non Maori	Maori	Non Maori
Employment or business	4,155	19,935	2,592	22,794	981	4,278
%	61.4	76.7	74.5	77.5	60.4	81.3
Investments	327	6,402	273	8,166	93	1,359
%	4.8	24.6	7.9	27.8	5.7	25.8
Pensions, benefits etc	2,823	7,152	1,164	9,540	639	1,437
%	41.7	27.5	33.5	32.4	39.4	27.3
Other	129	387	87	510	27	81
%	1.9	1.5	2.5	1.7	1.7	1.5
No income	516	1,251	234	1,248	162	258
%	7.6	4.8	6.7	4.2	10.0	4.9
Not stated	489	2,382	129	1,224	126	366
%	7.2	9.2	3.7	4.2	7.8	7.0
	Waitomo District		New Plymouth District		Ruapehu District	
	Maori	Non Maori	Maori	Non Maori	Maori	Non Maori
Employment or business	1,533	3,594	3,939	34,338	2,064	5,208
%	63.3	78.9	65.1	70.8	65.2	74.3
Investments	156	1,221	474	12,711	171	1,617
%	6.4	26.8	7.8	26.2	5.4	23.1
Pensions, benefits etc	972	1,374	2,445	17,895	1,347	2,151
%	40.1	30.2	40.4	36.9	42.5	30.7
Other	42	66	111	783	48	87
%	1.7	1.4	1.8	1.6	1.5	1.2
No income	138	138	444	2,067	189	231
%	5.7	3.0	7.3	4.3	6.0	3.3
Not stated	183	366	468	2,937	204	771
%	7.6	8.0	7.7	6.1	6.4	11.0

Figure 19: Income source by ethnic group and district, ages 25 to 64, numbers and percentages, 2006 census.

	New Zealand		Waikato District		Waipa District		Otorohanga District	
	Maori	Non Maori	Maori	Non Maori	Maori	Non Maori	Maori	Non Maori
Employment or business	184,845	1,800,378	3,156	19,629	1,911	20,454	714	4,161
%	76.7	86.0	70.4	86.2	83.6	93.9	68.6	88.6
Investments	20,541	484,182	276	5,025	222	5,526	69	1,038
%	8.5	23.1	6.2	22.1	9.7	25.4	6.6	22.1
Pensions, benefits etc	90,651	424,614	1,752	4,629	669	3,660	375	906
%	37.6	20.3	39.1	20.3	29.3	16.8	36.0	19.3
Other	4,761	39,996	81	366	60	429	9	60
%	2.0	1.9	1.8	1.6	2.6	2.0	0.9	1.3
No income	6,873	77,259	135	759	60	684	78	210
%	2.9	3.7	3.0	3.3	2.6	3.1	7.5	4.5
Not stated	8,760	118,110	249	1,740	63	732	75	318
%	3.6	5.6	5.6	7.6	2.8	3.4	7.2	6.8

	Waitomo District		New Plymouth District		Ruapehu District	
	Maori	Non Maori	Maori	Non Maori	Maori	Non Maori
Employment or business	1,137	4,071	2,916	30,912	1,518	5,730
%	71.0	85.9	74.4	87.6	72.7	82.8
Investments	132	993	366	8,571	147	1,326
%	8.2	20.9	9.3	24.3	7.0	19.2
Pensions, benefits etc	579	1,062	1,506	7,617	864	1,734
%	36.1	22.4	38.4	21.6	41.4	25.1
Other	30	75	78	624	27	102
%	1.9	1.6	2.0	1.8	1.3	1.5
No income	42	117	105	1,071	60	183
%	2.6	2.5	2.7	3.0	2.9	2.6
Not stated	111	339	240	1,911	105	627
%	6.9	7.2	6.1	5.4	5.0	9.1

Figure 20: Numbers and percentages of population aged 15 and over in receipt of types of income support, 2006 census.

	New Zealand		TRP CAUs	
	Maori	Non Maori	Maori	Non Maori
Accident insurance	6,705	38,406	156	537
%	1.83	1.37	2.05	1.88
NZ super or veterans pension	20,973	418,710	558	4,722
%	5.74	14.98	7.33	16.56
Other super or pension	3,267	80,001	78	588
%	0.89	2.86	1.02	2.06
Unemployment Benefit	25,947	66,222	465	441
%	7.10	2.37	6.11	1.55
Sickness Benefit	15,633	54,921	318	459
%	4.28	1.96	4.18	1.61
Domestic Purposes Benefit	33,945	59,148	558	612
%	9.29	2.12	7.33	2.15
Invalids Benefit	15,225	60,132	387	621
%	4.17	2.15	5.08	2.18
Student Allowance	10,149	54,135	138	240
%	2.78	1.94	1.81	0.84
Other	14,532	81,822	297	762
%	3.98	2.93	3.90	2.67

Figure 21: Numbers and percentages of population aged 25 to 64 and over in receipt of types of income support, 2006 census.

	New Zealand		Waikato District		Waipa District	
	Maori	Non Maori	Maori	Non Maori	Maori	Non Maori
Accident insurance	5,253	35,799	99	462	45	456
%	2.18	1.71	2.21	2.03	1.97	2.09
NZ super or veterans pension	1,743	16,416	42	168	9	159
%	0.72	0.78	0.94	0.74	0.39	0.73
Other super or pension	984	19,014	12	144	3	165
%	0.41	0.91	0.27	0.63	0.13	0.76
Unemployment Benefit	16,158	61,293	300	651	54	228
%	6.71	2.93	6.69	2.86	2.36	1.05
Sickness Benefit	11,847	55,419	258	648	108	480
%	4.92	2.65	5.75	2.85	4.72	2.20
Domestic Purposes Benefit	26,304	76,308	525	948	195	690
%	10.92	3.64	11.71	4.17	8.53	3.17
Invalids Benefit	13,206	64,938	264	729	108	615
%	5.48	3.10	5.89	3.20	4.72	2.82
Student Allowance	4,347	25,194	69	189	30	126
%	1.80	1.20	1.54	0.83	1.31	0.58
Other	10,809	70,233	183	690	117	741
%	4.49	3.35	4.08	3.03	5.12	3.40

	Otorohanga District		Waitomo District		New Plymouth District		Ruapehu District	
	Maori	Non Maori	Maori	Non Maori	Maori	Non Maori	Maori	Non Maori
Accident insurance	24	108	39	120	69	621	42	141
%	2.31	2.30	2.43	2.53	1.76	1.76	2.01	2.04
NZ super or veterans pension	3	33	24	48	36	339	24	72
%	0.29	0.70	1.50	1.01	0.92	0.96	1.15	1.04
Other super or pension	0	24	6	21	15	309	6	45
%	0.00	0.51	0.37	0.44	0.38	0.88	0.29	0.65
Unemployment Benefit	72	132	105	150	306	1,122	246	411
%	6.92	2.81	6.55	3.16	7.81	3.18	11.78	5.94
Sickness Benefit	57	120	63	111	171	897	114	210
%	5.48	2.56	3.93	2.34	4.36	2.54	5.46	3.03
Domestic Purposes Benefit	84	168	135	195	426	1,506	189	288
%	8.07	3.58	8.43	4.11	10.87	4.27	9.05	4.16
Invalids Benefit	78	141	117	210	264	1,377	117	249
%	7.49	3.00	7.30	4.43	6.74	3.90	5.60	3.60
Student Allowance	15	27	15	18	66	246	33	72
%	1.44	0.58	0.94	0.38	1.68	0.70	1.58	1.04
Other	42	153	75	189	153	1,200	93	246
%	4.03	3.26	4.68	3.99	3.91	3.40	4.45	3.55

Figure 22: Income bands by ethnic group, numbers and percentages, 2006 census.

	New Zealand		TRP CAUs	
	Maori	Non Maori	Maori	Non Maori
$5,000 or Less	50601	367281	1104	3225
%	13.8	12.7	14.5	10.7
$5,001 - $10,000	31968	211605	690	2034
%	8.7	7.3	9.1	6.8
$10,001 - $20,000	73755	580416	1623	6480
%	20.2	20.1	21.3	21.6
$20,001 - $30,000	58431	408786	1176	4725
%	16.0	14.1	15.4	15.7
$30,001 - $50,000	75603	637662	1374	7002
%	20.7	22.1	18.0	23.3
$50,001 or More	33072	505311	552	4683
%	9.1	17.5	7.2	15.6
Not Stated	41982	179268	1062	1872
%	11.5	6.2	13.9	6.2

Figure 23: Average weekly income by ethnic group, nationwide and Waikato region, 1998 to 2008, New Zealand Income Survey.

	New Zealand			Waikato Region		
	Total population	European / Pakeha	Maori	Total population	European / Pakeha	Maori
1998	$419	$444	$340	$393	$418	$322
1999	$434	$462	$347	$400	$432	$300
2000	$440	$465	$380	$418	$430	$375
2001	$467	$499	$385	$436	$463	$350
2002	$513	$552	$422	$498	$526	$409
2003	$539	$581	$446	$508	$532	$453
2004	$552	$601	$437	$540	$571	$435
2005	$584	$638	$472	$560	$599	$434
2006	$608	$659	$506	$585	$627	$437
2007	$664	$723	$523	$635	$678	$497
2008	$682	$743	$565	$640	$663	$575

Figure 24: Median weekly incomes by ethnic group, nationwide and Waikato region, 1998 to 2008, New Zealand Income Survey.

	New Zealand			Waikato Region		
	Total population	Pakeha	Maori	Total population	Pakeha	Maori
1998	$301	$320	$286	$293	$312	$272
1999	$318	$338	$298	$300	$328	$255
2000	$329	$341	$330	$340	$344	$333
2001	$353	$380	$325	$340	$360	$288
2002	$384	$420	$360	$389	$420	$326
2003	$401	$439	$373	$419	$446	$360
2004	$422	$458	$395	$424	$450	$400
2005	$455	$493	$408	$457	$484	$390
2006	$484	$518	$440	$480	$515	$378
2007	$518	$564	$473	$500	$537	$422
2008	$536	$575	$499	$525	$544	$480

Figure 25: Income bands by ethnic group and district, full time employees, numbers and percentages, 2006 census.

		$5000 or less	$5001-10,000	$10,001-20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,000+	Not stated
Maori	New Zealand	5,721	5,616	20,283	38,331	41,841	23,892	30,429	9,432
	%	3.3	3.2	11.6	21.8	23.8	13.6	17.3	5.4
	Waikato District	99	87	324	648	684	348	468	216
	%	3.4	3.0	11.3	22.5	23.8	12.1	16.3	7.5
	Waipa District	63	54	207	402	465	237	348	87
	%	3.4	2.9	11.1	21.6	25.0	12.7	18.7	4.7
	Otoro-hanga District	27	24	96	153	159	66	75	48
	%	4.2	3.7	14.8	23.6	24.5	10.2	11.6	7.4
	Waitomo District	36	36	135	300	234	123	129	75
	%	3.4	3.4	12.6	28.1	21.9	11.5	12.1	7.0
	New Plymouth District	81	90	330	609	621	333	468	228
	%	2.9	3.3	12.0	22.1	22.5	12.1	17.0	8.3
	Ruapehu District	66	87	207	342	303	144	183	117
	%	4.6	6.0	14.3	23.6	20.9	9.9	12.6	8.1
Non Maori	New Zealand	33,420	30,330	113,646	224,304	280,497	204,516	426,687	42,075
	%	2.5	2.2	8.4	16.5	20.7	15.1	31.5	3.1
	Waikato District	357	264	1,089	2,049	2,553	1,944	4,464	465
	%	2.7	2.0	8.3	15.5	19.4	14.7	33.9	3.5
	Waipa District	312	312	1,242	2,532	3,174	2,250	4,905	408
	%	2.1	2.1	8.2	16.7	21.0	14.9	32.4	2.7
	Otoro-hanga District	102	69	327	495	678	336	699	99
	%	3.6	2.5	11.7	17.6	24.2	12.0	24.9	3.5
	Waitomo District	69	75	309	510	576	297	567	75
	%	2.8	3.0	12.5	20.6	23.2	12.0	22.9	3.0
	New Plymouth District	450	474	2,124	4,341	4,713	3,294	6,516	996
	%	2.0	2.1	9.3	18.9	20.6	14.4	28.4	4.3
	Ruapehu District	150	141	477	729	765	474	825	129
	%	4.1	3.8	12.9	19.8	20.7	12.8	22.4	3.5

Figure 26: Average weekly income by ethnic group, people in paid employment, nationwide, 1998 to 2008, New Zealand Income Survey.

	Total population	Pakeha	Maori
1998	$585	$604	$486
1999	$601	$621	$497
2000	$608	$627	$520
2001	$641	$665	$533
2002	$664	$689	$562
2003	$701	$727	$603
2004	$722	$758	$592
2005	$747	$779	$643
2006	$761	$797	$661
2007	$817	$863	$666
2008	$840	$886	$722

Figure 27: Median weekly incomes by ethnic group, people in paid employment, nationwide, 1998 to 2008, New Zealand Income Survey.

	Total population	Pakeha	Maori
1998	$518	$534	$460
1999	$520	$537	$480
2000	$537	$550	$480
2001	$560	$575	$499
2002	$575	$600	$525
2003	$596	$614	$540
2004	$614	$644	$548
2005	$640	$671	$600
2006	$671	$690	$610
2007	$707	$748	$623
2008	$729	$767	$671

Figure 28: Income bands by ethnic group and district, ages 25 to 64, numbers and percentages, 2006 census.

		$5000 or less	$5001-10,000	$10,001-20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,000+	Not stated
Maori	New Zealand	16,704	17,979	46,935	41,973	40,863	24,189	31,491	20,841
	%	6.9	7.5	19.5	17.4	17.0	10.0	13.1	8.6
	Waikato District	345	390	843	780	702	363	501	561
	%	7.7	8.7	18.8	17.4	15.7	8.1	11.2	12.5
	Waipa District	153	132	408	393	444	240	366	150
	%	6.7	5.8	17.8	17.2	19.4	10.5	16.0	6.6
	Otoro-hanga District	132	99	186	180	165	60	84	132
	%	12.7	9.5	17.9	17.3	15.9	5.8	8.1	12.7
	Waitomo District	126	144	339	300	219	123	141	216
	%	7.8	9.0	21.1	18.7	13.6	7.6	8.8	13.4
	New Plymouth District	261	306	822	675	606	330	474	441
	%	6.7	7.8	21.0	17.2	15.5	8.4	12.1	11.3
	Ruapehu District	174	252	462	354	276	156	183	234
	%	8.3	12.1	22.1	16.9	13.2	7.5	8.8	11.2
Non Maori	New Zealand	145,395	102,333	253,605	253,041	283,725	208,842	447,429	158,247
	%	7.8	5.5	13.7	13.7	15.3	11.3	24.2	8.5
	Waikato District	1,251	915	2,319	2,304	2,649	2,046	4,716	2,064
	%	6.8	5.0	12.7	12.6	14.5	11.2	25.8	11.3
	Waipa District	1,341	915	2,496	2,742	3,297	2,349	5,175	1,194
	%	6.9	4.7	12.8	14.1	16.9	12.0	26.5	6.1
	Otoro-hanga District	279	207	525	507	690	339	759	342
	%	7.6	5.7	14.4	13.9	18.9	9.3	20.8	9.4
	Waitomo District	168	198	474	537	570	291	579	300
	%	5.4	6.4	15.2	17.2	18.3	9.3	18.6	9.6
	New Plymouth District	2,139	1,866	4,881	4,854	4,809	3,408	6,780	2,649
	%	6.8	5.9	15.6	15.5	15.3	10.9	21.6	8.4
	Ruapehu District	360	324	765	690	735	468	861	642
	%	7.4	6.7	15.8	14.2	15.2	9.7	17.8	13.3

Figure 29: Average weekly income by ethnic group, people in paid employment aged 25 to 64, nationwide, 1998 to 2008, New Zealand Income Survey.

	Total population	Pakeha	Maori
1998	$641	$658	$541
1999	$657	$676	$544
2000	$663	$683	$574
2001	$701	$726	$581
2002	$727	$752	$621
2003	$767	$794	$659
2004	$788	$829	$635
2005	$819	$851	$708
2006	$830	$870	$710
2007	$903	$948	$733
2008	$924	$975	$790

Figure 30: Median weekly incomes by ethnic group, people in paid work aged 25 to 64, nationwide, 1998 to 2008, New Zealand Income Survey.

	Total population	Pakeha	Maori
1998	$572	$575	$525
1999	$575	$585	$512
2000	$576	$600	$540
2001	$600	$632	$540
2002	$630	$652	$575
2003	$652	$671	$580
2004	$671	$700	$600
2005	$700	$729	$660
2006	$729	$760	$671
2007	$767	$806	$682
2008	$791	$836	$726

Figure 31: Income bands by selected iwi, numbers and percentages, all ages, 2006 census.

	$5,000 or Less	$5,001 - $10,000	$10,001 - $20,000	$20,001 - $30,000	$30,001 - $50,000	$50,001 or More	Not Stated
Maori ethnicity	50,601	31,968	73,755	58,431	75,603	33,072	41,982
%	13.8	8.7	20.2	16.0	20.7	9.1	11.5
Maori descendants	58,653	35,967	84,234	68,088	91,941	44,997	38,094
%	13.9	8.5	20.0	16.1	21.8	10.7	9.0
Ngati Haua (Waikato)	426	315	657	555	606	231	273
%	13.9	10.3	21.5	18.1	19.8	7.5	8.9
Ngati Maniapoto	2,991	1,938	4,509	3,627	4,530	1,932	1,899
%	14.0	9.0	21.0	16.9	21.1	9.0	8.9
Ngati Raukawa (Waikato)	699	435	1,101	888	1,224	537	387
%	13.3	8.3	20.9	16.9	23.2	10.2	7.4
Waikato	3,156	1,899	4,329	3,417	4,233	1,839	2,052
%	15.1	9.1	20.7	16.3	20.2	8.8	9.8
Tuwharetoa	3,105	1,893	4,410	3,618	4,536	1,941	1,992
%	14.4	8.8	20.5	16.8	21.1	9.0	9.3
Te Ati Haunui-a-Paparangi	876	585	1,371	1,128	1,437	657	585
%	13.2	8.8	20.7	17.0	21.7	9.9	8.8
Tainui	1,320	843	1,638	1,368	1,695	732	1,029
%	15.3	9.8	19.0	15.9	19.7	8.5	11.9

Figure 32: Numbers and percentages of year one students who had previously attended ECE, by ethnicity and district, year to March 2011, Ministry of Education.

	Maori		Pakeha		Total population	
	Number	%	Number	%	Number	%
Waikato District	328	84.8	561	97.7	937	92.4
Waipa District	151	89.9	497	97.3	674	95.2
Otorohanga District	48	85.7	71	100.0	125	94.0
Waitomo District	69	83.1	53	85.5	130	84.4
New Plymouth District	215	94.3	663	98.2	935	97.2
Ruapehu District	95	89.6	76	97.4	175	93.1
New Zealand	12,853	90.1	30,272	98.3	54,131	84.8

Figure 33: Number of Maori and general population under-5s per ECE centre by district, 2006 census and Ministry of Education.

	Maori	General population	ECE	Maori per ECE	General per ECE
New Zealand	66,423	275,079	4,321	15	64
Waikato District	1,314	3,507	61	22	57
Waipa District	600	2,898	52	12	56
Otorohanga District	249	690	10	25	69
Waitomo District	396	765	10	40	77
New Plymouth District	1,071	4,236	68	16	62
Ruapehu District	540	1,026	21	26	49

Figure 34: Number of Maori under-5s per kohanga reo by district, 2006 census and Ministry of Education.

	Maori under 5	Kohanga reo	Maori per KR
New Zealand	66,423	463	143
Waikato District	1,314	18	73
Waipa District	600	4	150
Otorohanga District	249	1	249
Waitomo District	396	4	99
New Plymouth District	1,071	5	214
Ruapehu District	540	11	49

Figure 35: Numbers and percentages of populations by highest qualification, 2006 census.

		None	Level 1 to 3	Level 4 to 6	University	Not elsewhere included
Maori	New Zealand	130,146	126,252	47,013	23,067	38,928
	%	35.6	34.6	12.9	6.3	10.7
	TRP CAUs	2,907	2,040	723	234	867
	%	41.9	29.4	10.4	3.4	12.5
	Extension	738	666	291	114	210
	%	36.7	33.1	14.5	5.7	10.4
	TRP rural	1,377	921	300	108	399
	%	41.9	28.0	9.1	3.3	12.1
	TRP towns	1,086	702	219	87	366
	%	44.1	28.5	8.9	3.5	14.9
Non Maori	New Zealand	631,290	1,083,003	531,492	445,428	186,828
	%	21.8	37.5	18.4	15.4	6.5
	TRP CAUs	7,944	9,774	5,331	2,124	1,860
	%	29.0	35.7	19.5	7.8	6.8
	Extension	3,597	4,455	2,667	1,119	879
	%	28.2	35.0	20.9	8.8	6.9
	TRP rural	3,483	4,662	2,415	999	711
	%	27.7	37.1	19.2	7.9	5.7
	TRP towns	1,641	1,791	912	507	504
	%	30.7	33.5	17.0	9.5	9.4

Figure 36: Numbers and percentages of selected iwi by highest qualification, 2006 census.

	None	Level 1 to 3	Level 4 to 6	University	Not elsewhere included
Maori ethnicity	130,146	126,252	47,013	23,067	38,928
%	35.6	34.6	12.9	6.3	10.7
Maori descendants	144,498	153,744	59,352	29,838	34,536
%	34.2	36.4	14.1	7.1	8.2
Ngati Haua (Waikato)	1,146	1,077	375	195	270
%	37.4	35.2	12.2	6.4	8.8
Ngati Maniapoto	7,683	7,656	2,856	1,440	1,794
%	35.9	35.7	13.3	6.7	8.4
Ngati Raukawa (Waikato)	1,662	1,941	864	438	363
%	31.6	36.9	16.4	8.3	6.9
Waikato	7,701	7,143	2,733	1,557	1,788
%	36.8	34.1	13.1	7.4	8.5
Tuwharetoa	6,996	8,235	2,985	1,521	1,755
%	32.5	38.3	13.9	7.1	8.2
Te Ati Haunui-a-Paparangi	2,028	2,469	1,059	570	519
%	30.6	37.2	16.0	8.6	7.8
Tainui	3,138	3,039	1,068	525	852
%	36.4	35.2	12.4	6.1	9.9

Figure 37: Labour force status by highest qualification and ethnic group, working age population, numbers and percentages, Ministry of Education.

		Employed full time	Employed part time	Not in labour force	Unemployed
Maori	No qualification	52,065	15,225	51,252	11,601
	%	40.0	11.7	39.4	8.9
	Level 1-3	62,961	20,880	32,436	9,978
	%	49.9	16.5	25.7	7.9
	Level 4-6	30,189	6,048	8,343	2,430
	%	64.2	12.9	17.7	5.2
	Bachelors degree	12,798	2,337	2,118	654
	%	71.5	13.1	11.8	3.7
	Post graduate	3,918	594	522	126
	%	75.8	11.5	10.1	2.4
	Not elsewhere incl.	13,614	4,728	17,502	3,081
	%	35.0	12.1	45.0	7.9
Non-Maori	No qualification	214,332	72,951	273,366	17,637
	%	37.1	12.6	47.3	3.0
	Level 1-3	483,906	182,487	292,986	35,547
	%	48.6	18.3	29.4	3.6
	Level 4-6	317,007	71,571	110,028	9,345
	%	62.4	14.1	21.7	1.8
	Bachelors degree	199,854	42,387	48,210	7,488
	%	67.1	14.2	16.2	2.5
	Post graduate	88,920	16,305	18,819	2,724
	%	70.1	12.9	14.8	2.1
	Not elsewhere incl.	51,447	19,248	106,206	5,880
	%	17.8	6.7	36.7	2.0

Figure 38: Median weekly incomes for population aged 15 and over by highest qualification and ethnic group, 2008, Ministry of Education.

	Maori	Pakeha	Total population
No qualifications	$353	$328	$324
School qualification	$450	$402	$360
Other tertiary qualification	$650	$643	$614
Bachelors degree or higher	$825	$901	$844

Figure 39: Median hourly incomes for population aged 15 and over by highest qualification and ethnic group, 2008, Ministry of Education.

	Maori	Pakeha	Total population
No qualifications	$15.00	$15.50	$15.00
School qualification	$15.85	$16.26	$16.00
Other tertiary qualification	$18.00	$20.24	$19.95
Bachelors degree or higher	$24.18	$26.85	$25.46

Figure 40: Percentage of students achieving NCEA level 1 or above in year 11, by district, 2010, Ministry of Education.

	Maori		Total	
	Number	%	Number	%
New Zealand	6,550	48.3	40,373	65.8
Waikato	69	45.4	143	53.2
Waipa	75	48.7	557	73.0
Otorohanga	21	56.8	55	67.1
Waitomo	14	23.3	50	45.0
New Plymouth	111	51.6	872	71.7
Ruapehu	34	35.8	61	43.6

Figure 41: Percentage of students achieving at or above typical level in year 11 by decile and school, 2010, Ministry of Education.

		Maori	All
Decile 2	Taumarunui High School	49.2	54.6
	All schools	44.7	54.2
Decile 3	Te Kuiti High School	23.8	46.2
	All schools	47.4	55.2
Decile 4	Raglan Area School	41.2	46.2
	Otorohanga College	56.8	67.1
	Piopio College	N/A	44.8
	All schools	45.0	56.5
Decile 6	Te Awamutu College	43.2	60.1
	All schools	48.2	68.0
All deciles	All schools	48.3	65.8

Figure 42: Percentage of students achieving at or above typical level in year 12 by decile and school, 2010, Ministry of Education.

		Maori	All
Decile 2	Taumarunui High School	58.6	65.3
	All schools	44.6	54.9
Decile 3	Te Kuiti High School	38.5	53.6
	All schools	48.6	58.1
Decile 4	Raglan Area School	60.0	62.2
	Otorohanga College	39.3	56.5
	Piopio College	N/A	42.1
	All schools	51.1	59.8
Decile 6	Te Awamutu College	33.3	55.1
	All schools	56.2	70.4
All deciles	All schools	54.4	68.0

Figure 43: Percentages of Maori and total population participating in tertiary education at specific ages, 2009, Ministry of Social Development.

	Maori	Total
Under 18	11.8	8.5
18-19	36.5	47.7
20-24	30.1	34
25-39	21.7	14.6
40 +	14.1	6.1

Figure 44: Percentages of Maori in particular areas fluent in te reo Maori, 2006 census.

	Maori fluent in te reo	%
New Zealand	131,610	23.3
Waikato District	3,354	31.4
Waipa District	1,137	21.1
Otorohanga District	621	26.3
Waitomo District	981	27.0
New Plymouth District	1,767	18.9
Ruapehu District	1,296	26.2
TRP CAUs	2,952	25.7
Extension	666	21.6
TRP rural	1,284	27.1
TRP towns	1,002	27.3

Figure 45: Numbers and percentages of Maori in CAU populations and fluent in te reo, 2006 census.

	No of Maori fluent in te reo	% of Maori fluent in te reo	No of Maori in CAU	% of Maori in CAU
Raglan	255	35.3	723	27.4
Te Uku	99	30.3	327	19.7
Te Pahu	15	17.2	87	7.3
Ohaupo	3	6.7	42	9.9
Kihikihi	198	28.0	708	36.1
Te Rore	9	37.5	24	5.8
Pirongia	15	16.1	93	7.0
Pokuru	9	30.0	30	6.5
Lake Ngaroto	6	10.5	54	10.2
Tokanui	54	27.7	195	45.5
Kaipaki	6	7.7	81	8.9
Te Rahu	3	6.7	45	5.0
Kihikihi Flat	18	20.0	90	12.8
Allen Road	0	0.0	12	7.7
Rotongata	39	27.1	144	17.5
Te Awamutu West	48	19.5	249	20.3
Te Awamutu Central	93	19.1	486	15.5
Te Awamutu East	111	21.6	516	20.7
Te Awamutu South	141	23.6	594	20.3
Kawhia Community	90	44.1	204	52.3
Otorohanga	201	22.6	894	34.5
Otorohanga Rural West	108	27.9	384	22.8
Te Kawa	15	17.2	87	20.7
Otorohanga Rural East	210	26.6	789	19.8
Piopio	60	29.0	210	44.9
Taharoa	72	41.4	174	80.6
Mahoenui	21	15.9	132	27.5
Marokopa	120	28.4	423	26.3
Waipa Valley	69	32.4	213	21.7
Tiroa	6	16.7	36	44.4
Mokauiti	84	21.2	396	33.5
Te Kuiti	546	26.5	2061	46.6
Ohura	12	20.0	57	34.5
Ngapuke	108	26.7	405	25.6
Otangiwai-Heao	60	24.4	246	26.5
Okoki-Okau	48	16.8	285	14.9

Figure 46: Percentages of Maori in each age group fluent in te reo Maori, 2006 census.

		Maori fluent in Maori	%
New Zealand	Under 15	35,148	17.6
	15-29	31,857	22.9
	30-64	53,574	26.4
	65 and over	11,031	47.7
Waikato District	Under 15	1,014	26.0
	15-29	768	30.8
	30-64	1,254	32.9
	65 and over	312	68.4
Waipa District	Under 15	267	14.0
	15-29	270	21.2
	30-64	495	25.0
	65 and over	111	49.3
Otorohanga District	Under 15	117	15.9
	15-29	174	27.8
	30-64	246	28.5
	65 and over	84	62.2
Waitomo District	Under 15	231	19.0
	15-29	213	26.1
	30-64	246	28.5
	65 and over	153	64.6
New Plymouth District	Under 15	435	13.1
	15-29	483	20.6
	30-64	717	21.8
	65 and over	138	33.3
Ruapehu District	Under 15	342	19.2
	15-29	174	27.8
	30-64	246	28.5
	65 and over	159	60.2

Figure 47: Numbers and percentage of selected iwi fluent in te reo Maori, 2006 census.

	New Zealand	%	Waikato Region	%
Maori ethnicity	131,610	23.3		
Maori descendants	128,211	19.9	18,807	22.0
Waikato/Te Rohe Potae (Waikato/King Country) Region, not further defined	396	36.4	144	40.7
Ngati Maniapoto	8,964	26.7	3,126	27.7
Ngati Raukawa (Waikato)	2,181	26.7	849	29.9
Waikato	10,917	32.7	4,398	38.3
Ngati Tuwharetoa	9,990	28.8	2,397	31.5
Te Ati Haunui-a-Paparangi	3,519	33.7	264	33.7
Tainui	3,864	27.5	1,269	29.6
Ngati Haua (Waikato)	1,725	35.0	816	36.7

Figure 48: Fetal death rates per 1,000 births, neonatal and post-neonatal infant mortality rates per 1,000 live births, and fetal plus infant mortality rates per 1,000 births. New Zealand and Waikato DHB area, 2007, Ministry of Health.[263]

		Maori		Non-Maori	
		New Zealand	Waikato DHB	New Zealand	Waikato DHB
Fetal	Number	126	18	345	24
	Rate	6.5	7.8	7.5	7.2
Neonatal	Number	53	6	113	12
	Rate	2.7	2.6	2.5	3.6
Post-neonatal	Number	73	9	73	7
	Rate	3.8	3.9	1.6	2.1
Infant	Number	126	15	186	19
	Rate	6.5	6.5	4.1	5.7
Fetal + infant	Number	252	33	531	43
	Rate	12.9	14.2	11.5	12.8

[263] Fetal rates are per 1,000 births, other rates per 1,000 live births. Definitions used by the Ministry of Health are as follows. Fetal deaths: stillbirths of 20 weeks or more gestation, or 400g or more birthweight; neonatal death: death of liveborn infant before 28th day of life; post-neonatal death: death of a liveborn infant between the 28th day and first year of life; infant death: death of a liveborn infant before the first year of life completed. Ministry of Health, 'Infant and perinatal mortality 2005, 2006 and 2007 (provisional)', available at http://www.health.govt.nz/publication/infant-and-perinatal-mortality-2005-2006-and-2007, accessed 10 January 2012.

Figure 49: Numbers and percentages of populations with disabilities, national population, 2006 Disability Survey.

		People with disabilities	People w/out disabilities	% with disabilities
0 - 14	Maori	28,200	170,900	14.2
	Non Maori	90,000	775,100	9.3
15 - 44	Maori	33,000	217,400	13.2
	Non Maori	141,200	1,448,100	8.1
45 - 64	Maori	24,100	62,300	27.9
	Non Maori	207,100	831,300	19.2
65 and over	Maori	10,400	11,900	46.6
	Non Maori	190,900	273,800	40.8
Total population	Maori	95,700	462,500	17.1
	Non Maori	629,200	3,328,300	15.7

Figure 50: Percentages of populations aged 15 years and over in receipt of health-related income support by ethnicity and area, 2006 census.

		ACC or other insurance	Sickness benefit	Invalids benefit	Total population
Maori	New Zealand	6,705	15,633	15,225	365,406
	%	1.83	4.28	4.17	100.0
	TRP CAUs	156	318	387	7,611
	%	2.05	4.18	5.08	100.0
	Extension	33	87	93	2,022
	%	1.63	4.3	4.6	100.0
	TRP rural	63	126	129	3,108
	%	2.03	4.05	4.15	100.0
	TRP towns	60	105	165	2,457
	%	2.44	4.27	6.72	100.0
Non Maori	New Zealand	38,406	54,921	60,132	2,794,968
	%	1.37	1.96	2.15	100.0
	TRP CAUs	546	468	633	28,509
	%	1.92	1.64	2.22	100.0
	Extension	237	219	288	12,246
	%	1.94	1.79	2.35	100.0
	TRP rural	219	144	165	11,295
	%	1.94	1.27	1.46	100.0
	TRP towns	90	105	180	4,932
	%	1.82	2.13	3.65	100.0

Figure 51: Number and percentage of populations who looked after ill or disabled people in the four weeks prior to the 2006 Census.

		Care of ill/disabled in own household		Helping ill/disabled not in own household	
		Number	%	Number	%
Maori	New Zealand	41,733	22.4	39,966	10.9
	TRP CAUs	834	22.6	837	11.0
	Extension	213	24.3	237	11.7
	TRP rural	339	19.7	327	10.4
	TRP towns	282	24.8	273	11.1
Non Maori	New Zealand	179,496	6.42	218,742	7.8
	TRP CAUs	1,938	6.80	2,286	8.0
	Extension	912	7.45	981	8.0
	TRP rural	705	6.23	885	7.8
	TRP towns	321	6.50	420	8.5

Figure 52: Numbers and age-adjusted rates of hospitalisation (per 100,000 population) for ischaemic heart disease, July 2001-June 2006. Health Waikato.

	Maori		Non Maori	
	Numbers	Rate	Numbers	Rate
Waikato District	128	365	648	290
Waipa	66	375	1,064	355
Otorohanga	41	502	130	282
Waitomo	81	587	217	429
Ruapehu (part)	78	727	278	540
Waikato DHB	858	445	8,013	380

Figure 53: Numbers and age-adjusted hospitalisation rates (per 100,000 population) for strokes, July 2001 to June 2006. Health Waikato.

	Maori		Non Maori	
	Numbers	Rates	Numbers	Rates
Waikato District	69	216	233	105
Waipa	27	146	469	142
Otorohanga	13	151	57	122
Waitomo	38	296	97	210
Ruapehu (part)	53	527	99	199
Waikato DHB	475	256	2,961	134

Figure 54: Numbers and age-adjusted rates of hospitalisation (per 100,000 population) due to Chronic Obstructive Pulmonary Disease (COPD), July 2001-June 2006. Health Waikato.

	Maori		Non Maori	
	Numbers	Rate	Numbers	Rate
Waikato District	268	835	266	118
Waipa	59	365	365	119
Otorohanga	43	488	51	108
Waitomo	116	929	141	283
Ruapehu (part)	125	1,071	241	482
Waikato DHB	1,173	643	3,319	151

Figure 55: Numbers and age-adjusted rates of death (per 100,000 population) due to Chronic Obstructive Pulmonary Disease (COPD), 1999-2003. Health Waikato.

	Maori		Non Maori	
	Numbers	Rate	Numbers	Rate
New Zealand	703	64	7,374	25
Waikato District	15	72	74	30
Waipa	14	102	84	23
Otorohanga	5	53	12	12
Waitomo	5	39	13	24
Ruapehu (part)	11	98	13	13
Waikato DHB	94	65	603	26

Figure 56: Numbers and age-adjusted hospitalisation rates (per 100,000 population) for diabetes, July 2001-June 2006. Health Waikato.

	Maori		Non Maori	
	Number	Rate	Number	Rate
Waikato District	174	529	198	98
Waipa	60	346	349	135
Otorohanga	52	610	48	120
Waitomo	130	877	72	167
Ruapehu (part)	68	580	97	231
Waikato DHB	988	487	2,709	150

Figure 57: Mortality numbers and age-adjusted rates (per 100,000 population) for diabetes, 1999-2003. Health Waikato.

	Maori		Non Maori	
	Number	Rate	Number	Rate
New Zealand	2081	171	9463	33
Waikato District	70	272	85	35
Waipa	22	147	103	29
Otorohanga	20	273	14	25
Waitomo	31	266	12	20
Ruapehu (part)	18	164	20	31
Waikato DHB	306	215	792	34

Figure 58: Numbers and age-adjusted rates of hospitalisation (per 100,000 population) for asthma, July 2001-June 2006. Health Waikato.

	Maori		Non Maori	
	Numbers	Rate	Numbers	Rate
Waikato District	246	425	140	104
Waipa	84	274	204	126
Otorohanga	42	337	16	54
Waitomo	65	345	43	149
Ruapehu (part)	88	512	64	217
Waikato DHB	1,334	373	1,568	137

Figure 59: Numbers and percentages of children fully immunised at age two, by ethnicity and deprivation level, New Zealand and Waikato DHB areas, year to June 2011. Ministry of Health.

	New Zealand	%	Waikato DHB	%
Maori	14,916	86	1,813	88
Non-Maori	42,636	90	3,299	89
Dep 1-2	8,513	91	683	88
Dep 3-4	9,118	90	784	90
Dep 5-6	9,601	89	730	88
Dep 7-8	10,680	89	1,000	89
Dep 9-10	12,865	88	1,444	89

Figure 60: Numbers and percentages of children fully immunised at age five, by ethnicity and deprivation level, New Zealand and Waikato DHB areas, year to June 2011. Ministry of Health.

	New Zealand	%	Waikato DHB	%
Maori	10,034	71	1,307	69
Non-Maori	30,423	77	2,645	74
Dep 1-2	6,687	79	615	76
Dep 3-4	6,625	77	708	79
Dep 5-6	6,502	76	580	72
Dep 7-8	6,854	74	668	69
Dep 9-10	8,809	73	899	69

Figure 61: Smoking statuses (numbers and percentages) by ethnicity and area, ages 15 and over, 2006 census.

		Regular smoker	Ex-smoker	Never smoked regularly	Not elsewhere included	Total
Maori	New Zealand	144,483	65,184	132,354	23,388	365,406
	%	39.5	17.8	36.2	6.4	100.0
	TRP CAUs	3,126	1,302	2,574	612	7,617
	%	41.0	17.1	33.8	8.0	100.0
	Extension	816	375	699	135	2,019
	%	40.4	18.6	34.6	6.7	100.0
	TRP rural	1,281	528	1,071	252	3,141
	%	40.8	16.8	34.1	8.0	100.0
	TRP towns	1,029	399	804	225	2,457
	%	41.9	16.2	32.7	9.2	100.0
Non Maori	New Zealand	453,312	572,109	1,521,570	247,974	2,794,968
	%	16.2	20.5	54.4	8.9	100.0
	TRP CAUs	5,046	6,282	14,256	1,275	26,850
	%	18.8	23.4	53.1	4.7	100.0
	Extension	2,094	2,847	6,318	510	11,757
	%	17.8	24.2	53.7	4.3	100.0
	TRP rural	1,923	2,289	5,805	522	10,548
	%	18.2	21.7	55.0	4.9	100.0
	TRP towns	1,029	1,146	2,133	243	4,545
	%	22.6	25.2	46.9	5.3	100.0

Figure 62: Smoking statuses by iwi, ages 15 and over, 2006 census.

		Regular Smoker	Ex-Smoker	Never Smoked Regularly	Not Elsewhere Included	Total
New Zealand	Maori descendants	158,871	79,911	163,305	19,890	421,977
	%	37.6	18.9	38.7	4.7	100.0
	Ngati Haua (Waikato)	1,374	549	996	144	3,063
	%	44.9	17.9	32.5	4.7	100.0
	Ngati Maniapoto	8,793	3,954	7,659	1,020	21,423
	%	41.0	18.5	35.8	4.8	100.0
	Ngati Raukawa (Waikato)	2,019	1,047	1,986	213	5,265
	%	38.3	19.9	37.7	4.0	100.0
	Waikato	8,811	3,645	7,539	930	20,925
	%	42.1	17.4	36.0	4.4	100.0
	Ngati Tuwharetoa	8,799	4,023	7,659	1,017	21,498
	%	40.9	18.7	35.6	4.7	100.0
	Te Ati Haunui-a-Paparangi	2,622	1,347	2,370	300	6,636
	%	39.5	20.3	35.7	4.5	100.0
	Tainui	3,648	1,362	3,171	444	8,625
	%	42.3	15.8	36.8	5.1	100.0
Waikato Region	Maori descendants	21,576	10,056	21,624	2,667	55,923
	%	38.6	18.0	38.7	4.8	100.0
	Ngati Haua (Waikato)	624	222	417	75	1,338
	%	46.6	16.6	31.2	5.6	100.0
	Ngati Maniapoto	3,009	1,266	2,550	339	7,167
	%	42.0	17.7	35.6	4.7	100.0
	Ngati Raukawa (Waikato)	744	330	615	90	1,782
	%	41.8	18.5	34.5	5.1	100.0
	Waikato	3,060	1,239	2,604	336	7,236
	%	42.3	17.1	36.0	4.6	100.0
	Ngati Tuwharetoa	2,019	786	1,686	222	4,713
	%	42.8	16.7	35.8	4.7	100.0
	Te Ati Haunui-a-Paparangi	177	129	174	27	507
	%	34.9	25.4	34.3	5.3	100.0
	Tainui	1,116	396	960	153	2,628
	%	42.5	15.1	36.5	5.8	100.0

Figure 63: Percentages of each group aged 15 and over who were overweight or obese (age adjusted), 2002-2003. Health Waikato.

		Overweight	Obese	Overweight or obese
Maori male	New Zealand	38.0	29.0	67.0
	Waikato DHB	32.5	33.5	66.0
Maori female	New Zealand	33.7	27.5	61.2
	Waikato DHB	32.0	29.5	61.5
Non-Maori male	New Zealand	40.8	18.0	58.8
	Waikato DHB	41.5	21.3	62.9
Non-Maori female	New Zealand	26.7	20.2	47.0
	Waikato DHB	27.6	20.7	48.3

Figure 64: Percentages of each group aged 15 and over who engaged in 150 minutes or more of physical activity per week (age adjusted), 2002-2003. Health Waikato.

		150 mins p/week, fewer than 5 days	150 mins p/week, 5 or more days	Total 150 mins p/week
Maori male	New Zealand	20.0	59.7	79.7
	Waikato DHB	20.4	62.2	82.6
Maori female	New Zealand	19.5	51.2	70.7
	Waikato DHB	21.7	44.7	66.4
Non-Maori male	New Zealand	21.9	56.3	78.2
	Waikato DHB	20.5	56.7	77.2
Non-Maori female	New Zealand	21.6	48.2	69.8
	Waikato DHB	22.2	52.8	75.0

Figure 65: Percentages of each group aged 15 and over who ate at least two servings of fruit or at least three servings of vegetables every day (age adjusted), 2002-2003. Health Waikato.

		2+ servings fruit p/day	3+ servings veges p/day
Maori male	New Zealand	36.8	63.4
	Waikato DHB	39.5	72.1
Maori female	New Zealand	54.6	67.6
	Waikato DHB	49.3	71.8
Non-Maori male	New Zealand	44.1	63.3
	Waikato DHB	40.8	69.1
Non-Maori female	New Zealand	64.8	71.5
	Waikato DHB	61.3	77.4

Figure 66: Numbers and percentages of households by tenure type, 2006 census.

		Owned	Rented	Other	Total
Maori	New Zealand	100,872	102,687	20,379	223938
	%	45.0	45.9	9.1	100.0
	TRP CAUs	1,575	1,587	729	3,891
	%	46.0	40.8	13.3	100.0
	Extension	495	465	108	1,068
	%	50.6	43.5	5.9	100.0
	TRP rural	564	501	408	1,473
	%	45.4	34.0	20.6	100.0
	TRP towns	480	591	207	1,278
	%	42.5	46.2	11.3	100.0
Non Maori	New Zealand	811,005	285,588	133,647	1,230,240
	%	65.9	23.2	10.9	100.0
	TRP CAUs	6,678	2,217	3,843	12,738
	%	67.2	17.4	15.4	100.0
	Extension	3,315	885	1,329	5,529
	%	73.3	16.0	10.7	100.0
	TRP rural	2,142	804	1,917	4,863
	%	62.2	16.5	21.2	100.0
	TRP towns	1,221	528	597	2,346
	%	63.4	22.5	14.1	100.0

Figure 67: Numbers and percentages of households by tenure type and district, 2006 census.

		Owned	Rented	Other	Total
Maori	Waikato District	1,629	1,491	480	3,600
	%	45.3	41.4	13.3	100.0
	Waipa District	1,083	852	216	2,151
	%	50.3	39.6	10.0	100.0
	Otorohanga District	369	285	126	780
	%	47.3	36.5	16.2	100.0
	Waitomo District	540	519	222	1,281
	%	42.2	40.5	17.3	100.0
	New Plymouth District	1,911	1,776	348	4,035
	%	47.4	44.0	8.6	100.0
	Ruapehu District	711	771	231	1,713
	%	41.5	45.0	13.5	100.0
Non Maori	Waikato District	7,608	1,833	1,896	11,337
	%	67.1	16.2	16.7	100.0
	Waipa District	9,612	2,379	1,500	13,491
	%	71.2	17.6	11.1	100.0
	Otorohanga District	1,440	378	435	2,253
	%	63.9	16.8	19.3	100.0
	Waitomo District	1,329	417	369	2,115
	%	62.8	19.7	17.4	100.0
	New Plymouth District	16,029	4,041	2,403	22,473
	%	71.3	18.0	10.7	100.0
	Ruapehu District	1,842	717	603	3,162
	%	58.3	22.7	19.1	100.0

Figure 68: Numbers and percentages of home-owning households making mortgage payments, 2006 census.

	Maori			Non Maori		
	Mortgage payers	Total homeowners	% paying mortgage	Mortgage payers	Total homeowners	% paying mortgage
New Zealand	68,574	100,872	68.0	409,518	811,005	50.5
TRP CAUs	1,137	1,575	72.2	4,293	6,678	64.3
Extension	417	540	77.2	1,962	3,939	49.8
TRP rural	360	705	51.1	2,076	3,270	63.5
TRP towns	360	543	66.3	645	1,374	46.9

Figure 69: Numbers and percentages of renting households by landlord, 2006 census.

		Private landlord	Local Authority	Housing New Zealand	Other State-Owned	Not elsewhere included	Total
Maori	New Zealand	74,094	1,491	19,461	2,049	5,589	102,687
	%	72.2	1.5	19.0	2.0	5.4	100.0
	Waikato District	1,098	12	237	45	99	1,491
	%	73.6	0.8	15.9	3.0	6.6	100.0
	Waipa District	660	12	108	18	48	852
	%	77.5	1.4	12.7	2.1	5.6	100.0
	Otorohanga District	219	6	39	0	15	282
	%	77.7	2.1	13.8	0.0	5.3	100.0
	Waitomo District	378	9	75	18	39	519
	%	72.8	1.7	14.5	3.5	7.5	100.0
	New Plymouth District	1,311	15	339	18	93	1,776
	%	73.8	0.8	19.1	1.0	5.2	100.0
	Ruapehu District	474	15	93	141	45	771
	%	61.5	1.9	12.1	18.3	5.8	100.0
Non Maori	New Zealand	225,513	9,513	29,958	4,116	9,513	285,588
	%	79.0	3.3	10.5	1.4	5.8	100.0
	Waikato District	1,599	24	69	54	24	1,833
	%	87.2	1.3	3.8	2.9	4.6	100.0
	Waipa District	2,061	87	87	21	87	2,382
	%	86.5	3.7	3.7	0.9	5.2	100.0
	Otorohanga District	324	15	12	15	15	378
	%	85.7	4.0	3.2	4.0	2.4	100.0
	Waitomo District	339	6	24	30	6	417
	%	81.3	1.4	5.8	7.2	3.6	100.0
	New Plymouth District	3,267	120	438	30	120	4,038
	%	80.9	3.0	10.8	0.7	4.6	100.0
	Ruapehu District	441	30	36	189	30	717
	%	61.5	4.2	5.0	26.4	3.3	100.0

Figure 70: Weekly rent paid by ethnic group and district (numbers and percentages), 2006 census.

		Under $100	$100 - $149	$150 - $199	$200 - $299	$300 and over	Not elsewhere included	Total
New Zealand	Maori	17,802	14,619	20,217	31,221	15,393	3,435	102,681
	%	17.3	14.2	19.7	30.4	15.0	3.3	100.0
	Non Maori	40,143	33,849	45,531	90,003	68,616	7,443	285,585
	%	14.1	11.9	15.9	31.5	24.0	2.6	100.0
Waikato	Maori	246	348	465	327	45	60	1,491
	%	16.5	23.3	31.2	21.9	3.0	4.0	100.0
	Non Maori	291	396	465	498	126	63	1,833
	%	15.9	21.6	25.4	27.2	6.9	3.4	100.0
Waipa	Maori	126	144	231	291	27	33	852
	%	14.8	16.9	27.1	34.2	3.2	3.9	100.0
	Non Maori	366	378	573	810	180	75	2,379
	%	15.4	15.9	24.1	34.0	7.6	3.2	100.0
Otorohanga	Maori	78	93	81	15	0	9	282
	%	27.7	33.0	28.7	5.3	0.0	3.2	100.0
	Non Maori	123	117	102	15	0	15	381
	%	32.3	30.7	26.8	3.9	0.0	3.9	100.0
Waitomo	Maori	162	174	141	9	0	36	522
	%	31.0	33.3	27.0	1.7	0.0	6.9	100.0
	Non Maori	159	135	84	0	0	21	417
	%	38.1	32.4	20.1	0.0	0.0	5.0	100.0
New Plymouth	Maori	330	303	453	549	75	63	1,776
	%	18.6	17.1	25.5	30.9	4.2	3.5	100.0
	Non Maori	717	729	966	1,209	309	114	4,041
	%	17.7	18.0	23.9	29.9	7.6	2.8	100.0
Ruapehu	Maori	303	357	69	12	0	27	771
	%	39.3	46.3	8.9	1.6	0.0	3.5	100.0
	Non Maori	348	258	69	21	6	18	717
	%	48.5	36.0	9.6	2.9	0.8	2.5	100.0

Figure 71: Households by usual number of residents (numbers and percentages), 2006 census.

		One	Two	Three or four	Five or more	Total
Maori	New Zealand	25,305	58,821	91,026	48,789	223,941
	%	11.3	26.3	40.6	21.8	100.0
	Waikato District	363	834	1,392	1,008	3,597
	%	10.1	23.2	38.7	28.0	100.0
	Waipa District	198	561	912	474	2,145
	%	9.2	26.2	42.5	22.1	100.0
	Otorohanga District	123	219	270	177	789
	%	15.6	27.8	34.2	22.4	100.0
	Waitomo District	219	324	462	276	1,281
	%	17.1	25.3	36.1	21.5	100.0
	New Plymouth District	510	1,110	1,713	702	4,035
	%	12.6	27.5	42.5	17.4	100.0
	Ruapehu District	294	450	594	375	1,713
	%	17.2	26.3	34.7	21.9	100.0
Non Maori	New Zealand	309,318	426,036	370,611	124,272	1,230,237
	%	25.1	34.6	30.1	10.1	100.0
	Waikato District	2,424	4,089	3,522	1,296	11,331
	%	21.4	36.1	31.1	11.4	100.0
	Waipa District	3,165	5,073	3,972	1,290	13,500
	%	23.4	37.6	29.4	9.6	100.0
	Otorohanga District	537	843	627	240	2,247
	%	23.9	37.5	27.9	10.7	100.0
	Waitomo District	591	831	504	192	2,118
	%	27.9	39.2	23.8	9.1	100.0
	New Plymouth District	6,321	8,358	6,105	1,692	22,476
	%	28.1	37.2	27.2	7.5	100.0
	Ruapehu District	1,035	1,167	753	204	3,159
	%	32.8	36.9	23.8	6.5	100.0

Figure 72: Households by number of bedrooms (numbers and percentages), 2006 census.

		One or two	Three	Four	Five or more	Not elsewhere included	Total
Maori	New Zealand	48,114	109,983	44,421	14,745	6,678	223,941
	%	21.5	49.1	19.8	6.6	3.0	100.0
	Waikato District	594	1,854	795	159	120	3,597
	%	16.5	51.5	22.1	4.4	3.3	100.0
	Waipa District	303	1,152	510	102	6	2,145
	%	14.1	53.7	23.8	4.8	0.3	100.0
	Otorohanga District	144	396	174	21	0	789
	%	18.3	50.2	22.1	2.7	0.0	100.0
	Waitomo District	231	666	261	21	33	1,281
	%	18.0	52.0	20.4	1.6	2.6	100.0
	New Plymouth District	861	2,112	741	183	87	4,035
	%	21.3	52.3	18.4	4.5	2.2	100.0
	Ruapehu District	276	942	336	51	54	1,713
	%	16.1	55.0	19.6	3.0	3.2	100.0
Non Maori	New Zealand	303,396	535,770	257,646	76,548	56,856	1,230,237
	%	24.7	43.6	20.9	6.2	4.6	100.0
	Waikato District	1,839	4,563	2,979	1,032	879	11,331
	%	16.2	40.3	26.3	9.1	7.8	100.0
	Waipa District	2,520	6,294	3,378	828	411	13,500
	%	18.7	46.6	25.0	6.1	3.0	100.0
	Otorohanga District	327	1,005	618	177	60	2,247
	%	14.6	44.7	27.5	7.9	2.7	100.0
	Waitomo District	312	966	534	141	123	2,118
	%	14.7	45.6	25.2	6.7	5.8	100.0
	New Plymouth District	5,280	10,764	4,578	1,008	810	22,476
	%	23.5	47.9	20.4	4.5	3.6	100.0
	Ruapehu District	519	1,410	693	168	306	3,159
	%	16.4	44.6	21.9	5.3	9.7	100.0

Figure 73: Households with five or more usual residents by number of bedrooms, 2006 census.

		One or two	Three	Four	Five or more	Not elsewhere included	Total
Maori	New Zealand	2,070	21,822	15,591	8,094	1,209	48,789
	%	4.2	44.7	32.0	16.6	2.5	100.0
	Waikato District	48	498	312	96	18	1,008
	%	4.8	49.4	31.0	9.5	1.8	100.0
	Waipa District	9	192	180	57	0	474
	%	1.9	40.5	38.0	12.0	0.0	100.0
	Otorohanga District	6	75	60	15	0	177
	%	3.4	42.4	33.9	8.5	0.0	100.0
	Waitomo District	9	129	93	9	0	276
	%	3.3	46.7	33.7	3.3	0.0	100.0
	New Plymouth District	12	351	222	87	6	702
	%	1.7	50.0	31.6	12.4	0.9	100.0
	Ruapehu District	9	189	126	24	0	375
	%	2.4	50.4	33.6	6.4	0.0	100.0
Non Maori	New Zealand	3,783	38,799	47,196	28,383	6,102	124,272
	%	3.0	31.2	38.0	22.8	4.9	100.0
	Waikato District	6	294	513	360	90	1,296
	%	0.5	22.7	39.6	27.8	6.9	100.0
	Waipa District	12	315	591	291	48	1,290
	%	0.9	24.4	45.8	22.6	3.7	100.0
	Otorohanga District	0	60	96	45	0	240
	%	0.0	25.0	40.0	18.8	0.0	100.0
	Waitomo District	0	51	75	21	12	192
	%	0.0	26.6	39.1	10.9	6.3	100.0
	New Plymouth District	30	558	744	303	45	1,692
	%	1.8	33.0	44.0	17.9	2.7	100.0
	Ruapehu District	0	45	69	30	30	204
	%	0.0	22.1	33.8	14.7	14.7	100.0

Figure 74: Number and percentage of households which were overcrowded in 2006. Health Waikato.

	Maori		Pakeha		Total population	
	Number	%	Number	%	Number	%
Waikato	2,898	30	1,671	5	4,512	11
Waipa	963	19	1,272	4	2,265	6
Otorohanga	432	22	270	4	660	8
Waitomo	807	25	354	6	1,149	13
Ruapehu	924	21	450	6	1,311	11

Figure 75: Numbers and percentages of households by available telecommunications, 2006 census.

		Cellphone	Landline	Internet	All households
Maori	New Zealand	165,687	172,185	103,683	217,464
	%	76.2	79.2	47.7	100.0
	TRP CAUs	2781	3063	1512	4047
	%	68.7	75.7	37.4	100.0
	Extension	918	909	525	1164
	%	78.9	78.1	45.1	100.0
	TRP rural	978	1299	609	1647
	%	59.4	78.9	37.0	100.0
	TRP towns	885	855	378	1236
	%	71.6	69.2	30.6	100.0
Non Maori	New Zealand	868,839	1,105,143	323,331	1,176,243
	%	73.9	94.0	62.9	100.0
	TRP CAUs	8649	11463	6975	12309
	%	70.3	93.1	56.7	100.0
	Extension	4056	5058	3111	5424
	%	74.8	93.3	57.4	100.0
	TRP rural	3090	4419	2838	4689
	%	65.9	94.2	60.5	100.0
	TRP towns	1503	1986	1026	2196
	%	68.4	90.4	46.7	100.0

Figure 76: Numbers and percentages of households with no telecommunications, 2006 census.

	Maori households		Non-Maori households	
	No. without telecom-munications	% without telecom-munications	No. without telecom-munications	% without telecom-munications
New Zealand	11,703	5.4	16,704	1.4
TRP CAUs	294	7.3	126	1.0
Extension	36	3.1	36	0.7
TRP rural	141	8.6	48	1.0
TRP towns	117	9.5	42	1.9

Figure 77: Number and percentage of households with telecommunications but not a landline telephone, 2006 census.

	Maori households		Non-Maori households	
	No. with comms but no landline	% with comms but no landline	No. with comms but no landline	% with comms but no landline
New Zealand	33,576	15.4	54,396	4.6
TRP CAUs	690	17.0	720	5.8
Extension	219	18.8	330	6.1
TRP rural	207	12.6	222	4.7
TRP towns	264	21.4	168	7.7

Figure 78: Numbers and percentages of households with no motor vehicle, 2006 census.

	Maori households		Non-Maori households	
	No. without motor vehicle	% without motor vehicle	No. without motor vehicle	% without motor vehicle
New Zealand	22,347	10.0	90,411	7.3
Waikato District	333	9.3	423	3.7
Waipa District	156	7.3	648	4.8
Otorohanga District	75	9.5	96	4.3
Waitomo District	159	12.4	93	4.4
New Plymouth District	459	11.4	1,638	7.3
Ruapehu District	237	13.8	174	5.5

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