

# **The Changing Demography of Counties Manukau District Health Board**

**January 2008**

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## Key Points

- Counties Manukau District Health Board (CMDHB) has the third largest DHB population in New Zealand, estimated at 464,000 in 2007 (behind Waitemata 514,000 and Canterbury 488,000)
- CMDHB has the fastest growing population of any DHB with an annual growth rate of 3.2% since 2001. This is twice the New Zealand average of 1.6%. One-fifth of the new New Zealand population each year take up residence in Counties Manukau.
- The high growth rate is expected to continue. By 2026 on current medium projections CMDHB will have a population of 626,000 and have overtaken Canterbury DHB becoming the second largest DHB in New Zealand. This represents an additional 171,000 people or more than a third (38%) more people over the next 20 years.
- The population projections used by Statistics New Zealand are relatively conservative - future capital planning will need flexibility in design to cope with changes in plans that may be required
- CMDHB has the highest number of 0-14 year olds of any DHB, estimated at 116,700 in 2007 (Waitemata was next on 108,000). In 2007 one quarter (25%) of CMDHB's population was under 20 years of age, compared to the New Zealand average of 21%. CMDHB had the highest number of Maaori children aged 0-14 (an estimated 28,400 in 2007) and also Pacific children (33,400) of any DHB, and had the second highest number of Asian children (16,700).
- CMDHB has the lowest proportion of the population aged 65+ of any DHB, 9% compared with 12% nationally. However CMDHB still had fifth highest number of elderly people - an estimated 41,500 in 2007.
- CMDHB has the highest number of Pacific people of any DHB, an estimated 98,000 in 2007, nearly double the next highest DHB (Auckland with 52,000)
- CMDHB has the highest number of Maaori people of any DHB, an estimated 78,000 in 2007, ahead of Waikato on 75,000
- CM has the highest number of people living in NZDep06 decile 9 + 10 areas of any DHB. The 160,000 people (estimated 2007) living in these areas rated relatively deprived is nearly double the next highest DHB (Auckland with 88,000). Nearly one fifth (19%) of all people living in NZDep06 decile 9 + 10 areas in New Zealand live in Counties Manukau.
- CMDHB has the highest number of children (50,000 in 2006) living in NZDep06 decile 9 and 10 areas, while the next highest DHB, Waikato, only has 21,000 children in such areas. Nearly a quarter (23%) of all New Zealand children living in Dep 9 + 10 areas in New Zealand live in Counties Manukau.

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## Introduction

Counties Manukau District Health Board (CMDHB) has a diverse population with complex health needs and service requirements. It is the fastest growing area in New Zealand. Key features of the Counties Manukau DHB population are:

- a high proportion of Maaori
- a high proportion of Pacific people
- a high proportion of Asian people
- the relative youthfulness of these populations, and the population as a whole
- the high proportion of the population who are relatively deprived in socio-economic terms.

This report presents the demographic data from the 2006 Census, concentrating on changes over the past 10 years, and then the future changes expected based on Statistics New Zealand (SNZ) projections. The dynamic nature of population changes in Counties Manukau DHB has a direct impact on the health of the people, how health services are provided, and on planning for future services.

## Population definitions

There are 3 population counts generally used by Statistics New Zealand.

1. Census Night – counts all people staying in an area on census night who completed a census form
2. Usually Resident – any resident of an area in New Zealand who completed a census form (ie were in New Zealand on census night) mapped back to their area of residence (so excludes non-NZ residents)
3. Estimated Resident – adds those temporarily overseas on census night, adjusts for under and over-enumeration, and uses births, deaths and migration figures to move the estimate from census night to 30 June 2006. Subsequent estimated resident figures are projected from this 2006 base.

This report uses estimated resident populations as at 30 June unless otherwise stated. Estimated resident population counts are the most important and useful for health planning purposes.

All ethnicity figures are prioritised unless otherwise stated, meaning each person is only counted once even if they belong to more than one ethnic group. This makes it easier to interpret mapped data and totals, but does lose some of the data richness which is explored in more detail in other CMDHB documents\* Ethnicity is grouped up into four categories – Maaori, Pacific, Asian and Other – and prioritised in that order. Pacific includes all Pacific ethnicities including Polynesia and Melanesia (but excludes eg Fijian Indians). Asian (following the New Zealand health data conventions) includes South, East and South East Asian ethnicities, but excludes Arab and other Middle Eastern and Afghani ethnicities and excludes the former Soviet Union countries. “Other” is mainly people of European ethnicity, but does include all other ethnicities, so African, South American, Arab etc.

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\* For example:

Ethnic-Specific Health Needs Assessment for Pacific People in Counties Manukau. CMDHB, June 2007, see [www.cmdhb.org.nz](http://www.cmdhb.org.nz)  
Asian health needs assessment – paper in preparation.

## Geography

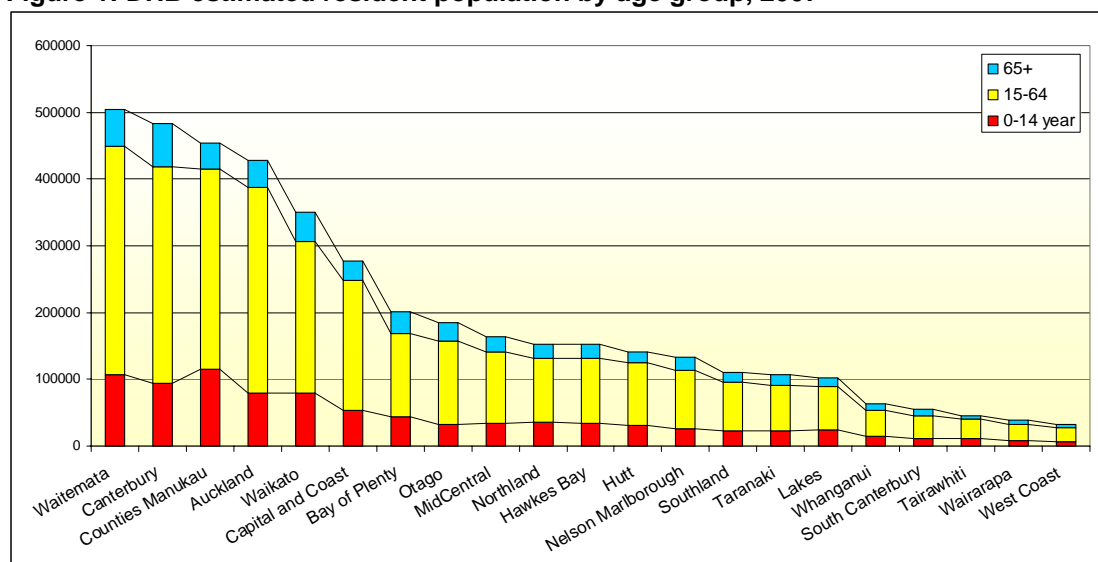
Counties Manukau DHB covers 286,800 hectares (nearly 3000 sq km), including the territorial authorities (TAs) of Manukau City, Franklin District, and Papakura District. The tangata whenua of the Counties Manukau area trace their ancestry back to the Tainui canoe that came to rest at Kawhia. In the late 1800s and early 1900s Counties Manukau was largely a farming community feeding the growing Auckland city, a role continuing to this day for Franklin District. Extensive development of commercial and industrial sectors occurred with the post-WWII industrialisation of Auckland and its expansion southwards. The construction of the Southern Motorway in the 1950s, a major state housing programme, the Auckland International Airport, and also increasing levels of car ownership were major contributors to growth. The growing manufacturing sector created a labour shortage, met by an increasing urbanisation of Maaori and a large influx of people from the Pacific Islands. In the 1980s and 1990s Manukau City had one of the highest growth rates of any city in New Zealand, and this rapid growth has continued into the 2000s.

Today Manukau City is the third largest city in New Zealand, giving a large urban population for the DHB to cover. The restrictions placed on urban limits by the Auckland Region Growth Strategy has seen increasing infill and high density housing,. The greenfields growth area of Flatbush is growing at a much greater rate than the original 40,000 new people by 2015 that was anticipated . In addition Papakura is a growing urban area, with new housing developments in Takalani and around the old army base providing room for new population growth. The farming communities of Franklin are seeing significant growth in towns such as Waiuku and North Pukekohe as Aucklanders seek relief from higher house prices in the city.

## Population changes

Counties Manukau District Health Board's (CMDHB) population is estimated at 464,000 in 2007, around 11% of New Zealand's population of 4.23 million. Counties Manukau is the third largest District Health Board in the country by population size (Figure 1).

**Figure 1: DHB estimated resident population by age group, 2007**



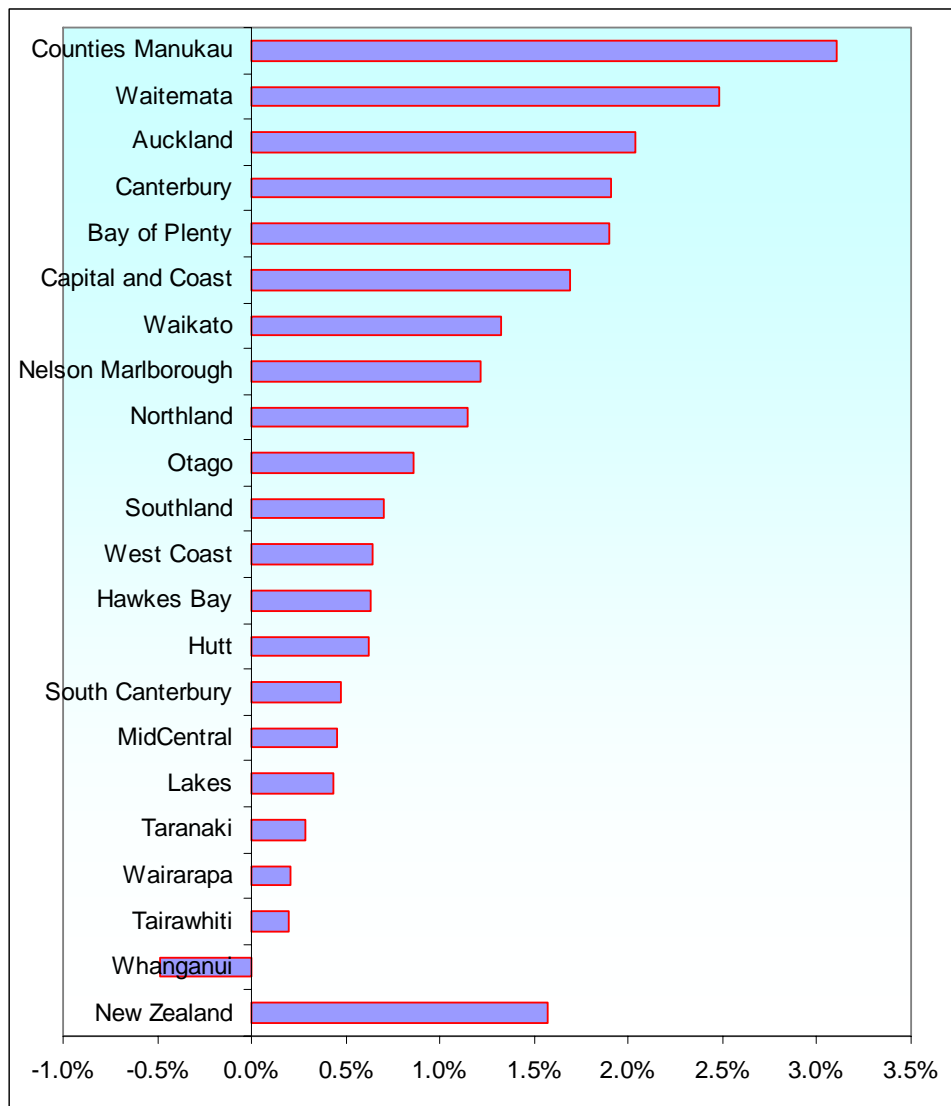
(Statistics New Zealand, 2007b) DHBs listed by size of population

Counties Manukau DHB has the fastest growing population of any DHB in the nation with an annual growth rate of 3.2 percent since 2001. This annual growth rate is twice the average for New Zealand as a whole (1.6%) (Figure 2). The three metro-Auckland DHBs have had the highest growth rates across New Zealand over the past 5 years. CMDHB's growth rate is 0.8



percentage points higher than Waitemata DHB per year, and 1.0 percent higher than Auckland DHB. Combined the metro-Auckland growth will place great pressure on health care facilities, and necessitate capital investment in all three Boards.

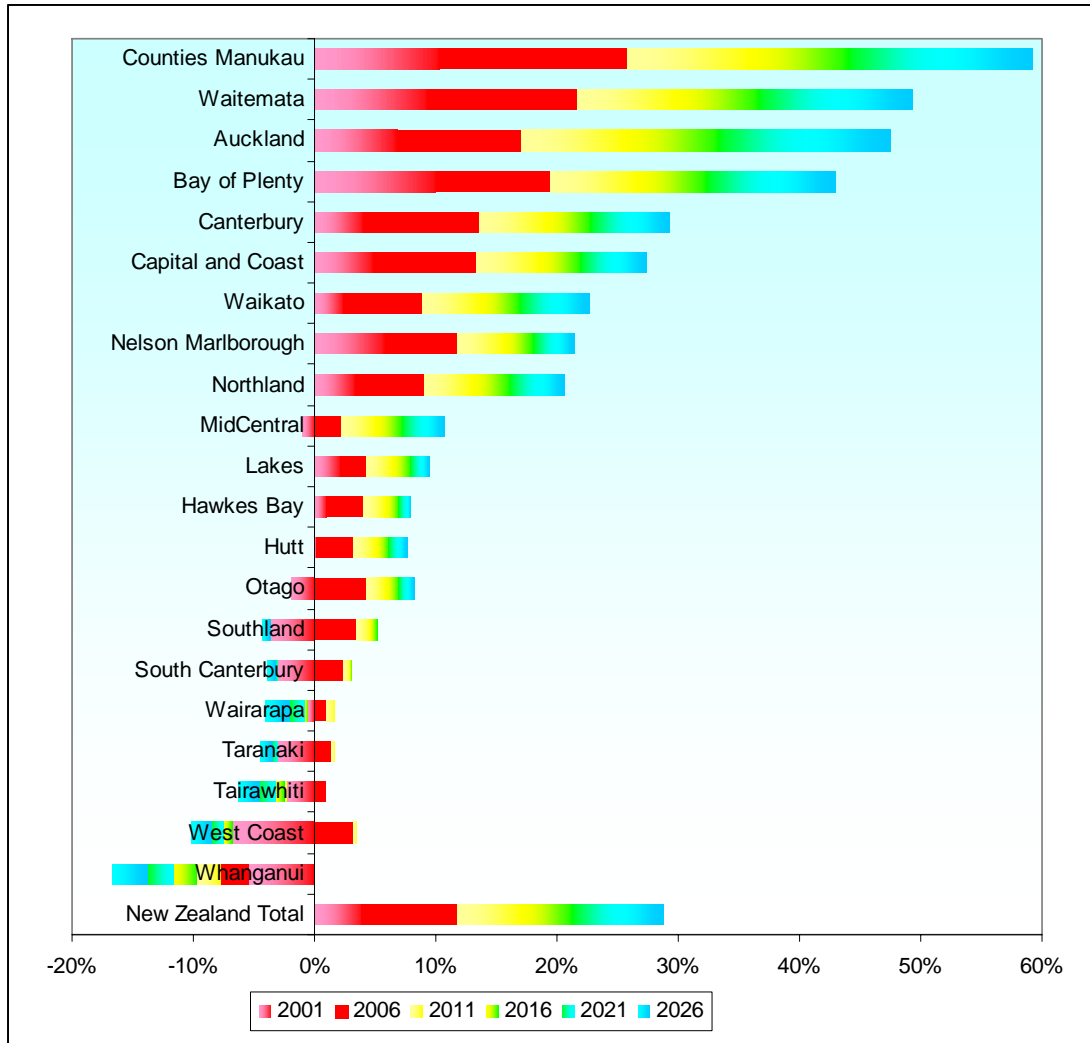
**Figure 2: DHB annual growth rates from 2001 to 2006**



(Statistics New Zealand, 2002, 2006, 2007b) Sorted by size of population growth, NZ average at foot of graph

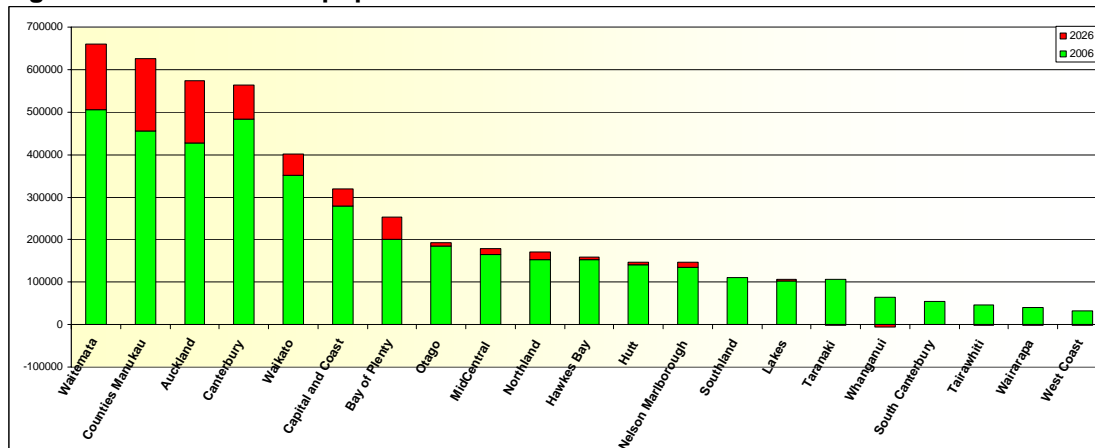
CMDHB has been the fastest growing DHB in New Zealand for the past 20 years and looks likely to keep its leading position over the next two decades (Figure 3). By 2026 on current projections CMDHB will have 626,000 people and have overtaken Canterbury DHB becoming the second largest DHB in New Zealand (Figure 4). Further discussion below in the ethnicity section (eg see Figure 13, page 10) notes the relatively conservative nature of the Statistics New Zealand projections. For future planning purposes the DHB needs to be aware that the eventual growth is likely to be even higher, and allow flexibility in design to cope with changes in plans that may be required.

**Figure 3: DHB accumulated growth rates by 5 year period, 1996-2026**



(Statistics New Zealand, 2002, 2006, 2007b) Sorted by size of population growth, NZ average at foot of graph

**Figure 4: DHB estimated population 2006 to 2026**

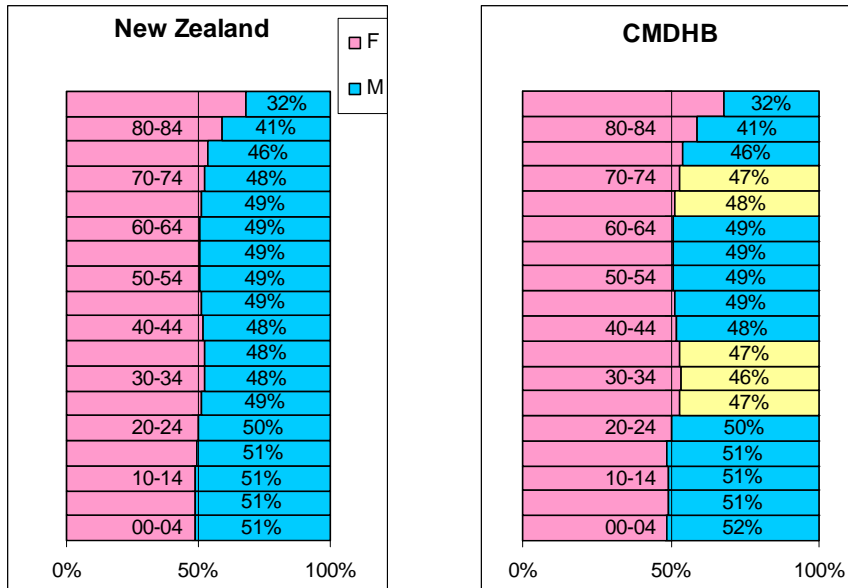


(Statistics New Zealand, 2007b) Sorted by projected size of population in 2026

## Gender distribution

Males accounted for 49% of New Zealand's population in 2007, with the percentage varying by age. The male proportion was 51 percent for those under age 20, but gradually declines in the older ages. By age 75, the proportion of males drops to 46% and then to only 32% for those aged 85. In general, CMDHB follows the national trend, but has proportionately less males in age groups 25-39 and ages 65 over (Figure 5). Among CMDHB's 42, 000 over 65 population in 2007 more than 23, 000 are women.

Figure 5: Age distribution by gender, 2007

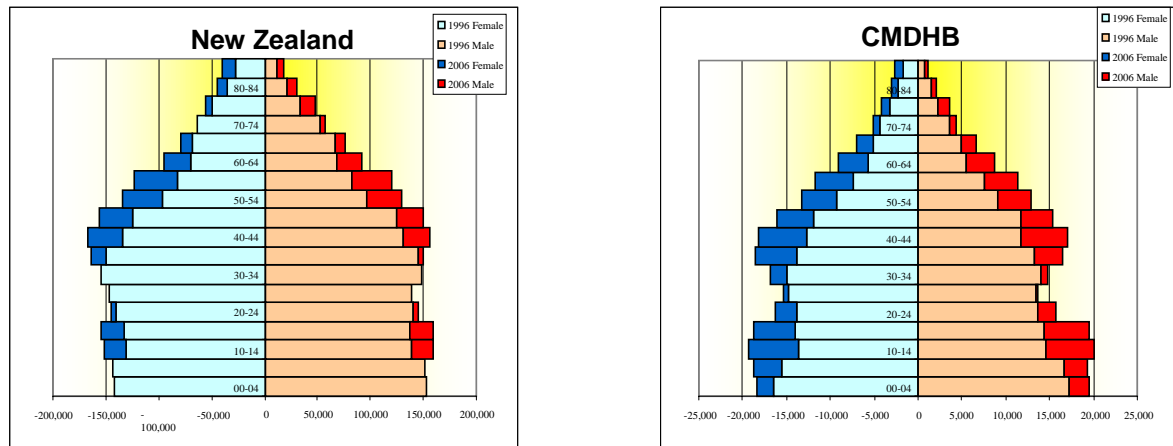


(Statistics New Zealand, 2007b)

## Age group distribution

The population pyramid is a useful way of displaying age cohorts by sex (Figure 6). The New Zealand and Counties Manukau pyramids show the distinctive baby boomer generation as a bulge in the 40-59 age groups. Both graphs also show the significant excess of women in the older age groups. Counties Manukau DHB shows a younger age pattern than New Zealand.

Figure 6: Total population age growth structure, 1996-2006

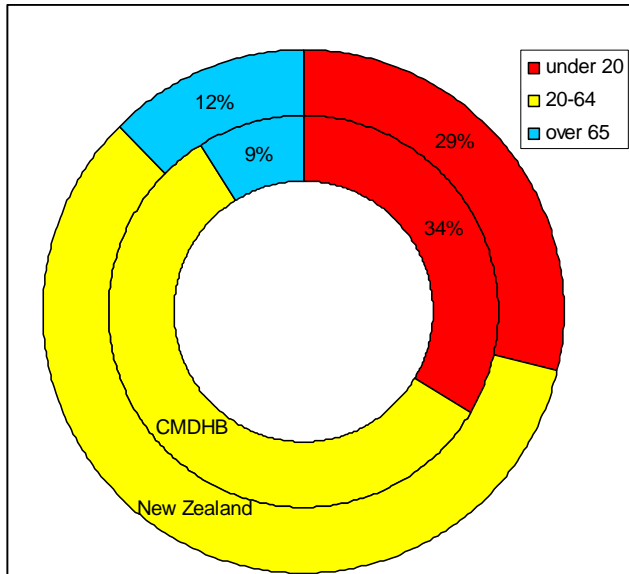


(Statistics New Zealand, 2002, 2006, 2007b)

Areas of growth over the past 10 years are highlighted, with both NZ and CMDHB showing the general aging of the population as the boomers and their parents march into the future. In addition the Counties Manukau graph shows significant growth at younger age groups. This is particularly driven by the ethnicity make up of CMDHB (see Figure 17, et seq, and discussion on page 12).

In 2007 one third of CMDHB’s population was under 20 years of age and less than 10 percent were older than 65 years. Compared to the New Zealand average CMDHB has a higher proportion of children and relative less elderly people (Figure 7).

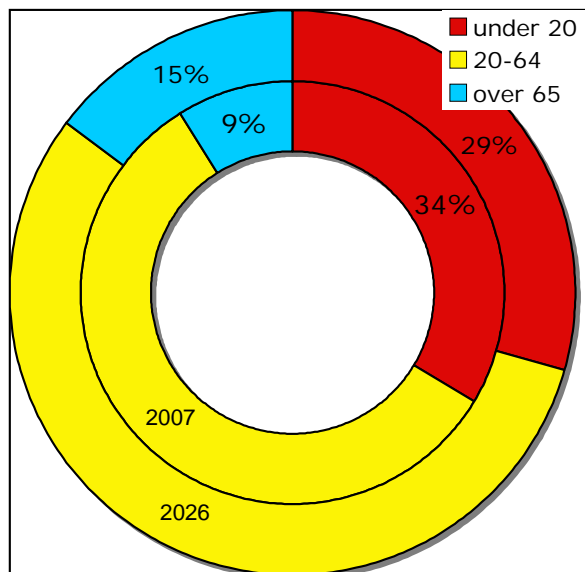
**Figure 7: Age group distribution 2007, CMDHB and New Zealand**



(Statistics New Zealand, 2007b)

However by 2026 CMDHB is projected to be significantly aging. The numbers of people aged 65+ is expected to more than double from 39,800 in 2006 to 92,000 in 2026. The proportion of the population aged 65+ is projected to increase to 15%, while the proportion of children is projected to drop to 29% by 2026 (Figure 8).

**Figure 8: Age distribution changes in CMDHB, 2007-2026**

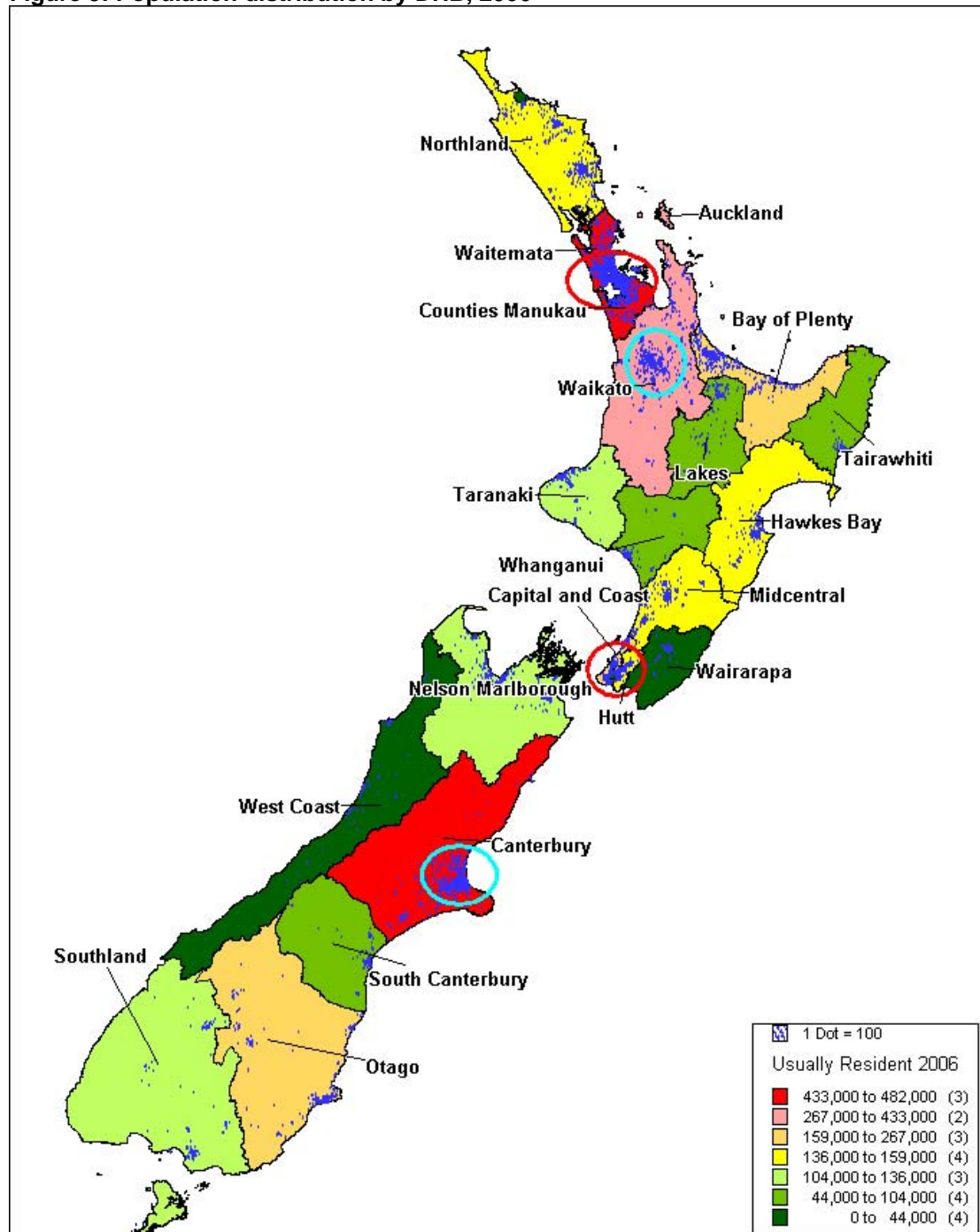


(Statistics New Zealand, 2007b)

## Population geographic distribution

New Zealand's population distribution is very uneven. The nation's 4 main metropolitan areas (covered by seven DHBs: Auckland, Waitemata, Counties Manukau, Waikato, Hutt, Capital and Coast, and Canterbury) contain more than 63 percent of the total New Zealand population (circled in Figure 9). The Auckland and Wellington regions alone cover nearly half (43%) of the whole New Zealand population; while one out of three (33%) New Zealanders live in the Auckland region.

**Figure 9: Population distribution by DHB, 2006**

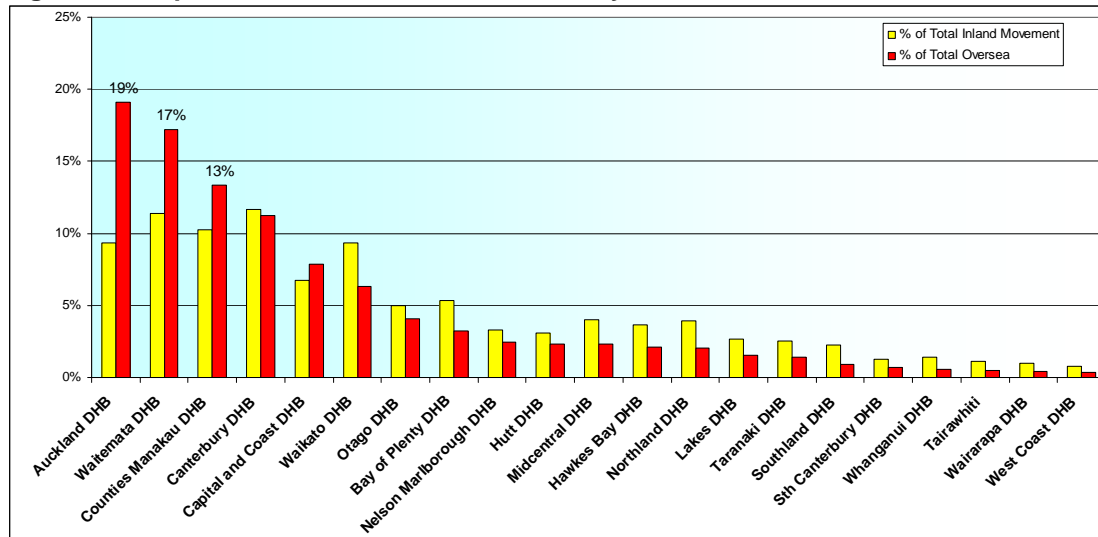


(Critchlow Ltd., 2007; Statistics New Zealand, 2007b)

The imbalance between urban and rural, north and south populations is further intensified by recent growth. More than 51 percent of the nation's population increase over the past five

years occurred in Auckland region. This growth is driven more by migration (from other DHBs or other countries) than by natural increase, especially for Asian and Pacific groups. In the past five years, 343,000 overseas people immigrated to New Zealand, nearly half of whom (49%) stay in Auckland region. Over the same period 1.8 million New Zealanders changed their residential address, of whom 30 percent resettle down in Auckland region (Figure 10).

**Figure 10: Population movement in the last five years**

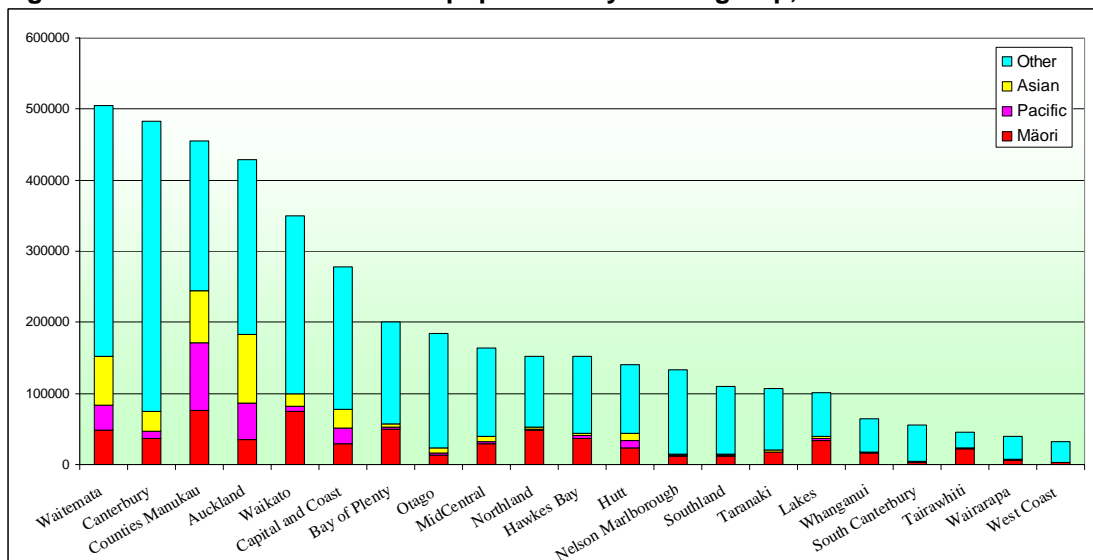


(Statistics New Zealand, 2007a), sorted in order of proportion of overseas migrants

## Ethnicity

Although Waitemata DHB has the largest population of any DHB, CMDHB has the highest number (250,000) and proportion (54%) for non-European groups (Māori, Pacific, and Asian) (Figure 11).

**Figure 11: DHB estimated resident population by ethnic group, 2007**

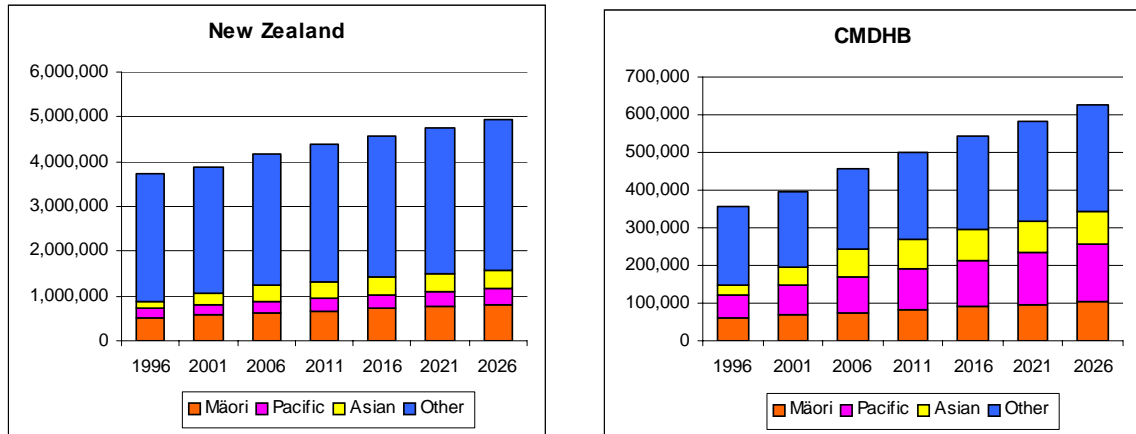


(Statistics New Zealand, 2007b), sorted by total population size

There was significant growth in New Zealand's non-European groups over the 1996 to 2006 period (Figure 12). Māori, Pacific and Asian groups across New Zealand increased 41% over that period, with an even higher 65% increase for CMDHB. By way of comparison the rest of the population increased 3% for New Zealand and 1% for CMDHB over the same time period.

This Maaori, Pacific and Asian growth is projected to continue at a slower rate from 2006 to 2026, but still 28% for New Zealand and 40% for CMDHB. The overall growth rate predicted by the Statistics New Zealand medium projection series would see an additional 171,000 people in CMDHB over the 20 years 2006 to 2026, representing a 38% growth or nearly 2% a year. These projections anticipate a reduction in growth, particularly from migration compared with the past 10 years; it remains to be seen whether those predictions will be accurate.

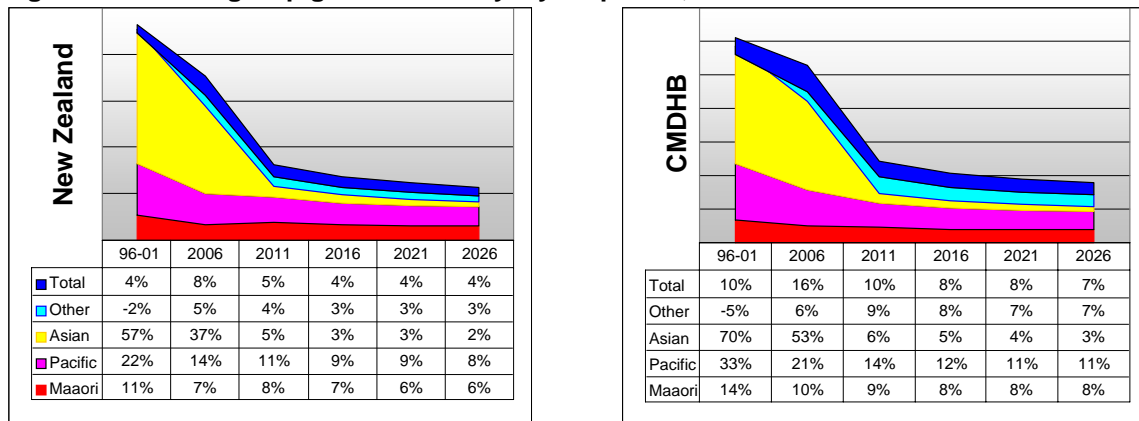
**Figure 12: Ethnic group population, 1996-2026**



(Statistics New Zealand, 2002, 2006, 2007b)

The rather heterogeneous Asian group has had the highest growth rate since 1996 (Figure 13); Pacific next. Maaori group has a stable growth rate, while the Other group (mainly European) has virtually no growth to 2006, then is expected to resume growth. Over the 20 year period 2006 to 2026 the medium projections anticipate an extra 55,000 Pacific people (58% growth), 28,000 Maaori (37%), 14,000 Asian (19%) and 74,000 Other (35%). The future projections for Asians are very sensitive to the assumptions made by Statistics New Zealand about future migration patterns.

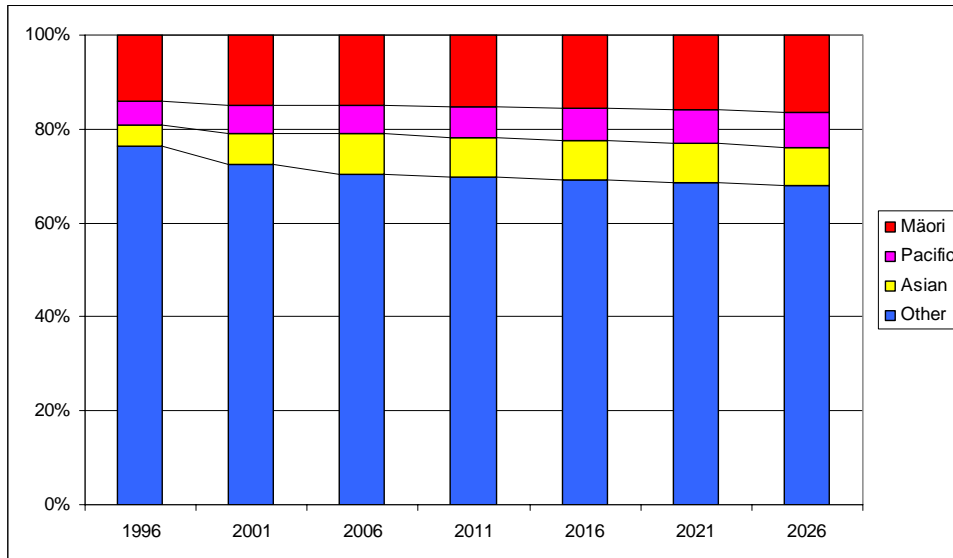
**Figure 13: Ethnic group growth rates by 5 year period, 1996-2026**



(Statistics New Zealand, 2002, 2006, 2007b)

This rapid growth has seen the proportions of each ethnic group in New Zealand changing over time (Figure 14). Maaori remains around 14-15% of the population from 1996-2006, and Pacific 5% to 6%. The Asian group however increased from 4% in 1996 to 9% in 2006, while the Other (mainly European) group declined from 76% in 1996 to 70% in 2006.

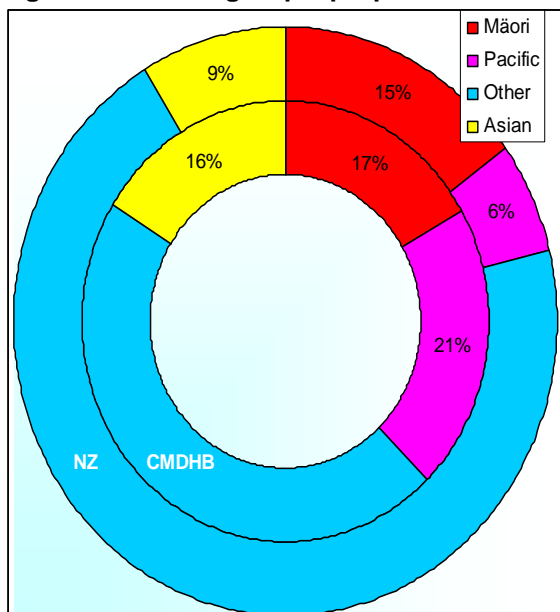
**Figure 14: New Zealand ethnic group proportions, 1996-2026**



(Statistics New Zealand, 2002, 2006, 2007b)

The distribution of ethnic groups in CMDHB is quite different to that of New Zealand as a whole (Figure 15). Pacific people make up 21% of CMDHB’s population compared with 6% nationally. Asians (mainly Chinese and Indian) at 16% of the CMDHB population are also at a higher proportion than the national average. Maaori have a similar proportion to New Zealand.

**Figure 15: Ethnic groups’ proportion in 2007, CMDHB vs. NZ**

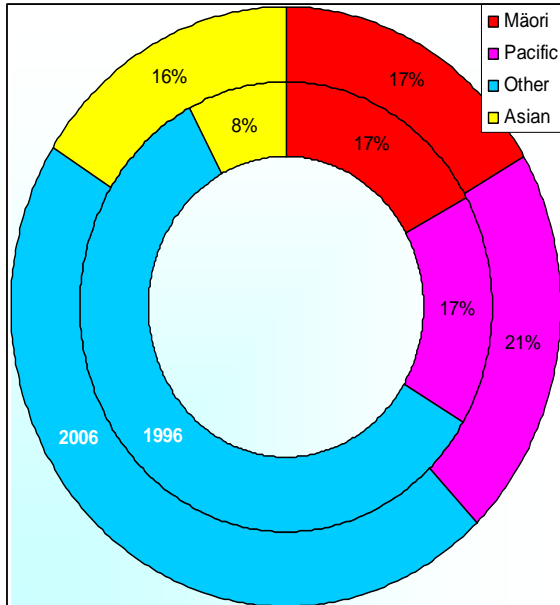


(Statistics New Zealand, 2007b)

Over the 1996 to 2006 period the Asian group has doubled its proportion of the CMDHB population (Figure 16). Pacific has also increased, both at the expense of the Other group, with Maaori staying constant.



**Figure 16: CMDHB ethnic groups' proportion changes from 1996 to 2006**

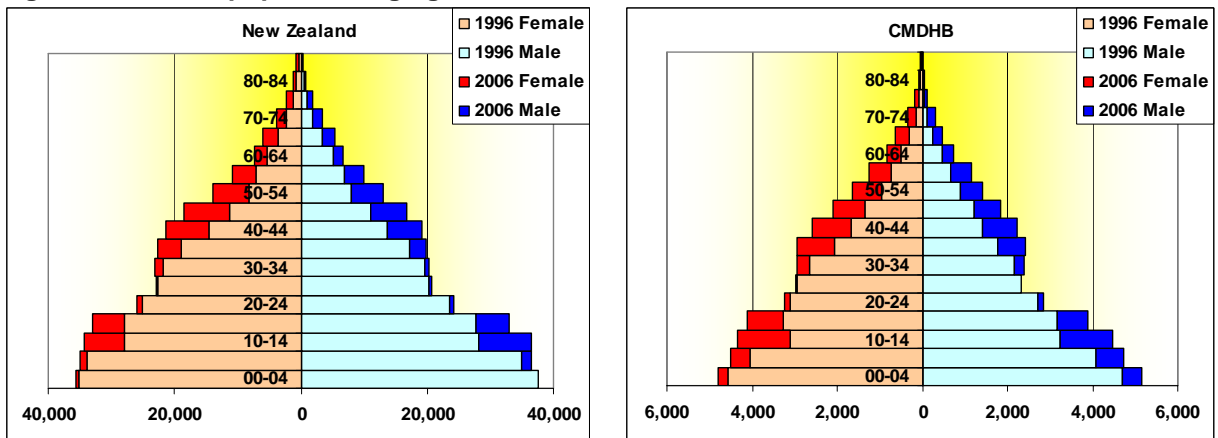


(Statistics New Zealand, 2002, 2006, 2007b)

### Age and gender distribution

Like the national age pyramid for Maaori, CMDHB's shows a very young growing population (Figure 17). The age distribution of Maaori in CMDHB is similar to that of national average with the lack of growth in the 20-34 age groups probably due to emigration.

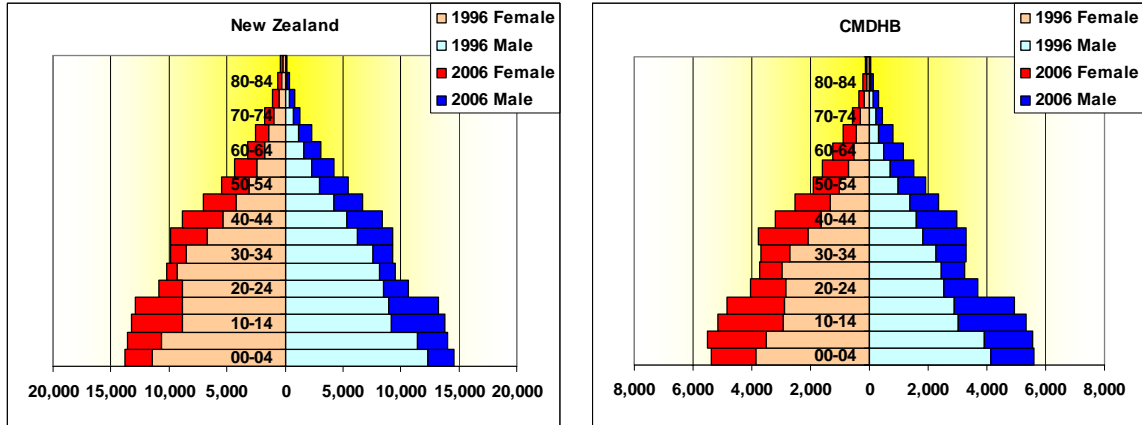
**Figure 17: Maaori population age growth structure, 1996-2006**



(Statistics New Zealand, 2002, 2006, 2007b) Note the differing scales used in this series of population pyramids

Pacific people have a similar population structure to Maaori, with a relatively young population giving a broad-based pyramid (Figure 18). All age groups show increases, with the New Zealand and CMDHB pictures looking very similar.

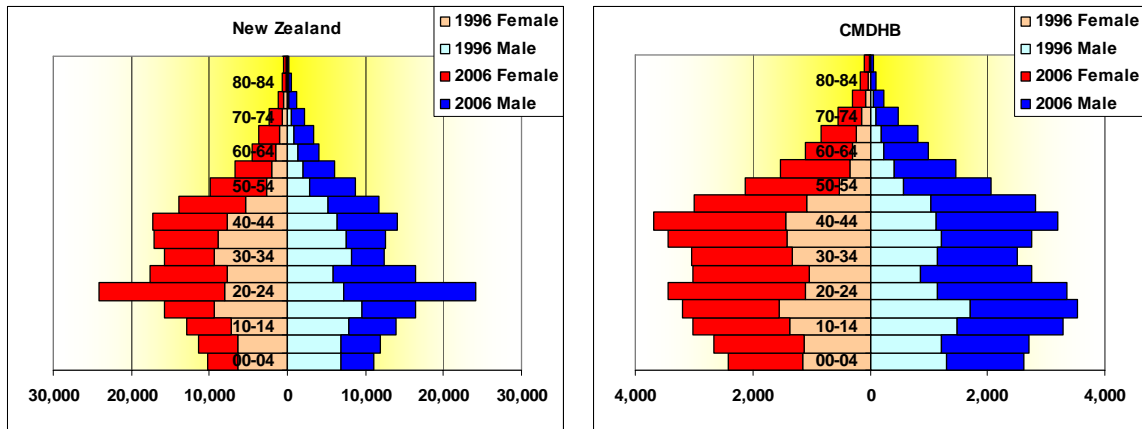
**Figure 18: Pacific population age growth structure, 1996-2006**



(Statistics New Zealand, 2002, 2006, 2007b)

There has been a huge increase in the Asian population over the past 10 years with a bi-modal distribution of workers and their offspring immigrants dominating (Figure 19). The changes in CMDHB are more dramatic compared to the rest of New Zealand, but follow similar lines.

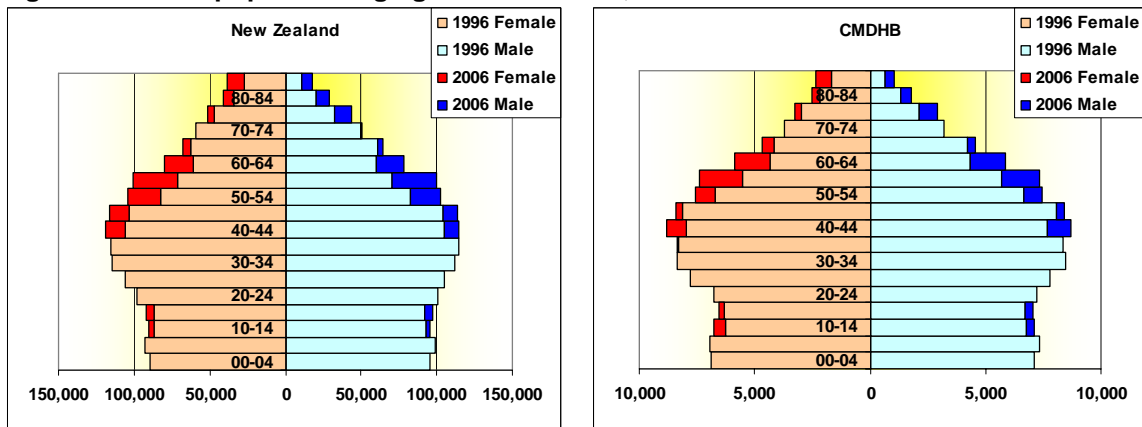
**Figure 19: Asian population age growth structure, 1996-2006**



(Statistics New Zealand, 2002, 2006, 2007b)

The Other group, mainly European, shows a much more mature population pyramid shape, with CMDHB mirroring the New Zealand groups. Much lower growth is illustrated here than in the previous ethnic groups.

**Figure 20: Other population age growth structure, 1996-2006**

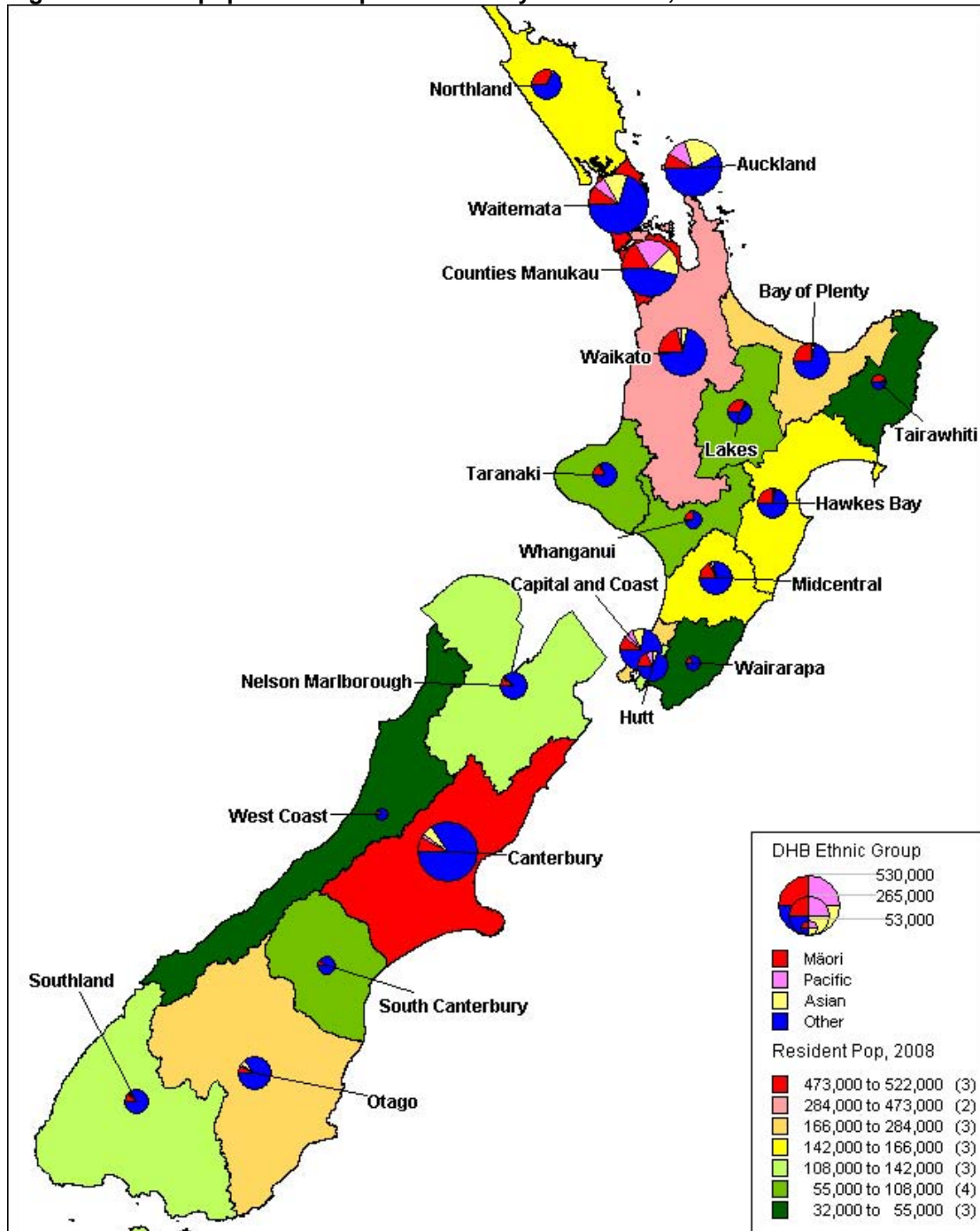


(Statistics New Zealand, 2002, 2006, 2007b)

## Geographic distribution

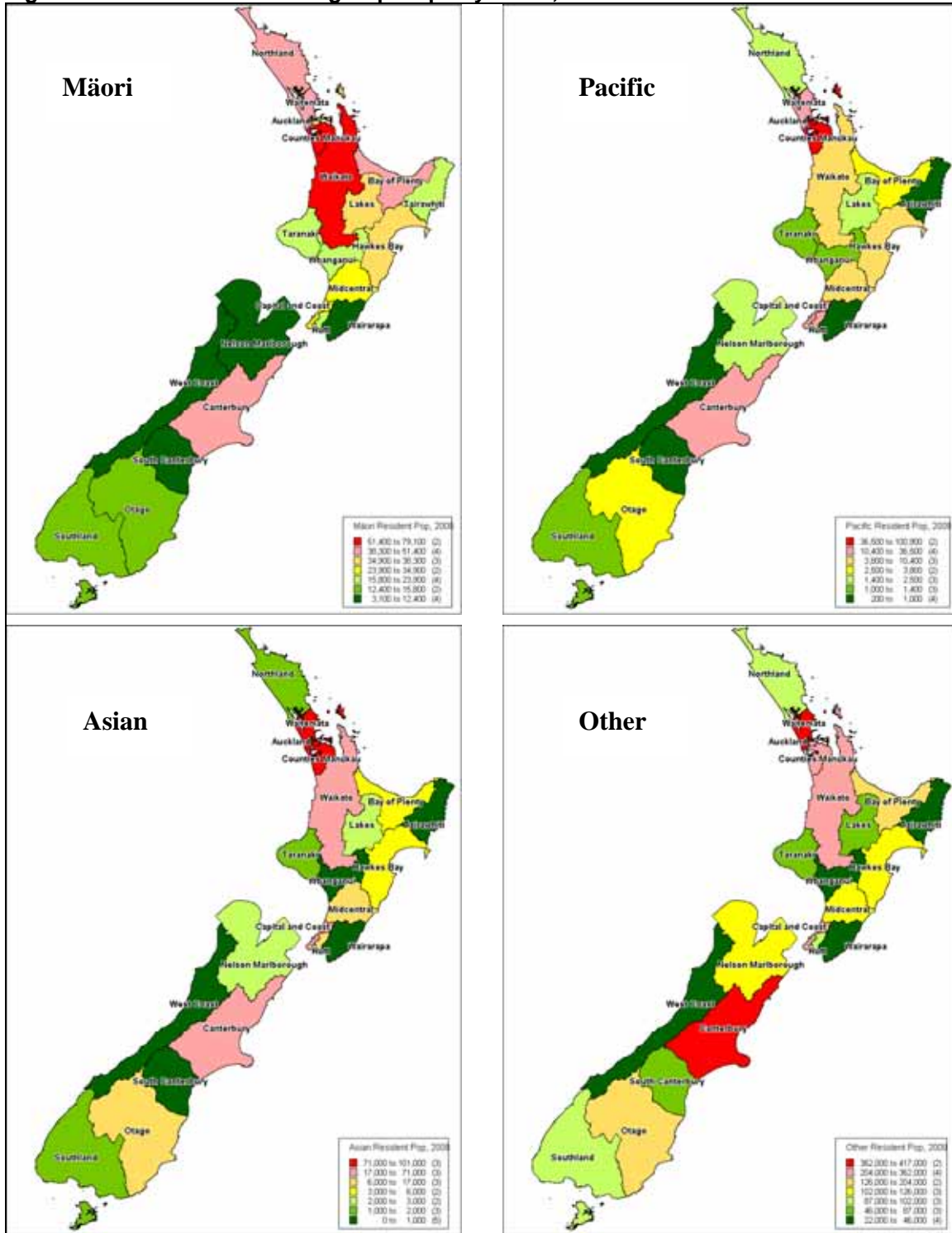
Overall the North Island shows much greater ethnic diversity than the South Island (Figure 21 and Figure 22). The Auckland region is particularly diverse; holding 70% of the Pacific people and 68% of people of Asian ethnicity in New Zealand

Figure 21: DHBs population map with ethnicity distribution, 2006



(Critchlow Ltd., 2007; Statistics New Zealand, 2007b)

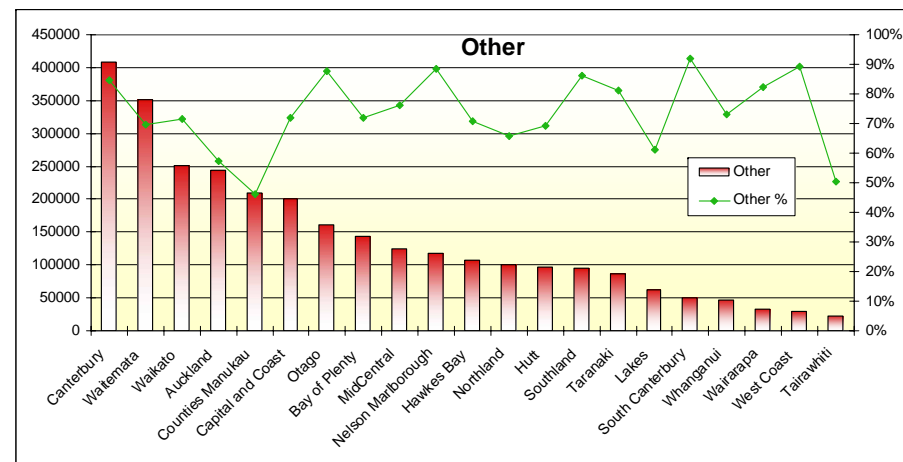
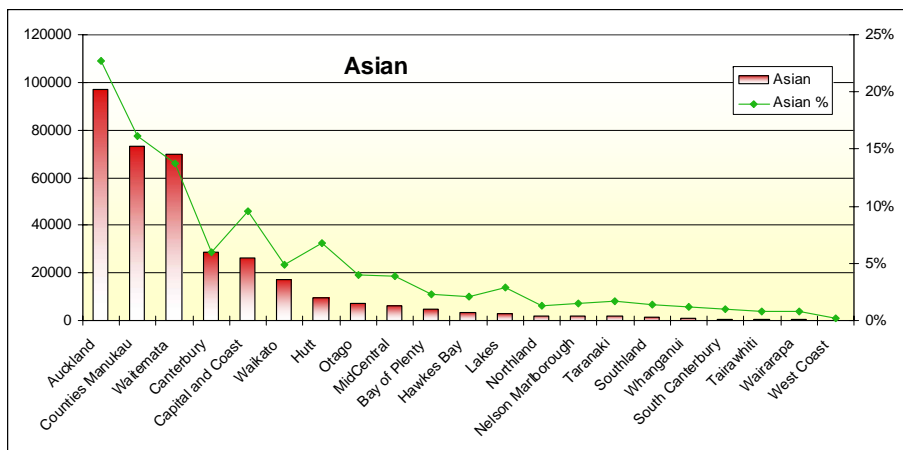
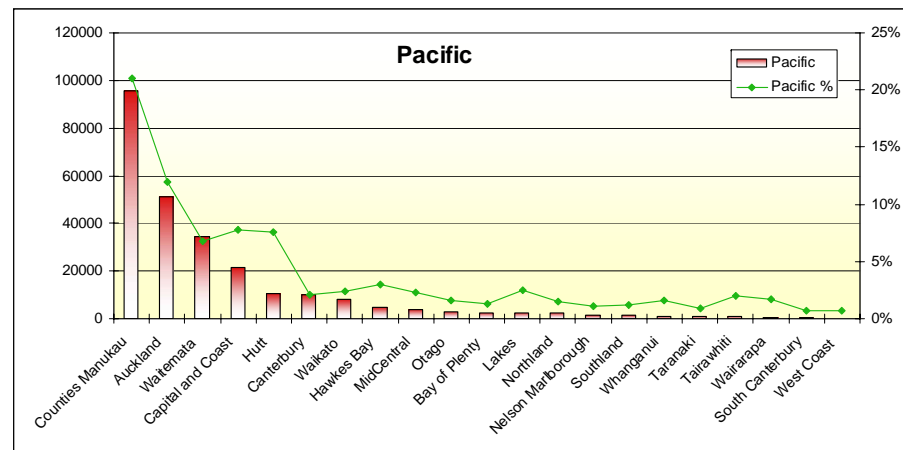
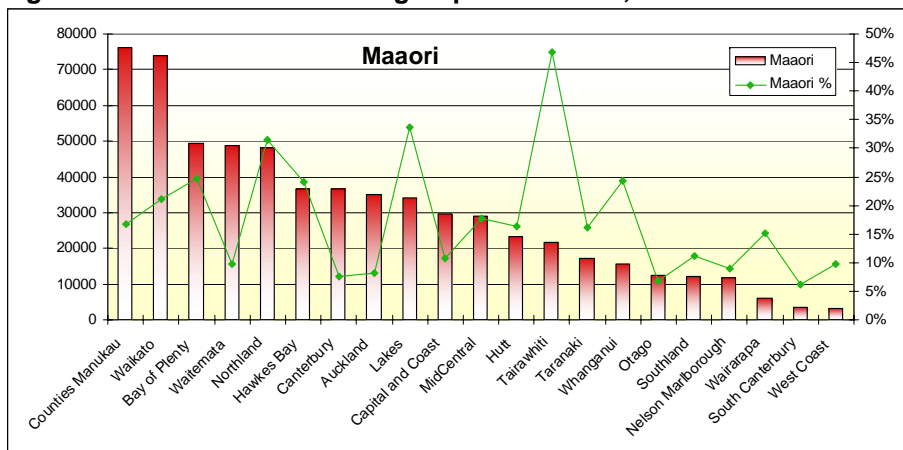
Figure 22: New Zealand ethnic group maps by DHBs, 2006



(Critchlow Ltd., 2007)

CMDHB has the highest number of Māori (an estimated 78,000 in 2007) and Pacific (98,000) among all DHBs (Figure 23). Of all New Zealand's Pacific people, 37% live in CMDHB, for Māori the equivalent figure is 12%. CMDHB has the second highest number of Asian people of any DHB, 74,000, compared with 99,000 for Auckland and 71,000 in Waitemata. Of all Asians in New Zealand 27% live in Auckland DHB, 21% in CMDHB and 20% in Waitemata DHB.

Figure 23: New Zealand ethnic group distribution, 2007



(Statistics New Zealand, 2007b) Each graph sorted in order of the number of people of that ethnicity in the DHB

### **0-14 year olds**

Counties Manukau DHB had the highest number of children aged 0-14 of any DHB - an estimated 116,700 in 2007. Children make up 25% of the CMDHB population, compared with 21% nationally. Only Tairāwhiti (26%) has a higher proportion of the population aged 0-14. CMDHB had the highest number of Māori children aged 0-14 (an estimated 28,400 in 2007) and also Pacific children (33,400) of any DHB (Figure 24). CMDHB also has the second highest number of Asian children (16,700).

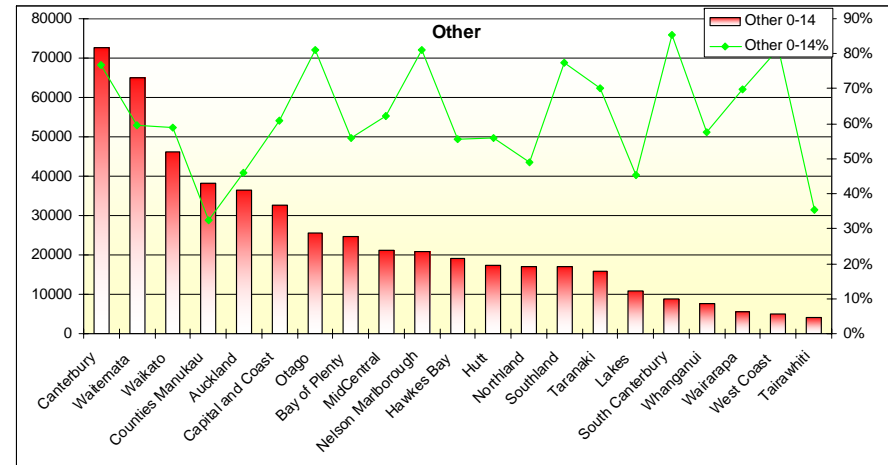
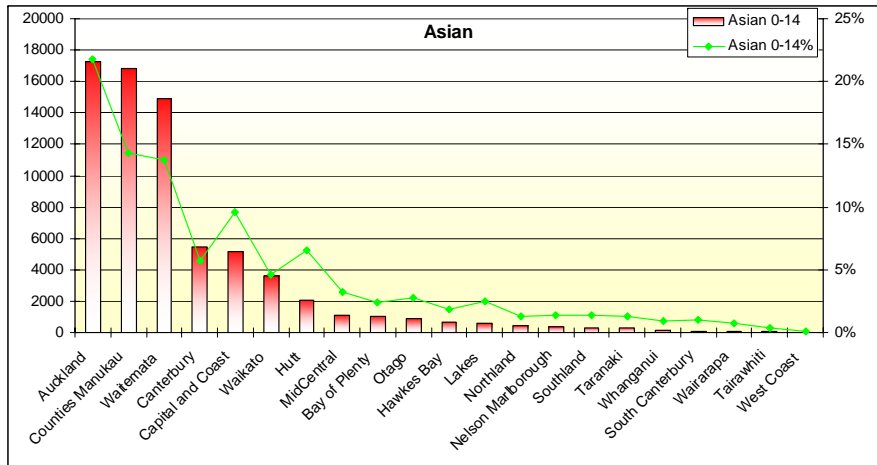
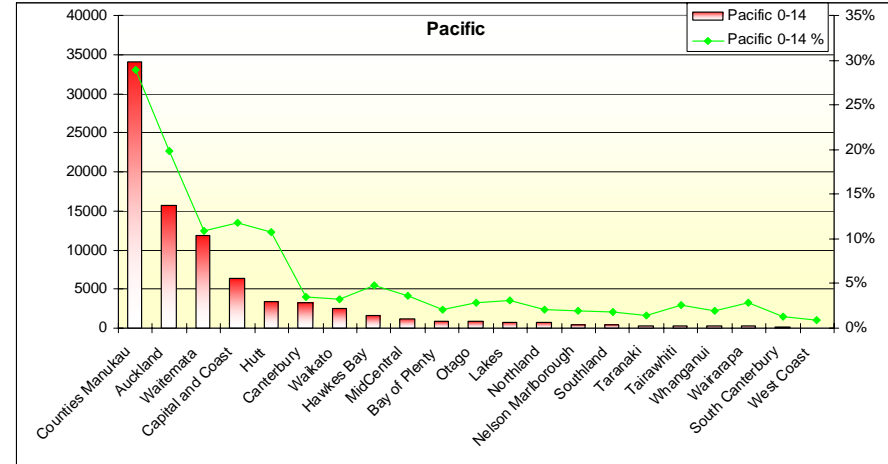
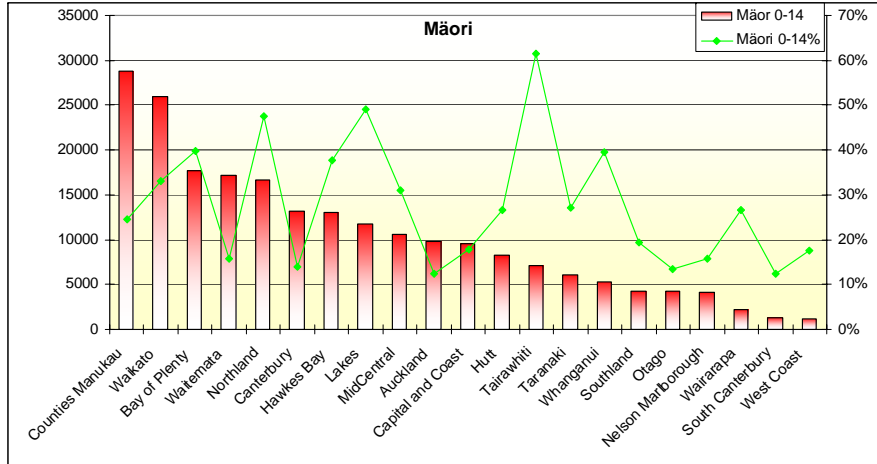
By 2007, two out of five Pacific children in New Zealand were living in CMDHB. Moreover, there were 23% of New Zealand's Asian children and 13% of Māori children living in CMDHB. Within CMDHB less one third of all children are European – the lowest proportion of any DHB. Of the remainder 28% were Pacific, 24% Māori and 14% Asian.

### **Over 65 year olds**

Counties Manukau DHB had the lowest proportion of the population aged 65+ of any DHB, 9% compared with 12% nationally. However CMDHB still had fifth highest number of elderly people - an estimated 41,500 in 2007. The great majority of the over 65's are of European ethnicity in all DHBs – a 90% average for New Zealand. CMDHB had the lowest proportion – 75%.

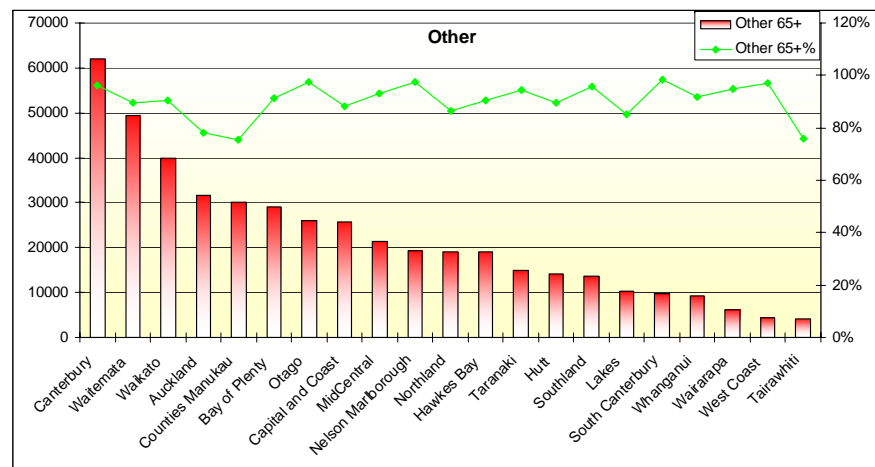
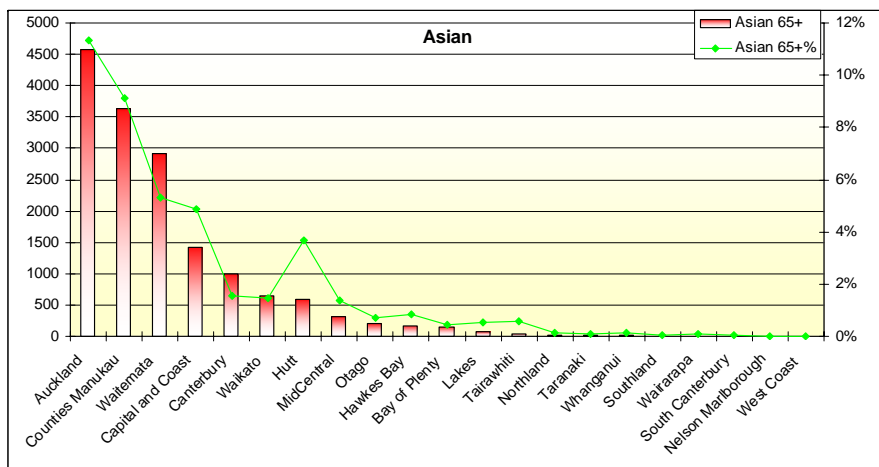
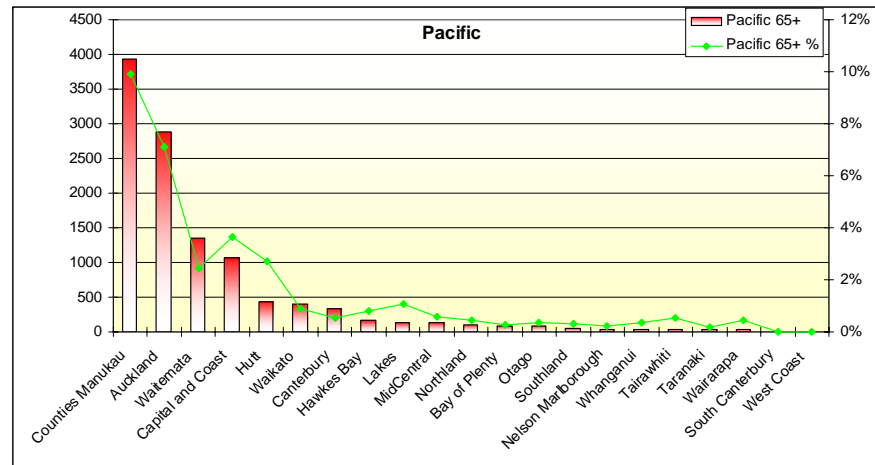
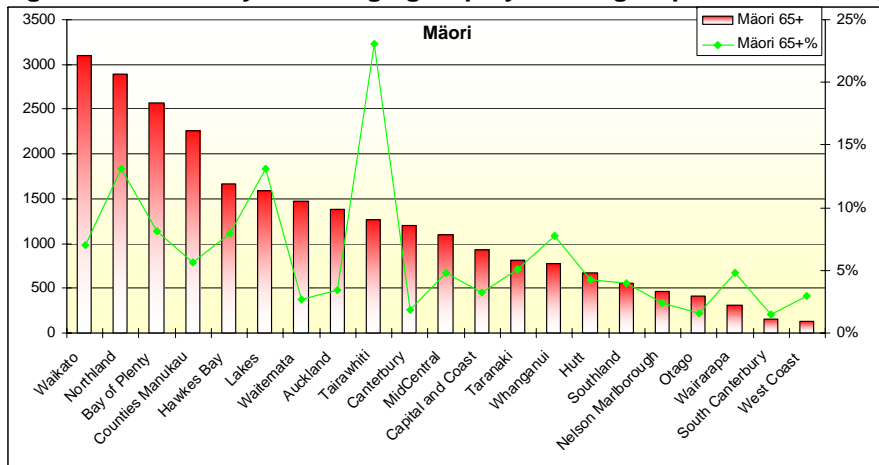
For CMDHB Pacific aged 65+ (an estimated 4,200 in 2007) were the largest group after Europeans, the highest of any DHB (Figure 25). CMDHB also has the second highest number of Asian aged 65+ in the country (3,800) and the fourth highest Māori (2,400).

Figure 24: 0-14 year old age group by ethnic groups across DHBs, 2006



(Statistics New Zealand, 2007b) Each graph sorted in order of the number of children of that ethnicity in the DHB

Figure 25: Over 65 year old age group by ethnic groups across DHBs, 2006



(Statistics New Zealand, 2007b) Each graph sorted in order of the number of elderly of that ethnicity in the DHB



## Counties Manukau DHB areas

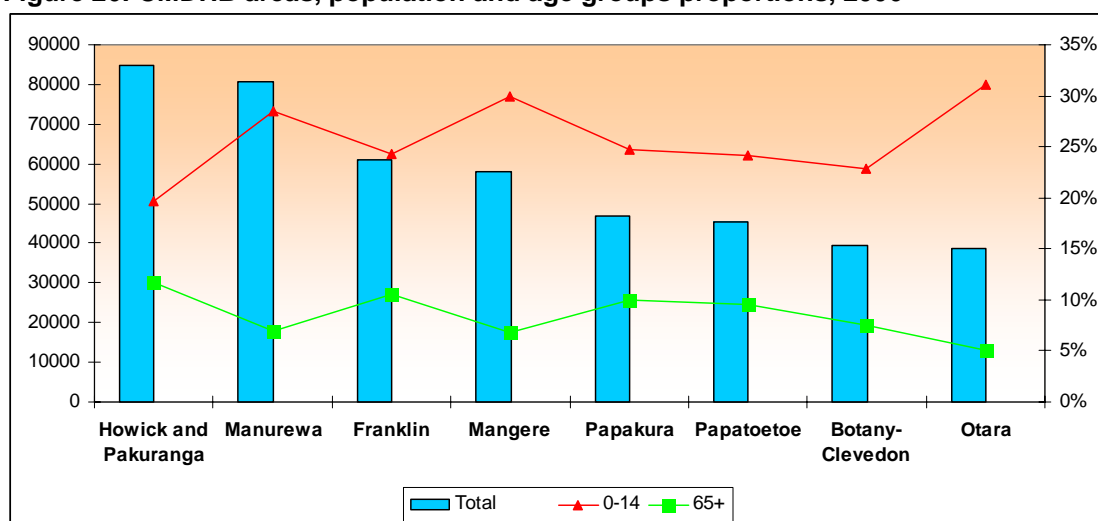
Counties Manukau DHB consists of 3 Territorial Authorities – Manukau City, and Papakura and Franklin Districts. Manukau City can be further subdivided into wards. Using these as catchments we can examine the distribution of the population within CMDHB.

The largest of these areas in terms of population is Howick/Pakuranga with 85,000 residents in 2006, 21% of CMDHB's total population (Figure 26). The next largest is Manurewa with 81,000 residents.

Children aged 0-14 are greatest in Manurewa (23,000) and Mangere (17,400). Although only 20% of the residents in Howick and Pakuranga are children aged 0-14 (the lowest proportion of any of the areas), it still has the third highest number of children (16,400) in CMDHB.

Howick and Pakuranga has 11% of its residents aged 65 and over, the highest proportion within CMDHB. With 10,000 people aged 65+ it is the highest in number terms too, followed by Franklin (6,400) and Manurewa (5,600). As proportions of the population Otara, Manurewa and Mangere have the highest child percentages (30-31%), while Howick, Franklin and Papakura have the highest age 65+ percentages (10-11%).

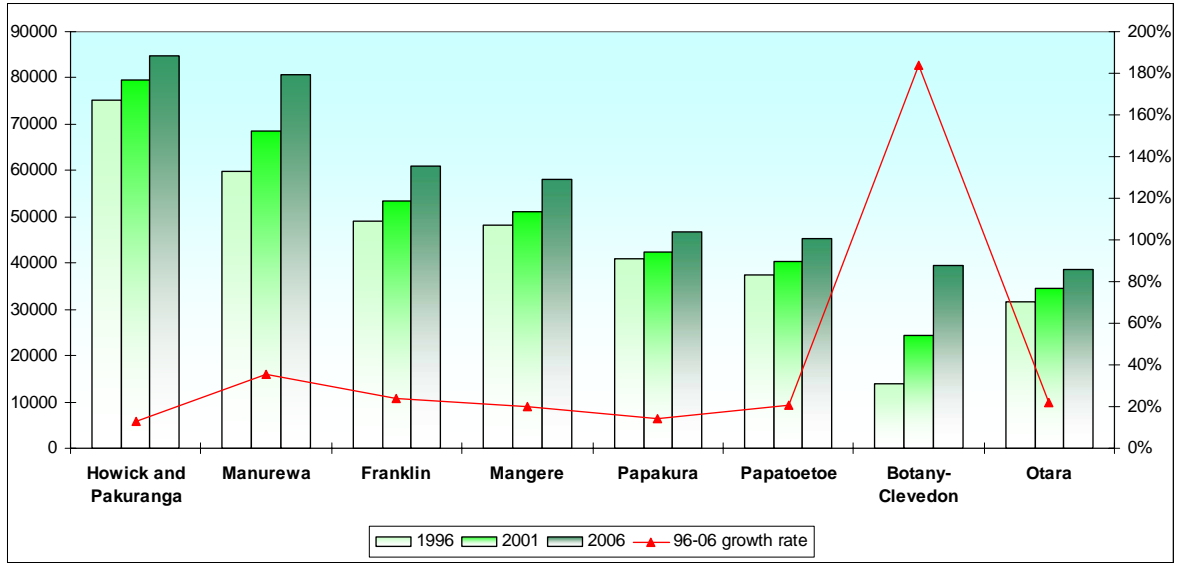
**Figure 26: CMDHB areas, population and age groups proportions, 2006**



(Statistics New Zealand, 2007c) Catchments listed in population size order.

All areas of CMDHB have contributed to the 27% population growth rate from 1996 to 2006 (Figure 27). Nearly half the growth occurred in two areas, Botany-Clevedon (26,000 additional residents, 184% growth since 1996) and Manurewa (21,000, 35%). The new suburbs south of Botany such as Dannemora segueing into the new Flatbush developments are the main areas of growth for Botany-Clevedon, while the new developments in Clendon and Weymouth have been the largest areas of growth in Manurewa.

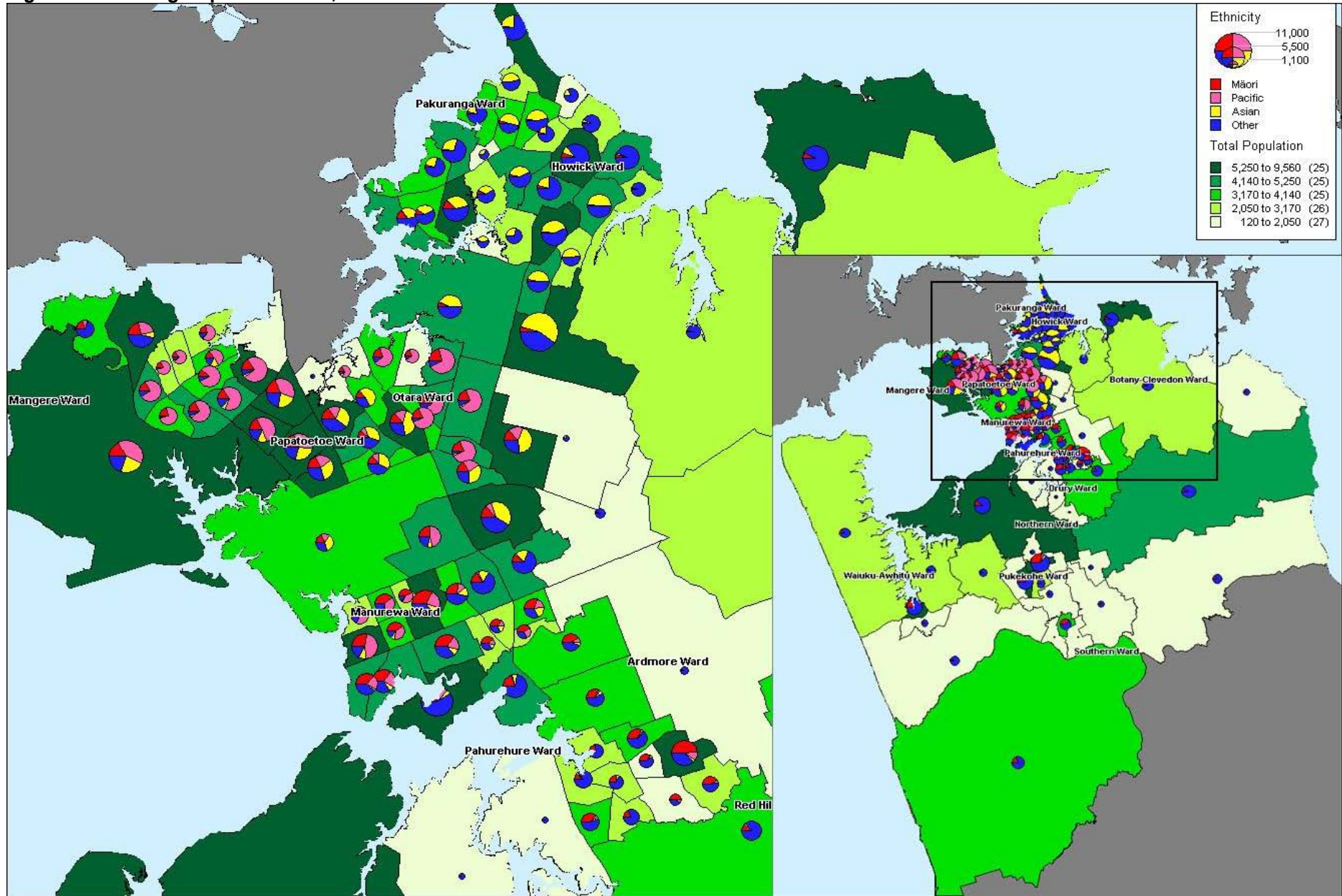
**Figure 27: Population change from 1996 to 2006 by CMDHB area**



(Statistics New Zealand, 2007c)

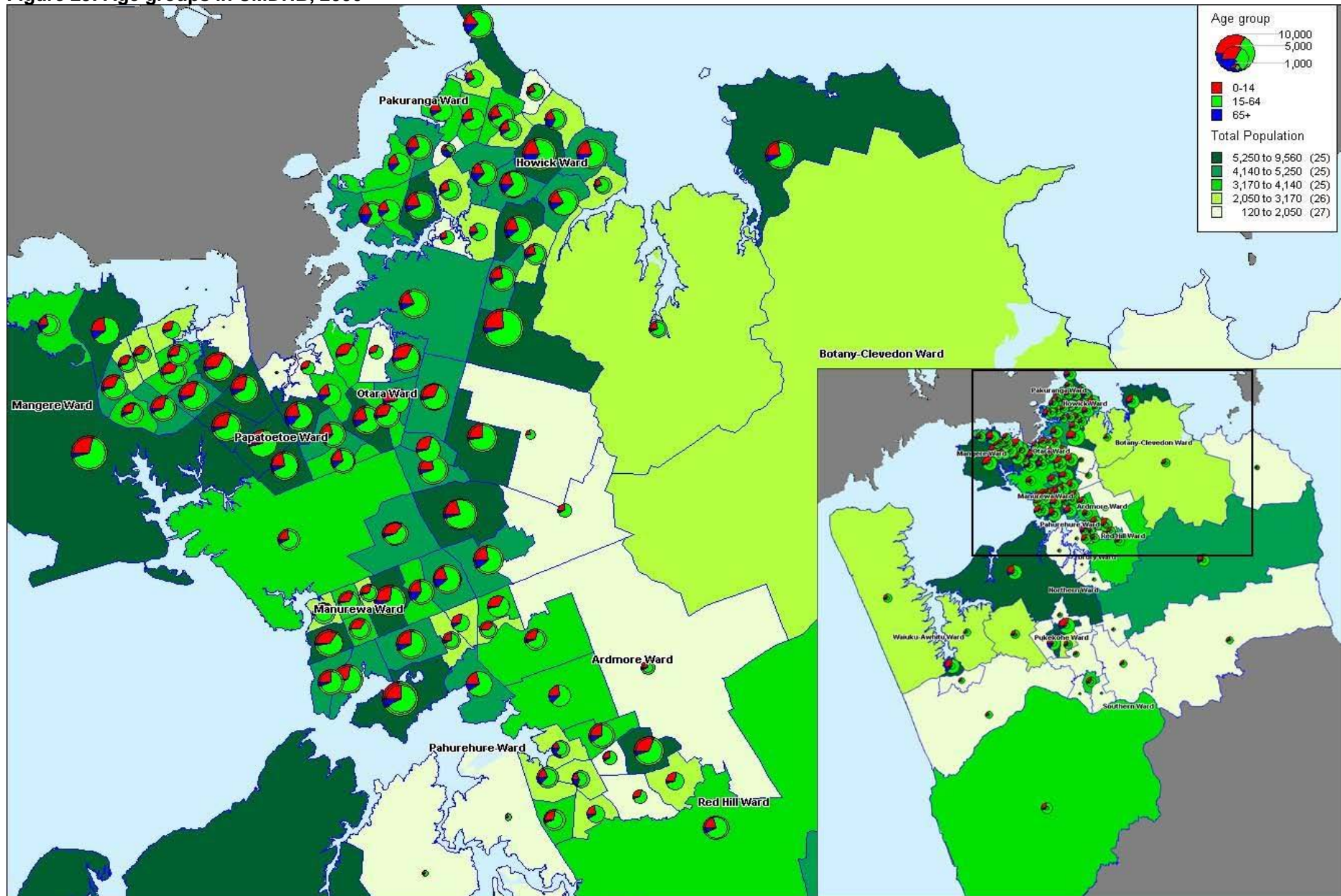
The following maps show the CMDHB area at Census Area Unit (CAU) level for ethnicity (Figure 28) and age (Figure 29). There are significant concentrations of some populations - 76% of the Pacific people in CMDHB live in Mangere (35%), Otara (24%), and Manurewa (17%); while 41% of the Asian people in CMDHB live in Howick and Pakuranga, 20% in Papatoetoe, and 14% in Manukau. Maori are more distributed, with the highest proportions in Manurewa (26%) and Papakura (17%). The distribution of young people across CMDHB tends to concentrate in the areas of higher Maori and Pacific populations.

Figure 28: Ethnic groups in CMDHB, 2006



(Critchlow Ltd., 2007)

Figure 29: Age groups in CMDHB, 2006



(Critchlow Ltd., 2007)

## New Zealand Deprivation Index 2006

The New Zealand Deprivation Index 2006 (NZDep06) provides a deprivation score for each meshblock, which is the smallest geographical unit defined by Statistics New Zealand. Meshblocks contained a median of just under 90 people in the 2006 Census. NZDep06 combines the following census variables which reflect eight dimensions of deprivation:

**Figure 30: Census variables included in the NZDep06**

Dimension of deprivation	Variable description (in order of decreasing weight)
<b>Income</b>	People aged 18-64 receiving a means tested benefit
<b>Income</b>	People living in equivalised* households with income below an income threshold
<b>Owned home</b>	People not living in own home
<b>Support</b>	People aged<65 living in a single parent family
<b>Employment</b>	People aged 18-64 unemployed
<b>Qualifications</b>	People aged 18-64 without any qualifications
<b>Living space</b>	People living in equivalised* households below a bedroom occupancy threshold
<b>Communication</b>	People with no access to a telephone
<b>Transport</b>	People with no access to a car

\*Equivalisation: methods used to control for household composition.  
(Salmond et al., 2007)

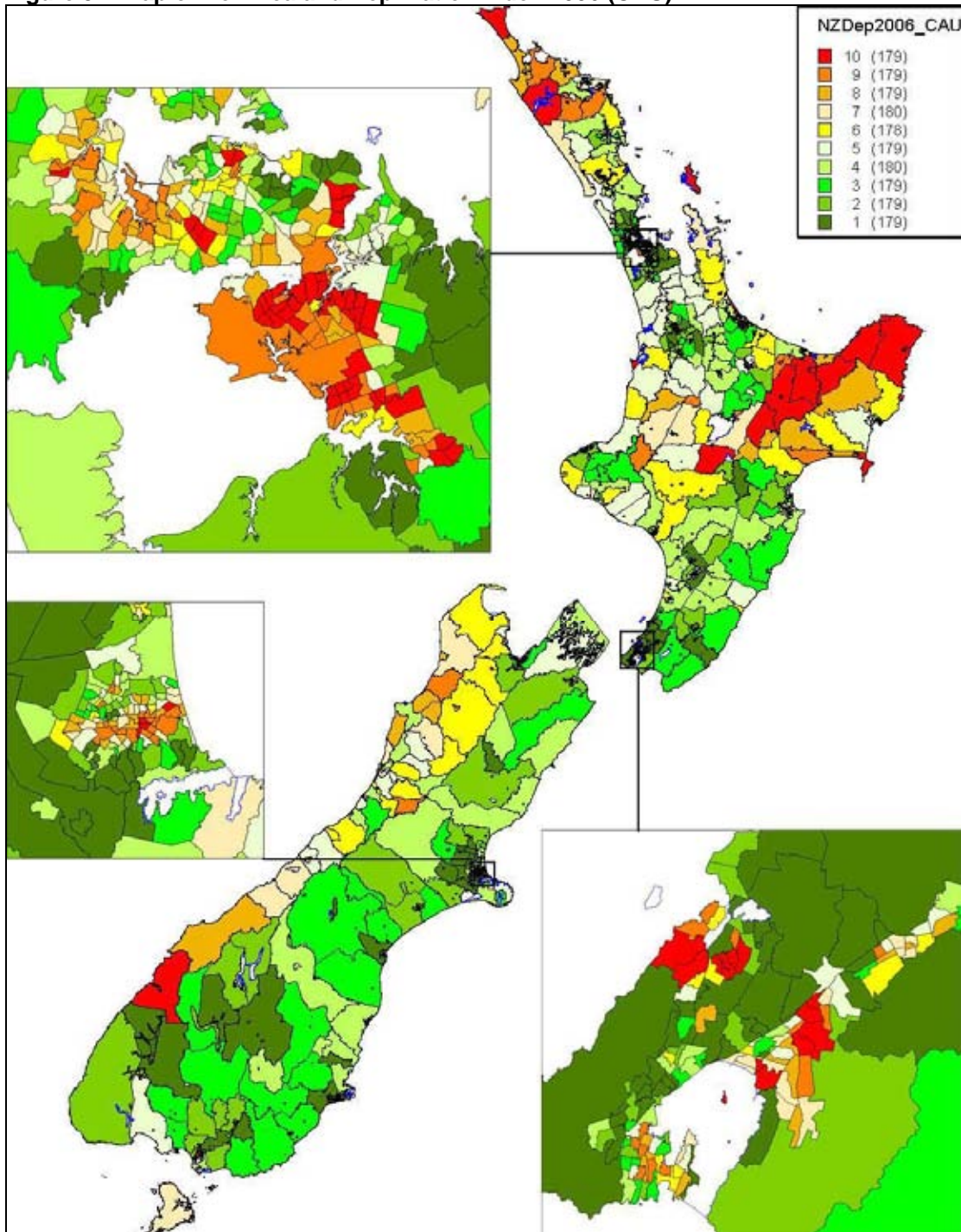
As NZDep is an area measure rather than an individual one any socio-economic gradient present will be under-estimated. This dilution will occur within meshblocks, and even more heavily within census area units, as more heterogeneity in the population is introduced. It means that targeting health care interventions by NZDep level will never be as efficient as working with individual level measures.

### Population numbers

The New Zealand Deprivation Indices are often analysed by decile, where decile 1 represents the areas with the least deprived scores and decile 10 the most deprived. By definition each decile contains 10% of New Zealand's meshblocks, approximating 10% of the population. The meshblock scores can also be conflated to CAU scores.

The following map shows New Zealand by CAU-level NZDep06 decile, with the three main metropolitan areas shown in more detail (Figure 31). Counties Manukau DHB has by far the largest number of CAUs of decile 9 and 10, showing as red in the map. While 20% of New Zealand's population live in areas of NZDep06 decile 9 & 10, 34% of the CMDHB population do so.

Figure 31: Map of New Zealand Deprivation Index 2006 (CAU)

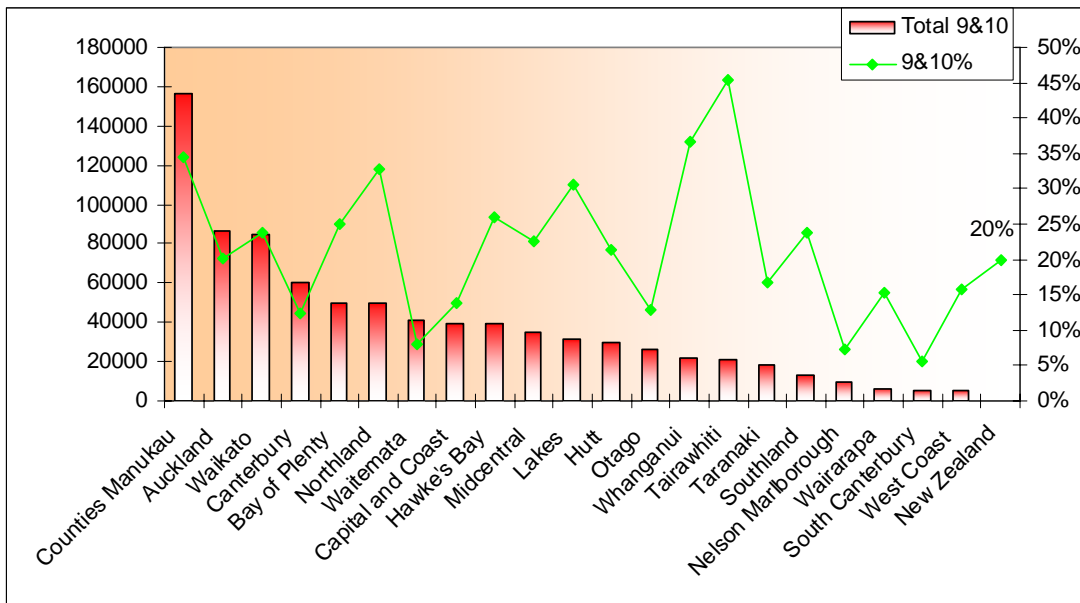


(Critchlow Ltd., 2007; Salmond et al., 2007)

CMDHB has the highest number of people who live in deciles 9 and 10 rated areas of any DHB (Figure 32). In 2007 an estimated 160,000 people lived in such areas. At 34.4% of the CMDHB population, only Tairāwhiti DHB has a higher proportion (45%) living in decile 9 and 10 areas. There is a noticeable gap between CMDHB and the next closest DHBs; with the number of people nearly double the next (Auckland with an estimated 88,000 people in 2007).

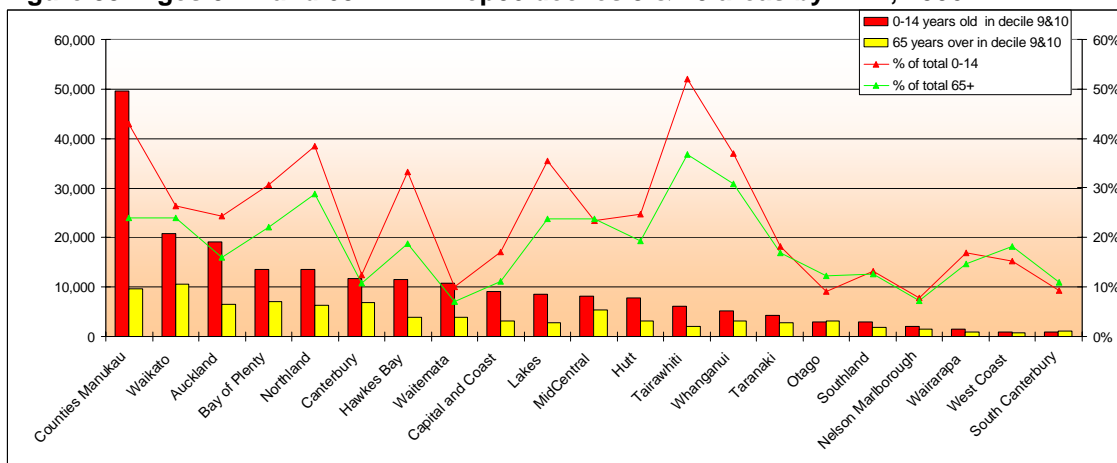
A similar picture emerges for children (Figure 33). CMDHB has the highest number of children (estimated 50,000 in 2007) living in NZDep06 decile 9 and 10 areas, while the second DHB, Waikato, only has 21,000 children in such areas. The over 65 population is more evenly distributed (Figure 33).

**Figure 32: Total population living in NZDep06 deciles 9 & 10 areas by DHB, 2006**



(Salmond et al., 2007; Statistics New Zealand, 2007c). DHBs arranged in order of the size of the population living in decile 9 & 10 areas

**Figure 33: Ages 0-14 and 65+ in NZDep06 deciles 9 & 10 areas by DHB, 2006**

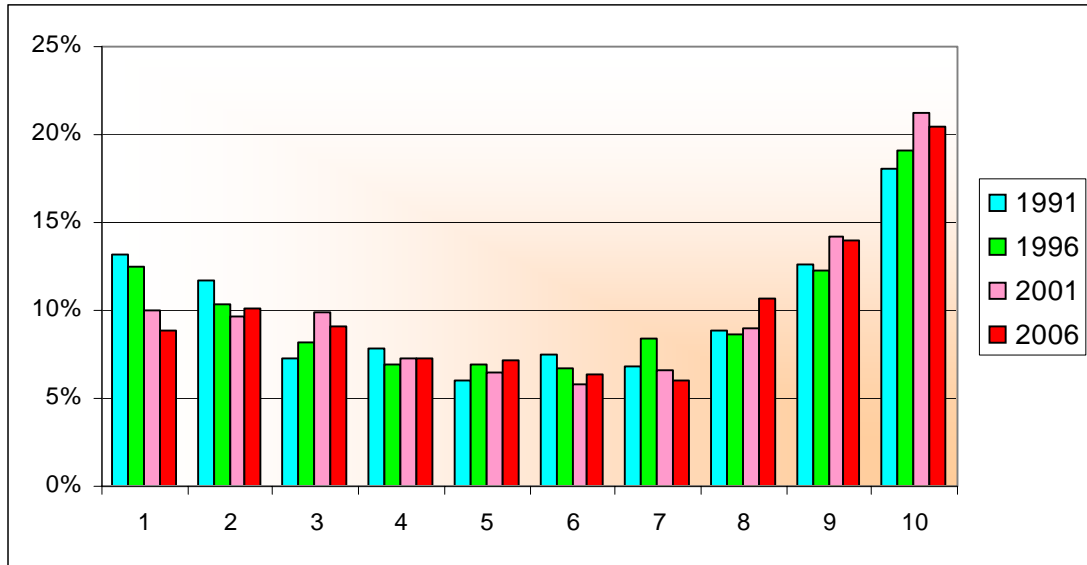


(Salmond et al., 2007). DHBs arranged in order of the size of the child population living in decile 9 & 10 areas

## Changes over time

The New Zealand Deprivation Index has been published since 1991. Each Index is calculated separately, and the analysis has changed and been refined over time so each 5-yearly result is not strictly comparable. However broad comparisons are still interesting, showing the change in the *relative* deprivation of an area over time. Longitudinal comparisons for CMDHB show a growth in the population living in areas that have the most deprived NZDep scores each time (Figure 34). While the proportion of people living in deciles 9 and 10 has been growing in CMDHB from 1991 to 2006 from 30.7% to 34.4% of the total population, the proportion in deciles 1 and 2 (least deprived) has been dropping from 25% to 19%. At 2006 population levels this is equivalent of an extra 17,000 people moving to decile 9 and 10 areas on top of the regular population growth.

**Figure 34: Population proportions by deprivation decile, CMDHB 1991-2006**

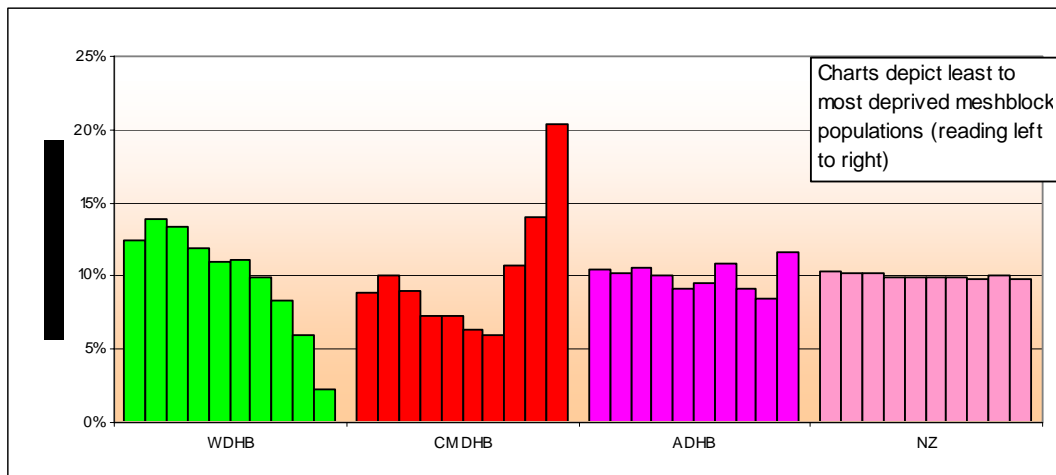


1991=NZDep91, 1996 = NZDep96, 2001 = NZDep01, 2006 = NZDep06 (Crampton, Salmond, & Sutton, 1997, Salmond, Crampton, & Sutton, 1998, Salmond & Crampton, 2002, Salmond et al., 2007)

### Auckland region

Within the Auckland region CMDHB has a much greater proportion of people living in deciles 9 and 10 (34%) rated areas than do Waitemata (8%), or Auckland DHBs (20%) (Figure 35).

**Figure 35: Population proportions by NZDep06 decile for Waitemata, Counties Manukau and Auckland DHBs, and New Zealand total, 2006**



(Salmond et al., 2007)

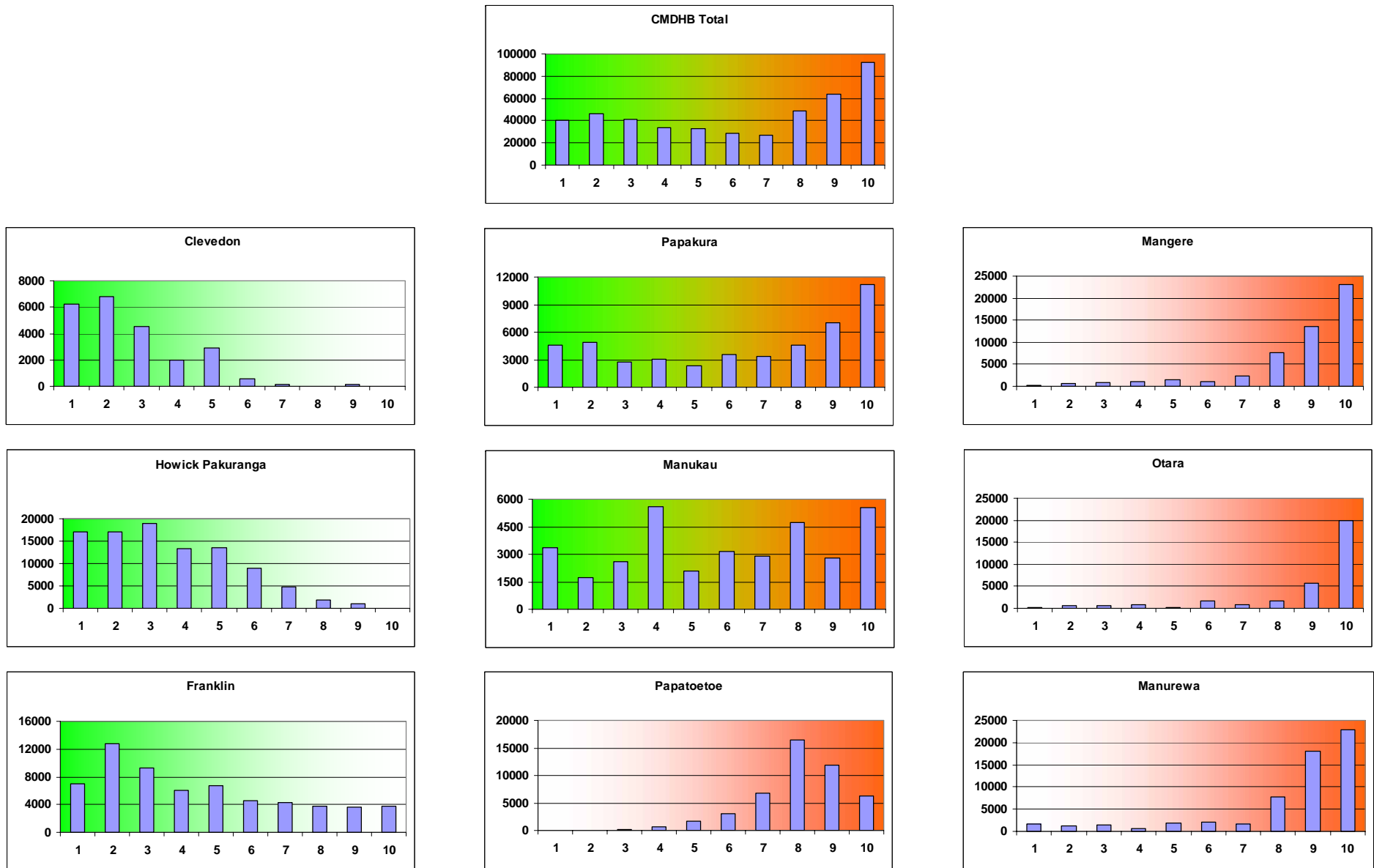
### CMDHB areas

Within CMDHB's three Territorial Authorities (TAs) areas, Manukau and Papakura have a higher proportion of people living in decile 9 and 10 rated areas (38% each) than that of Franklin at 12% (Figure 39). Over the past 5 years, comparing to NZDep 2001, Papakura has a 5% population increase in people living in decile 9 and 10 areas (Salmond & Crampton, 2002; Salmond et al., 2007).

Within CMDHB Clevedon, Howick, and Franklin have the least deprived NZDep scores; while Otara, Mangere, Manurewa and Papatoetoe have the most deprived NZDep scores (Figure 36). The proportion of people living in decile 9 and 10 rating areas in Otara, Mangere and Manurewa are particularly high at 79%, 70%, and 69% respectively.

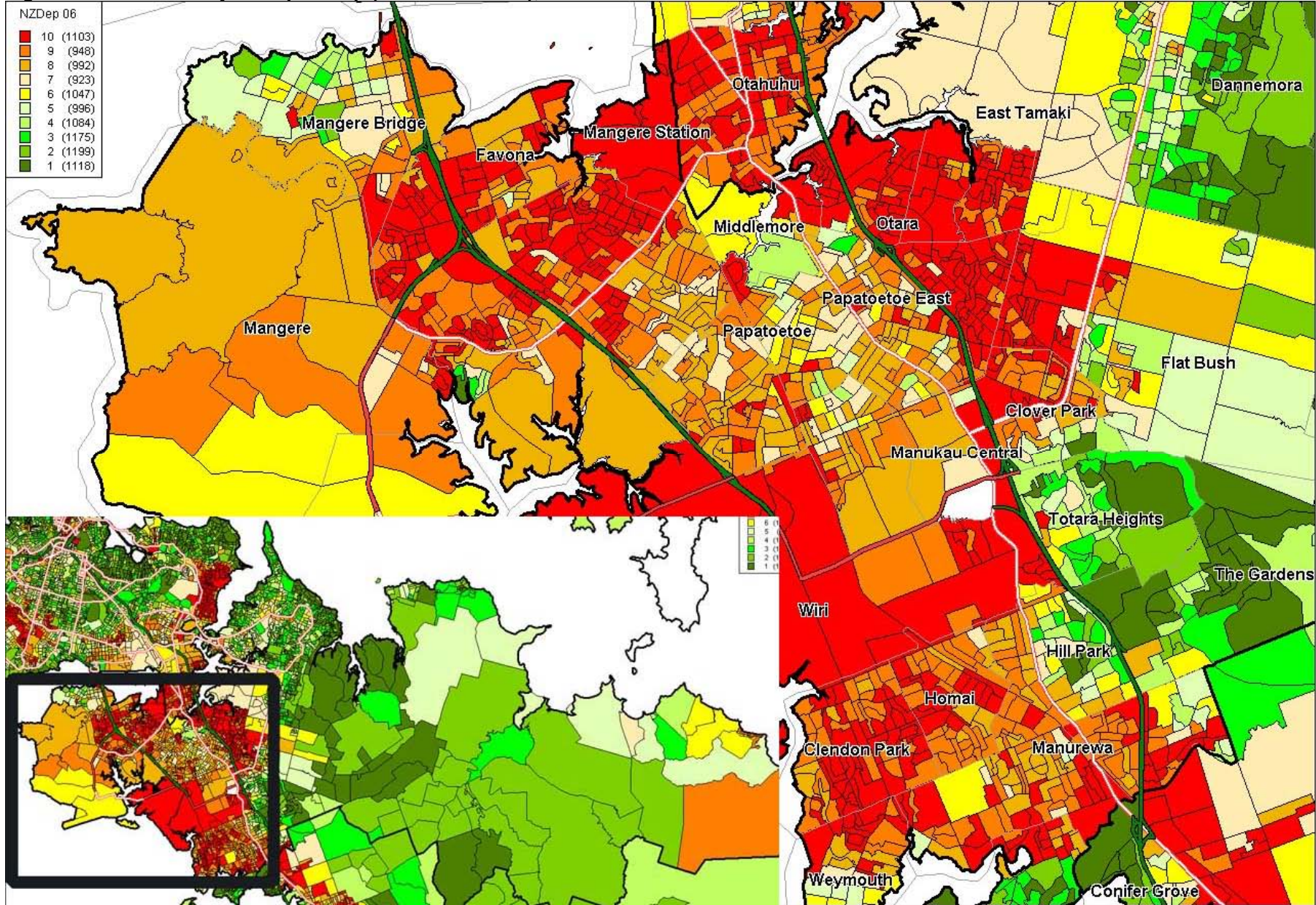


Figure 36: Population living in CMDHB areas by NZDep06 decile, 2006



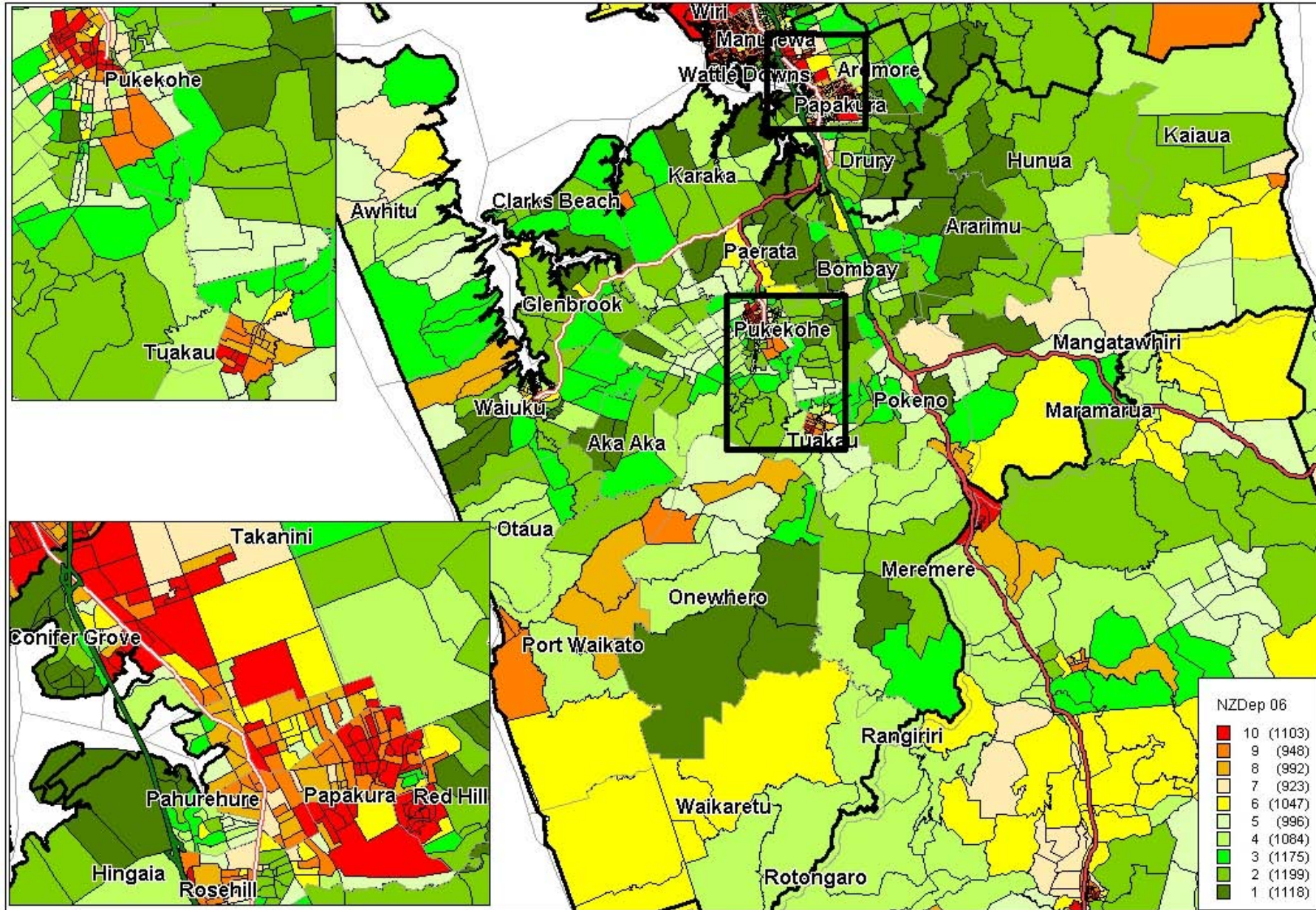
(Salmond et al., 2007)

Figure 37: Manukau City NZDep06 map (meshblock level), 2006



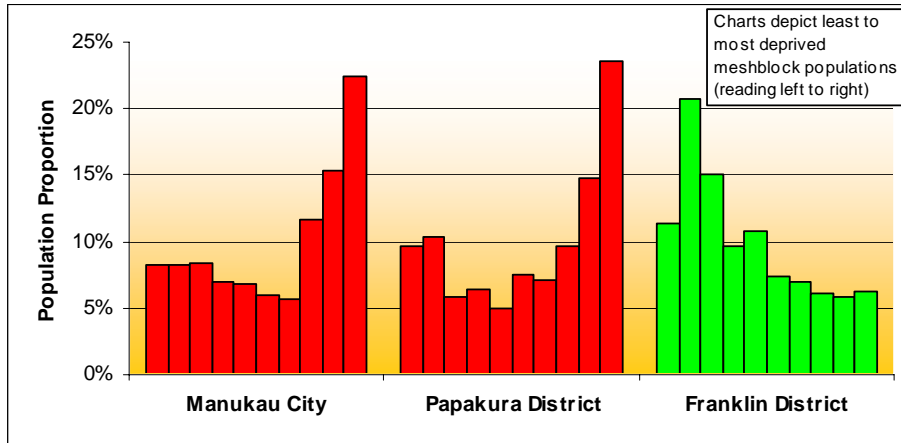
(Critchlow Ltd., 2007; Salmond et al., 2007)

Figure 38: Papakura & Franklin City NZDep06 map (meshblock level), 2006



(Critchlow Ltd., 2007; Salmond et al., 2007)

**Figure 39: Percentage of people by NZDep06 decile, CMDHB, by TA, 2006**

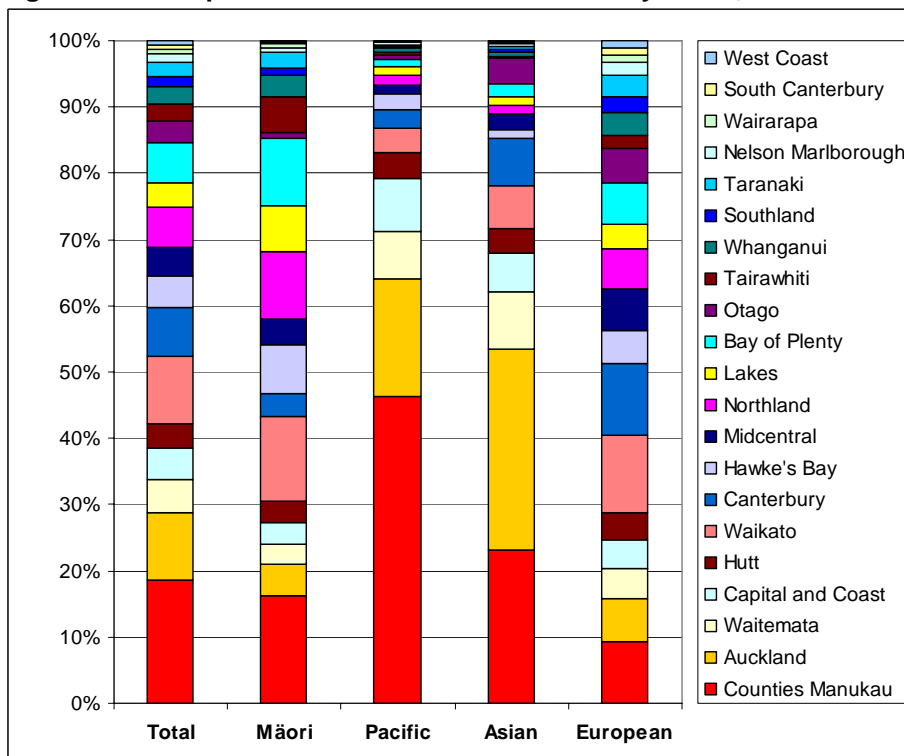


(Salmond et al., 2007)

### Ethnic groups

Across New Zealand DHBs Counties Manukau DHB has the highest number of Maaori (43,000) and Pacific (76,000) people living in deciles 9 and 10 rated areas (Figure 40 and Figure 41). Of the Asian people who live in decile 9 and 10 areas 53% reside in Auckland DHB (22,000) and CMDHB (17,000). For the European and Other group who live in decile 9 and 10 rated areas, 42,000 are in Waikato DHB, 38,000 in Canterbury DHB and 37,000 in CMDHB.

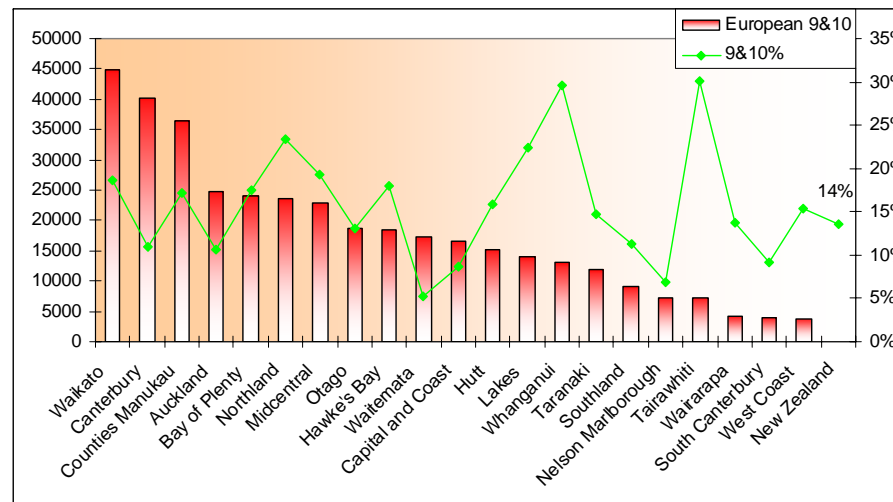
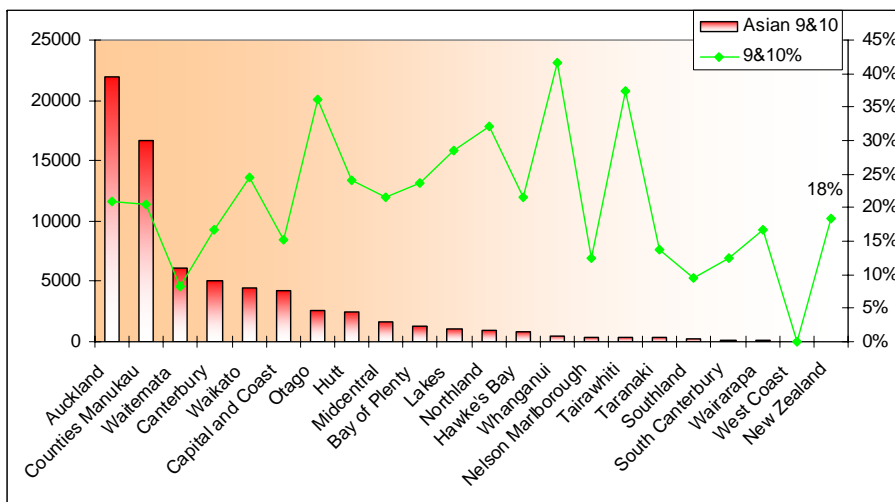
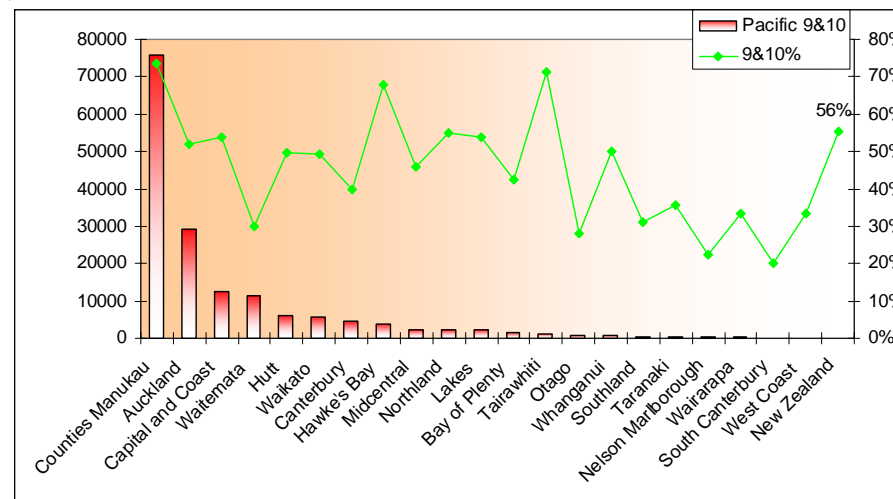
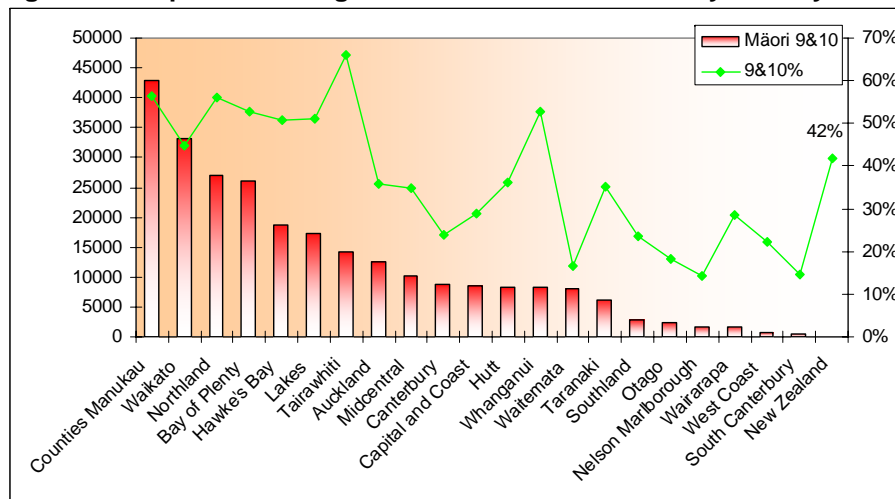
**Figure 40: NZDep06 deciles 9 and 10 distribution by DHBs, 2006**



(Salmond et al., 2007)

For Maaori living in CMDHB 57% live in decile 9 and 10 rated areas. The equivalent for Pacific people in CMDHB is 73%. In comparison Waitemata DHB only has 17% of its resident Maaori and 30% of its Pacific in such areas, and for Auckland 36% and 52%, respectively (Figure 42). Counties Manukau and Auckland DHBs have similar proportion for Asian people (21%) living in such areas, whereas only 8% of the Asian people living in Waitemata live in decile 9 or 10 rated areas.

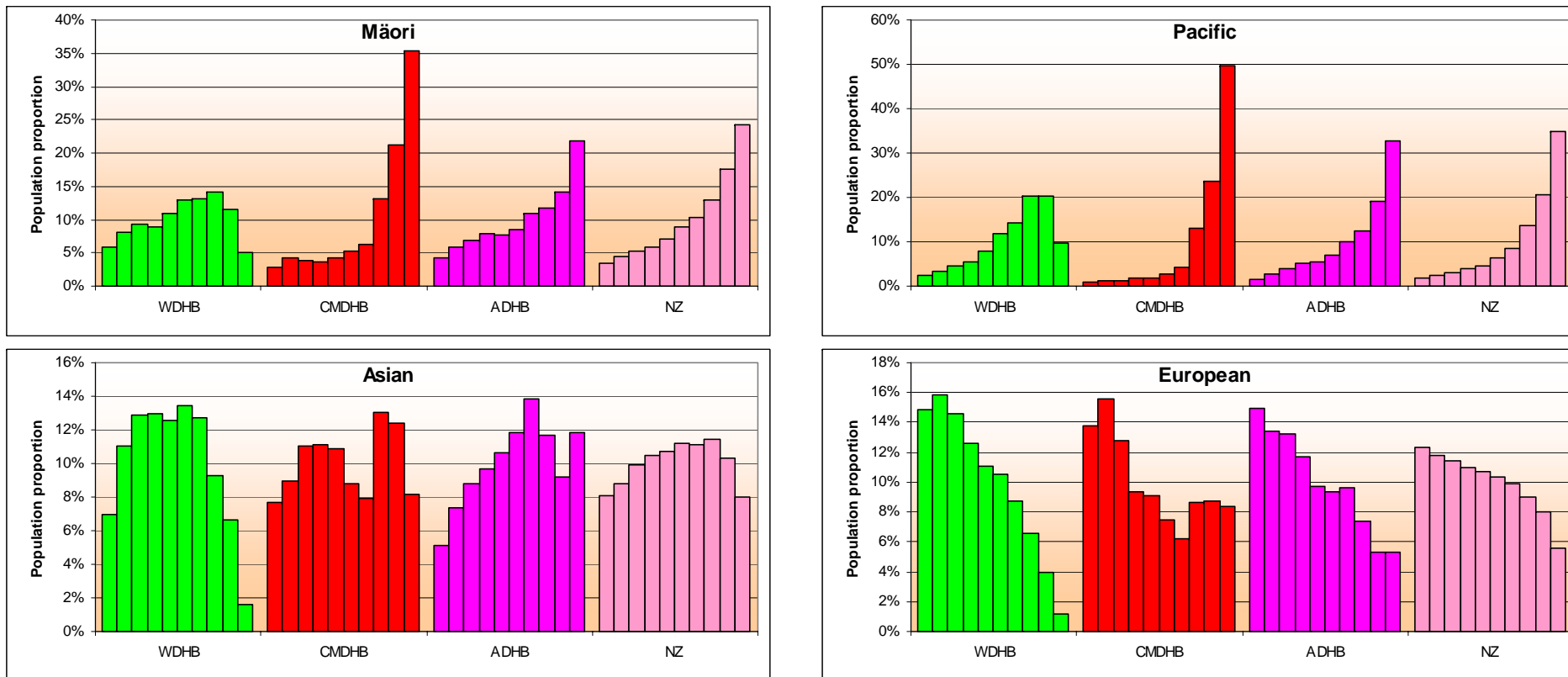
Figure 41: Population living in decile 9&10 rated areas by DHB by ethnicity, 2006



(Salmond et al., 2007). For each ethnicity DHBs sorted by decile 9 and 10 population size.

**Figure 42: NZDep06 deciles for Counties Manukau, Auckland and Waitemata DHBs and New Zealand by ethnicity 2006**

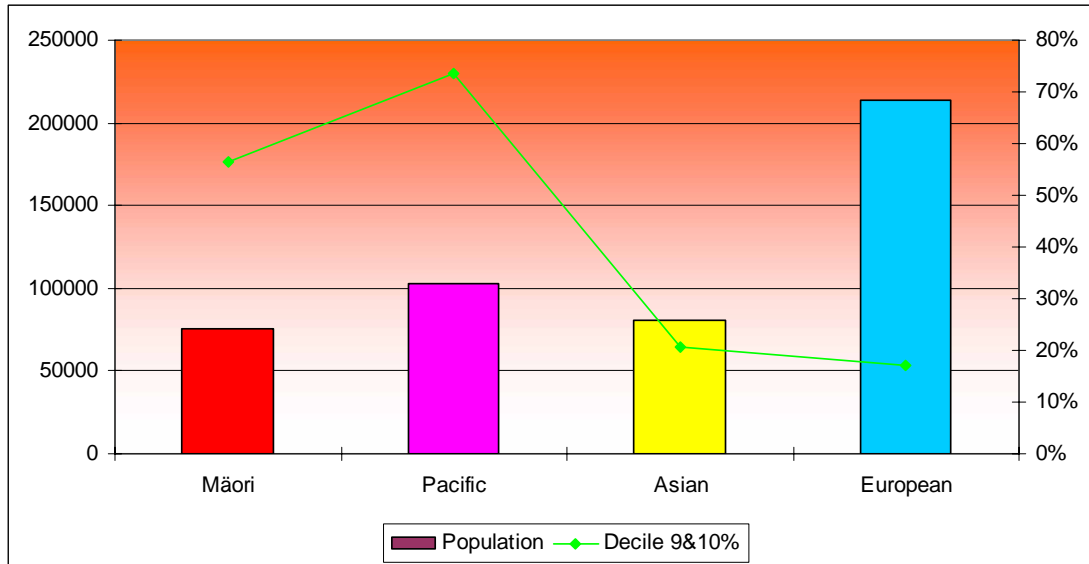
Charts depict least to most deprived meshblock populations (reading left to right, 1 to 10)



(Salmond et al., 2007)

In CMDHB Pacific people make up the largest proportion of people living in decile 9 and 10 rated areas, with an estimated 76,000 people in 2006. This represents 73% of the Pacific people in CMDHB, and they make up 45% of the people living in decile 9 and 10 areas in CMDHB (Figure 43). For Maaori in CMDHB 57% live in decile 9 and 10 areas, around 43,000 people making up 27% of the decile 9 and 10 population. Proportions are much lower for Asian (21%), European and Other (17%) groups.

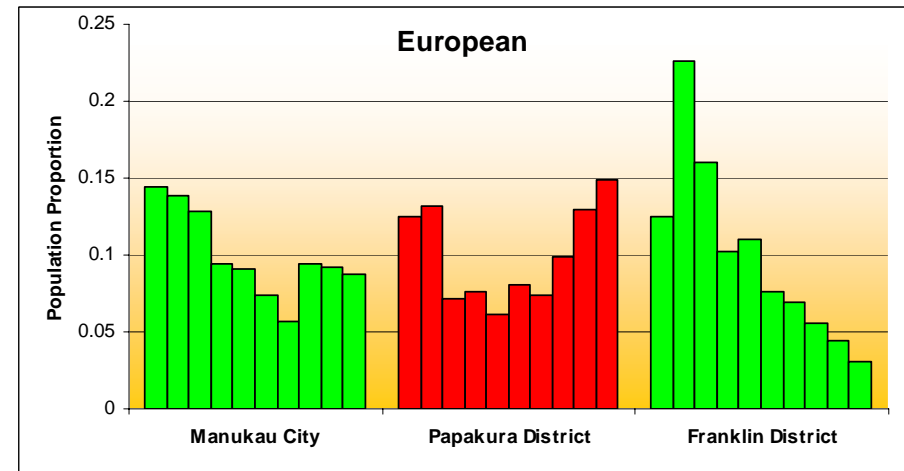
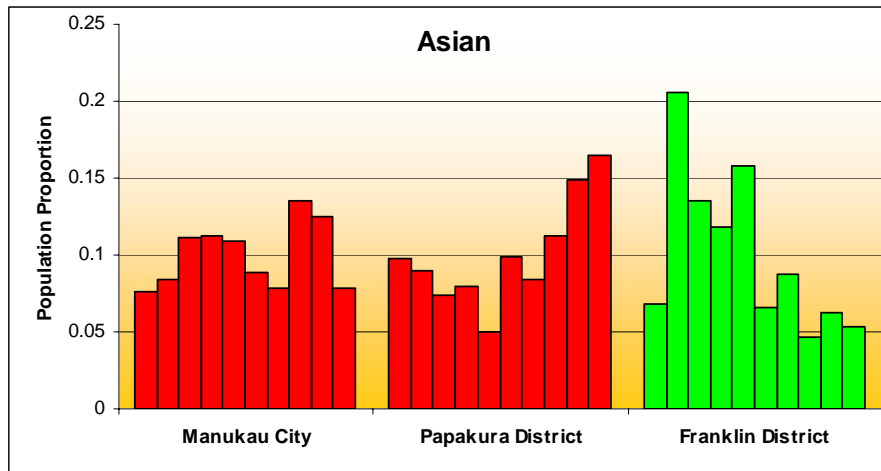
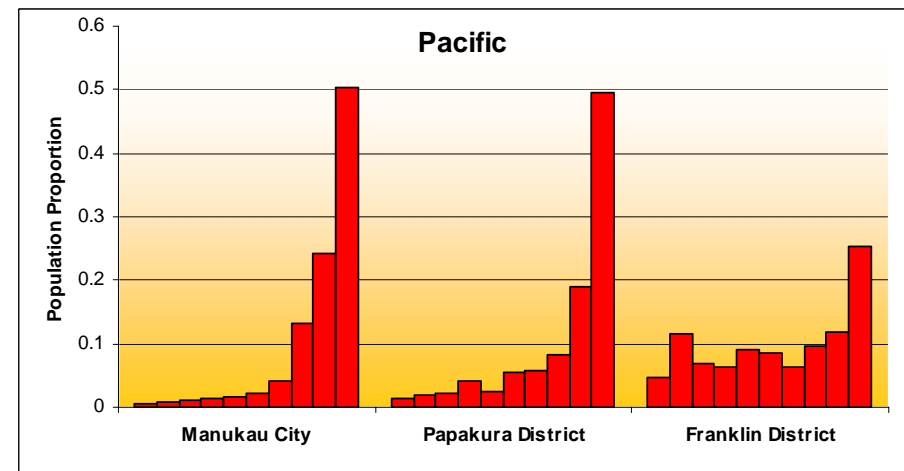
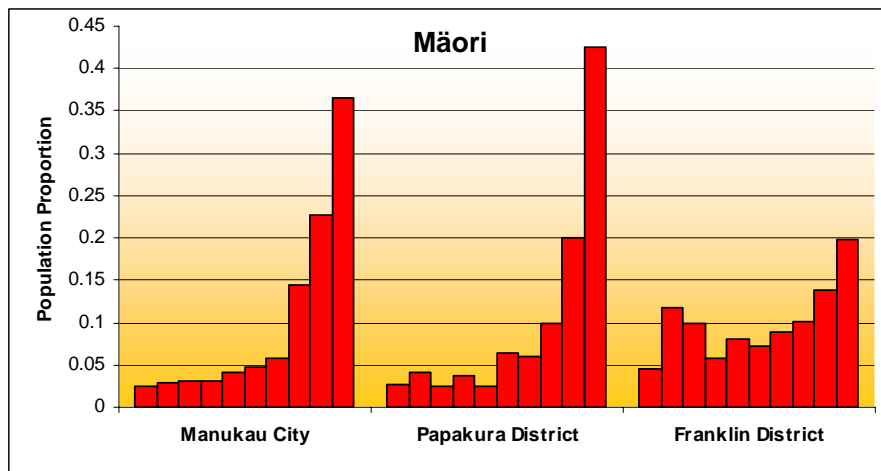
**Figure 43: CMDHB NZDep06 decile 9 & 10 populations by ethnicity, 2006**



(Salmond et al., 2007)

In general, most Maaori and Pacific people live in areas that have more deprived NZDep scores, although less so in Franklin district (Figure 44 and Figure 45). Asian and European people are more likely to live in areas that have the least deprived NZDep scores.

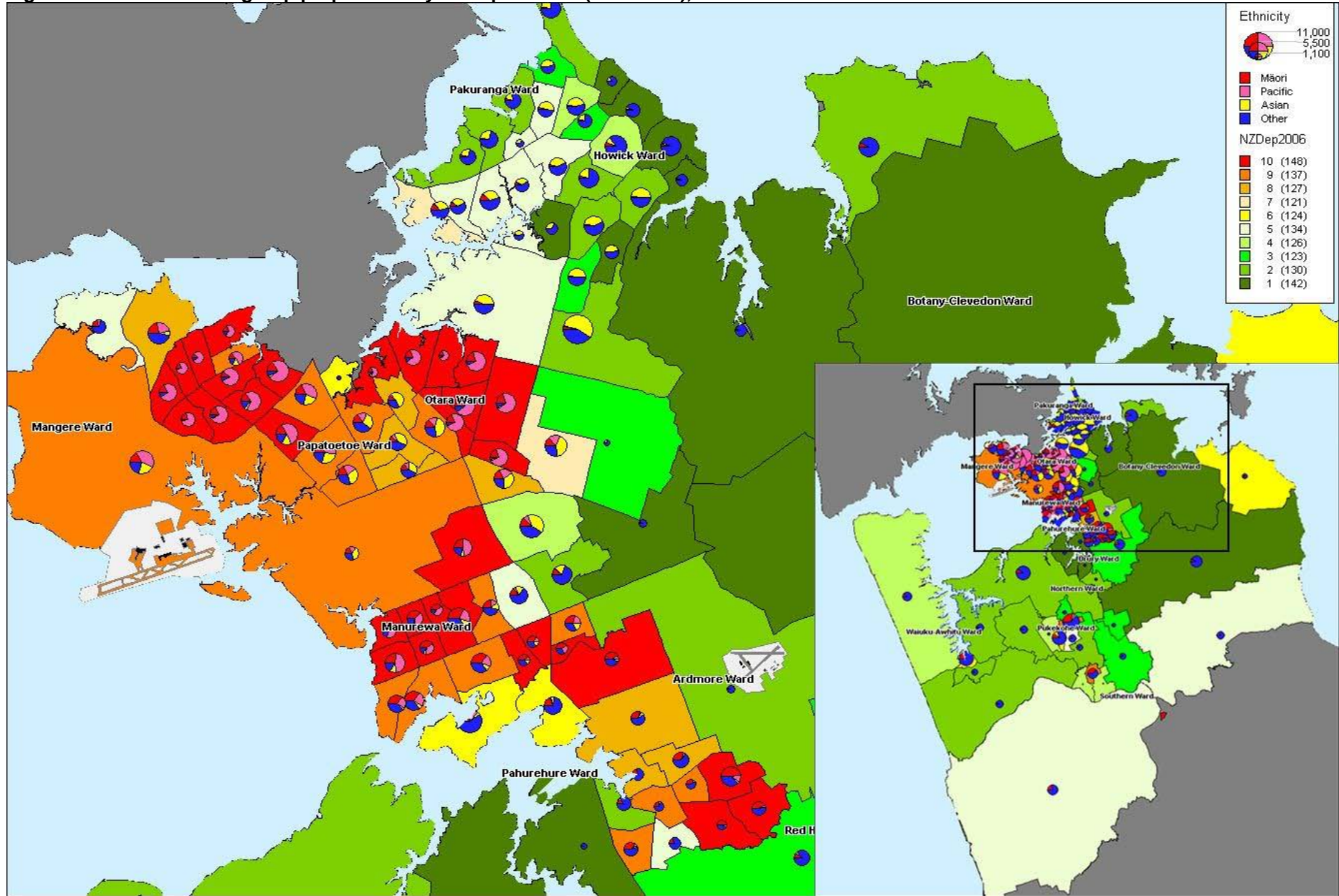
**Figure 44: Ethnic group proportions by NZDep06 decile, CMDHB by TA, 2006**  
 Charts depict least to most deprived meshblock populations (reading left to right, 1=>10)



(Salmond et al., 2007)



Figure 45: CMDHB ethnic group proportions by NZDep06 areas (CAU level), 2006



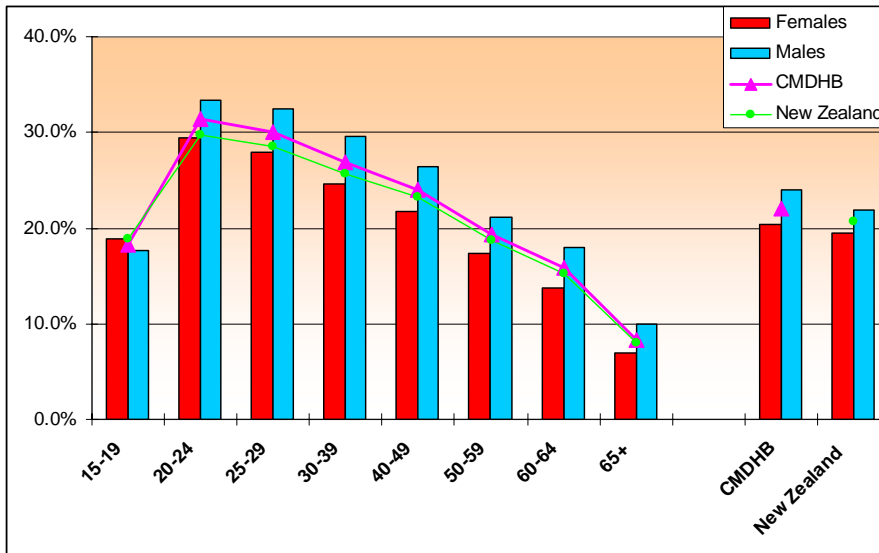
(Critchlow Ltd., 2007; Salmond et al., 2007)

## Prevalence of tobacco use

The 2006 Census asked respondents about their use of tobacco. Regular smokers are defined as people having one or more cigarettes or equivalent per day. Overall 21% of New Zealand adults smoke regularly. On average, male smoking prevalence is higher than that of female; however, within the younger age group (15-19 years), as well as for Maaori group female smokers are the majority group (Figure 46 & Figure 47). Compared to males there are 8% more female Maaori regular smokers; whereas in the Asian group 13% more male than female are regular smokers.

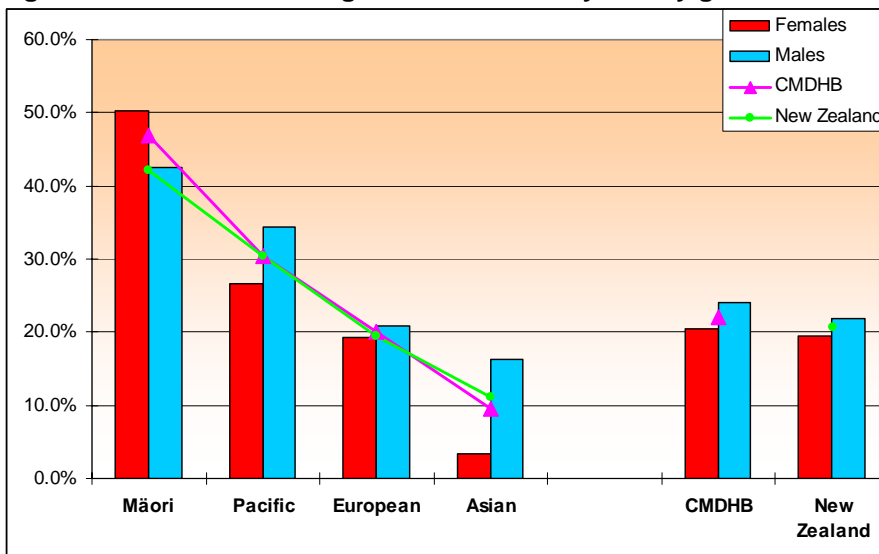
Counties Manukau DHB's regular smokers' prevalence is higher than that of national average, at 22%. This holds for all subgroups apart from at age group 15-19 years and people of Asian ethnicity. Maaori regular smoking prevalence in CMDHB is significantly higher (46% cf 42%) than that of national average, with more than half of all Maaori females in CMDHB being classed as regular smokers. The following maps (Figure 48 & Figure 49) compare the distribution of regular smokers in CMDHB with the distribution of Maaori. A notable congruence is shown.

**Figure 46: Prevalence of regular smokers by gender and age group, 2006**



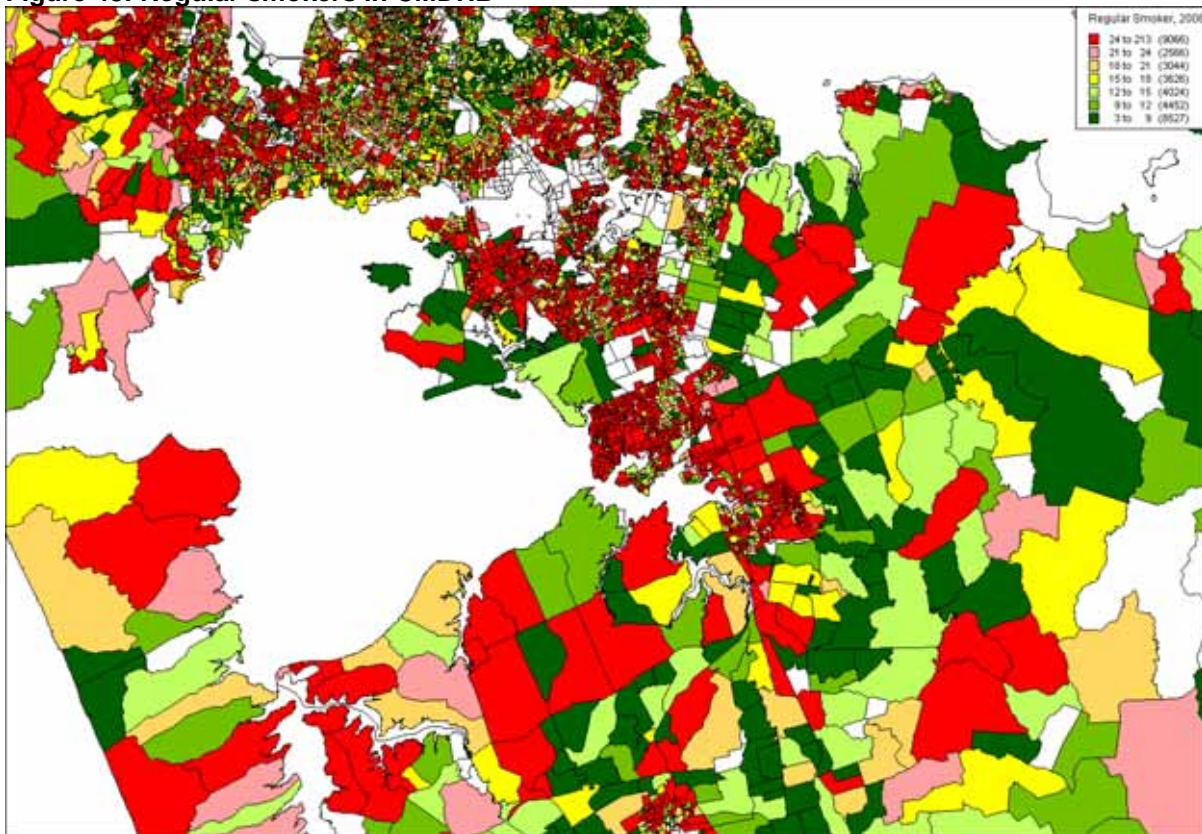
(Public Health Intelligence, 2007)

**Figure 47: Prevalence of regular smokers 15+ years by gender and ethnicity, 2006**



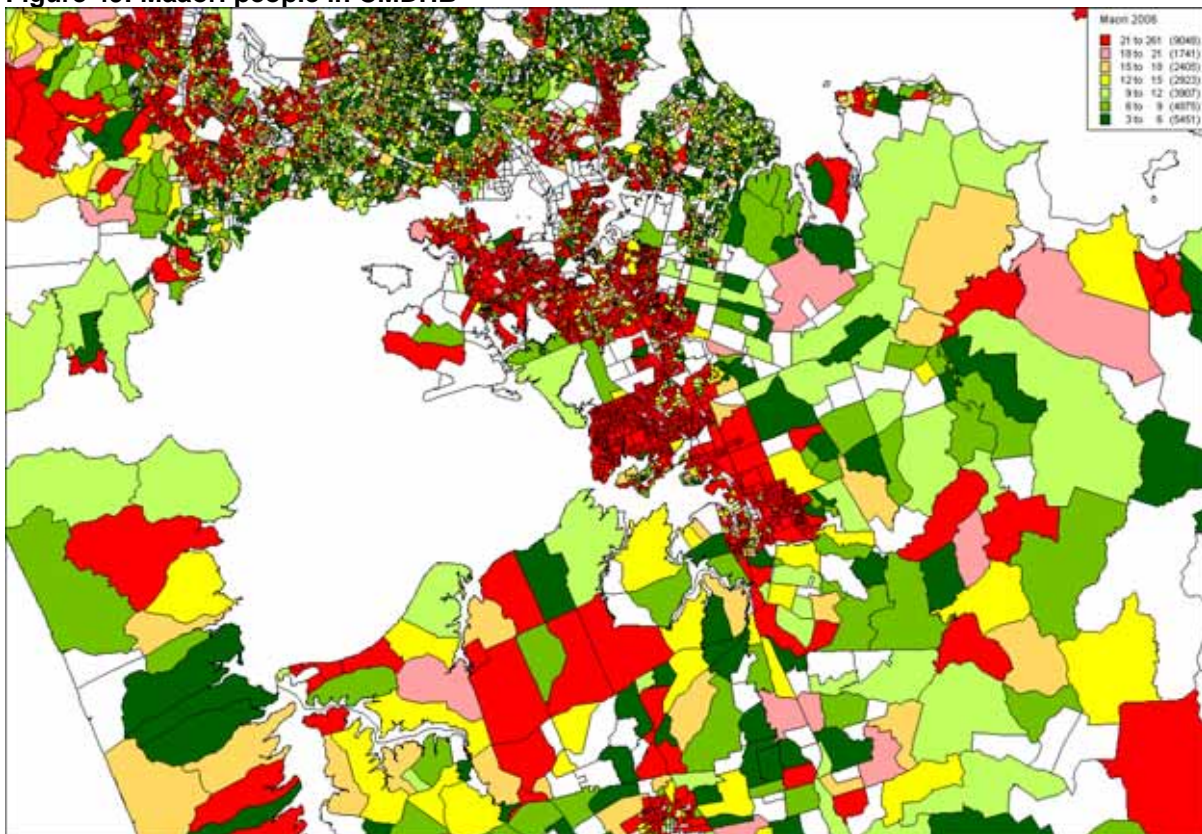
(Public Health Intelligence, 2007)

**Figure 48: Regular smokers in CMDHB**



(Critchlow Ltd., 2007)

**Figure 49: Maori people in CMDHB**



(Critchlow Ltd., 2007)

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