# A deprivation and demographic profile of the Counties Manukau DHB

Counties Manukau DHB, showing overall IMD deprivation
with the most deprived areas shaded darkest

**Rachael Yong, Michael Browne, Dr Jinfeng Zhao, Dr Arier Chi Lun Lee, Dr Nichola Shackleton, Dr Sue Crengle, Dr Daniel Exeter
17/10/2017**

THE UNIVERSITY OF AUCKLAND
Te Whare Wānanga o Tāmaki Makaurau
NEW ZEALAND

**MEDICAL AND
HEALTH SCIENCES**

hrc
Health Research
Council of
New Zealand

Statistics New Zealand Disclaimer

Acknowledgments

A deprivation and demographic profile of the Counties Manukau DHB

The New Zealand Index of Multiple Deprivation (IMD) allows one to look at disadvantage in overall terms, as well as in terms of seven domains of deprivation: Employment, Income, Crime, Housing, Health, Education and Access. The seven domains are weighted to reflect the relative importance of each domain in representing the key determinants of socio-economic deprivation, the adequacy of their indicators and the robustness of the data that they use. Figure 1 shows the IMD's 28 indicators and weightings of the seven domains.

The IMD measures deprivation at the neighbourhood level, using custom designed data zones that were specifically developed for social and health research. The New Zealand (NZ) land mass has 5,958 neighbourhood-level data zones that have a mean population of 712 people. In urban settings, data zones are just a few streets long and a few streets wide. Data zones are ranked from the least to most deprived (1 to 5958) and grouped into five quintiles. Q1 (light shading) represents the least deprived 20% of data zones in the whole of NZ; while Q5 (dark shading) represents the most deprived 20%. This multidimensional deprivation information is combined with demographic information from the 2013 census to produce a DHB profile.
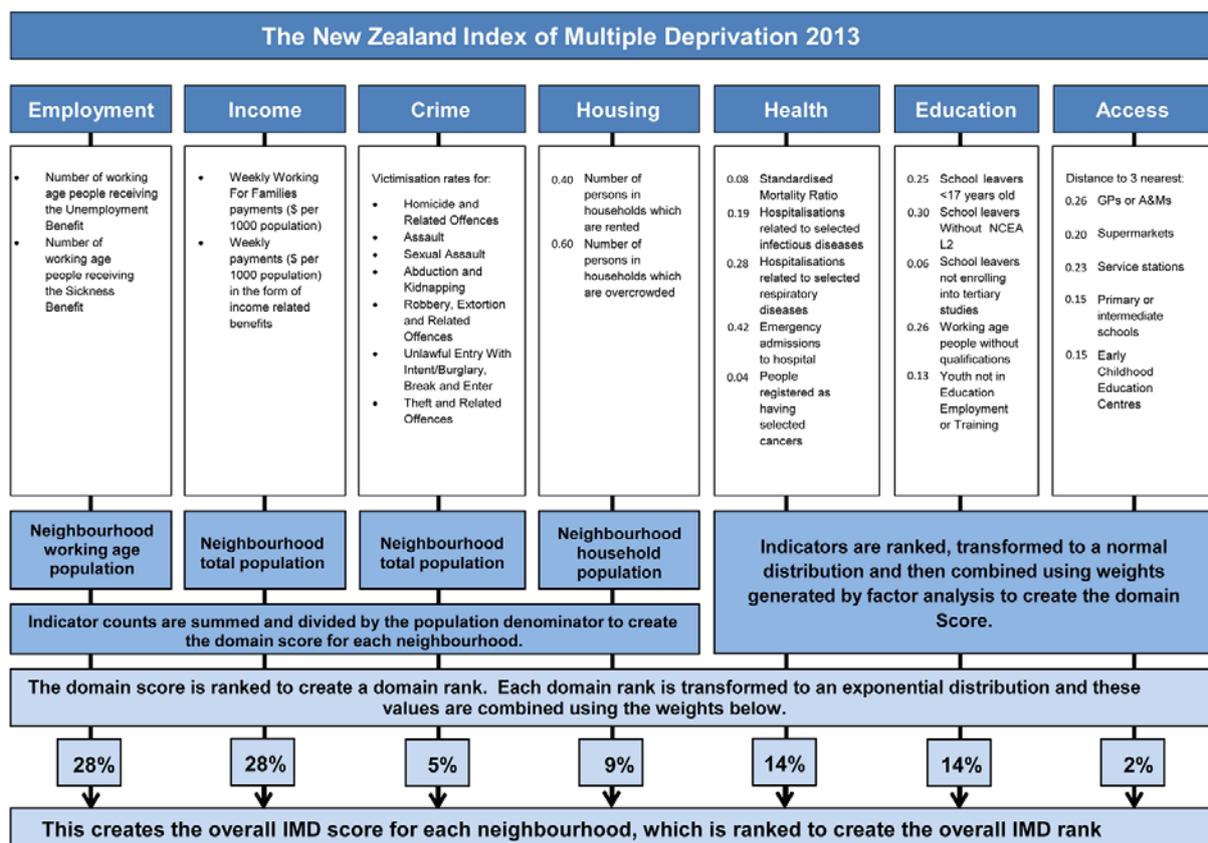

Figure 1. Flow diagram showing the IMD, its indicators, domains and weights. Adapted from Figure 4.2 SIMD 2012 Methodology, in Scottish Index of Multiple Deprivation 2012. Edinburgh: Scottish Government (Crown copyright 2012).

The stacked bar chart in Figure 2 shows the proportion of data zones in the Counties Manukau DHB (CMDHB) that belonged to each deprivation quintile in 2013. If the deprivation circumstances were the same as for all of NZ, we would see 20% of the CMDHB's 625 data zones in each quintile. However, Figure 2 shows that the proportion of data zones with Q5 deprivation was significantly greater than 20% for overall IMD deprivation and for all domains except Access. The proportion of data zones with Q4 deprivation was also greater than 20% for the Employment, Crime and Education domains. The CMDHB had high levels of overall IMD deprivation, with 62.1% (388/625) of its data zones in Q4 or Q5.
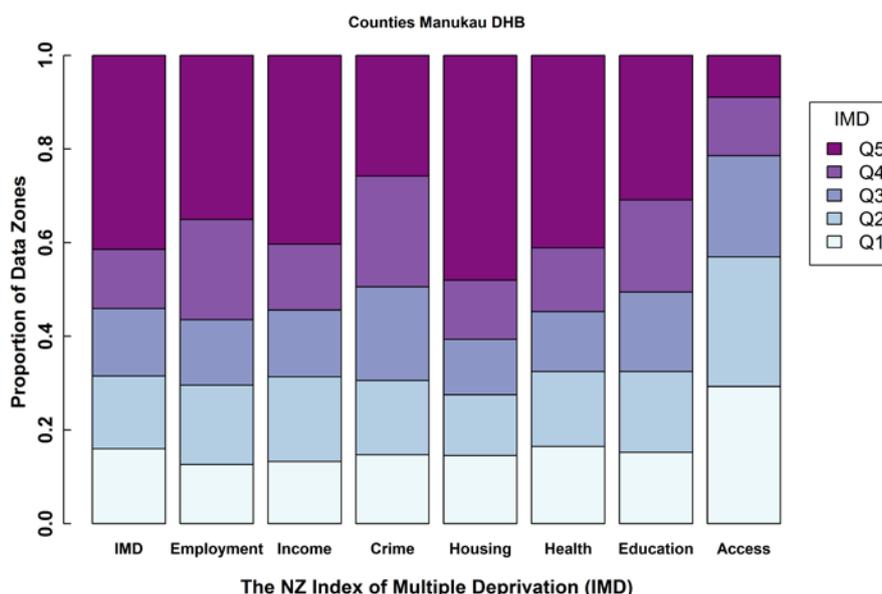
Figure 2. Stacked bar chart showing overall deprivation and seven domains in the CMDHB

Table 1 shows summary statistics by domain for the 259 CMDHB data zones that were among NZ's 20% most deprived for the overall IMD and reveals the contributions of different domains. In descending order, high (Q5) median deprivation ranks for Housing (5747), Income (5545), Health (5533), Employment (5301) and Education (5173) were contributing to high overall IMD deprivation in these 259 data zones in 2013, bearing in mind that these domains carry different weights in the IMD (see Figure 1).

Min, max and median[1] deprivation ranks by domain for 259 data zones with Q5 IMD							
	IMD	Employment	Income	Crime	Housing	Health	Education	Access
Min	4769	3162	3991	1290	2718	3539	1938	6
Max	5957	5953	5958	5954	5958	5955	5958	5866
Median	5563	5301	5545	4551	5747	5533	5173	1281

Table 1. Minimum, maximum and median deprivation ranks by domain for 259 data zones in the CMDHB with Q5 IMD deprivation

---

[1] When discussing the 20% most deprived data zones, ranks will usually be skewed, so it is better to discuss the median rank (the middle value) rather than the mean rank (the average, which can be disproportionately affected by very high values).
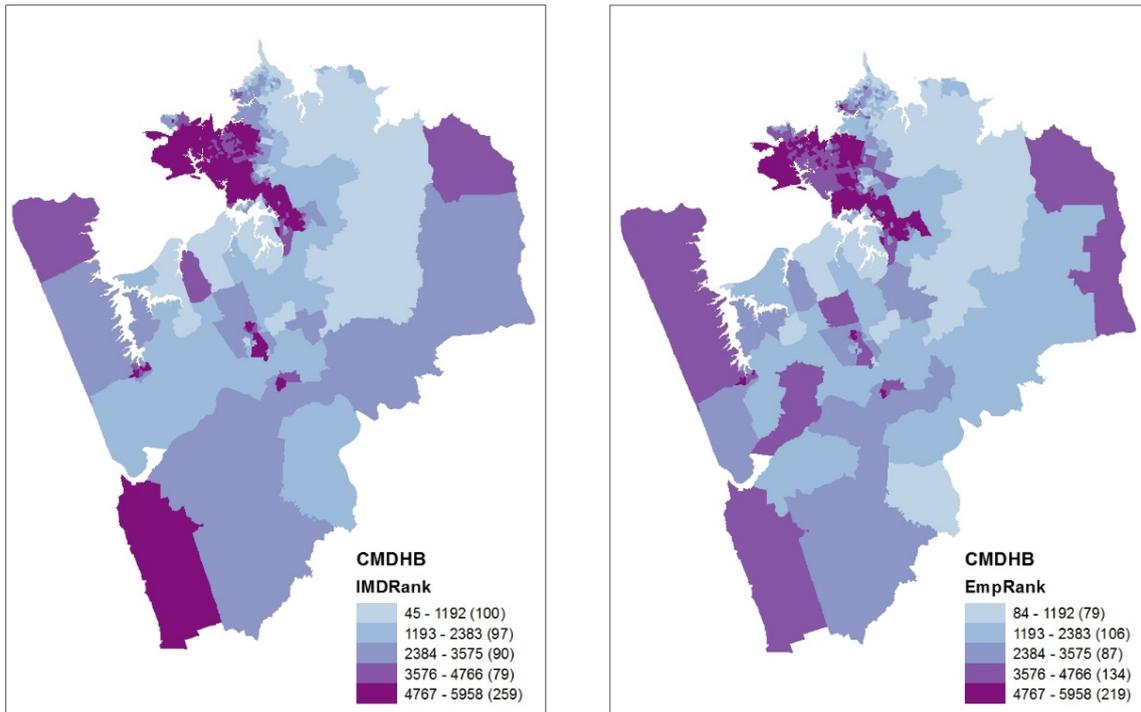
Figure 3. Distribution of overall IMD and employment deprivation in the CMDHB

The values in brackets in the legends of the maps that follow are counts of data zones in the relevant quintile. The map for overall deprivation (IMD) on the left of Figure 3 shows high levels of Q5 deprivation in the CMDHB, with 41.4% (259/625) of its data zones among the most deprived 20% in NZ (Q5). Only 16% (100/625) were in the least deprived 20% (Q1). The median IMD rank in the CMDHB was 4174, 20.1% (1195 ranks) worse than the NZ median of 2979. Most of the Q5 data zones were concentrated in the northern part of the DHB, such as Mangere and Papatoetoe, but they also occurred in Waiuku, Pukekohe, Tuakau and Port Waikato. Urban data zones are difficult to see on these maps, so we suggest that readers use the interactive maps at the IMD website to explore the CMDHB further.

The map of the Employment Domain on the right of Figure 3 reflects the proportion of working age people who were receiving the Unemployment or Sickness Benefits in 2013. In the CMDHB, 35.0% (219/625) of data zones were among the 20% most deprived in NZ for the Employment Domain, while only 12.6% (79/625) of data zones were in the least deprived 20%. The median employment deprivation rank in the CMDHB was 3975, 16.7% (996 ranks) worse than the NZ median. Q5 employment deprivation followed the general pattern of overall IMD deprivation, but with 40 fewer Q5 data zones in places like Mangere and Papatoetoe. There were eight Q5 data zones in Waiuku, Pukekohe and Tuakau.
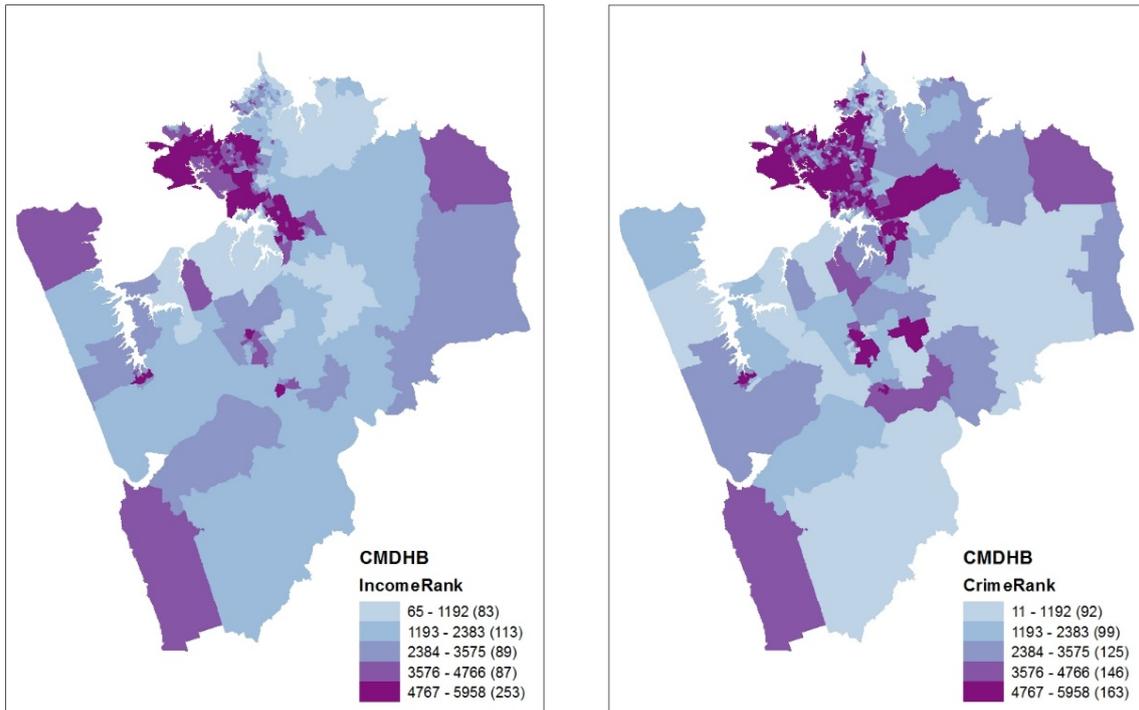
Figure 4. Distribution of income and crime deprivation in the CMDHB

The Income Domain measures the amount of money per person paid by the government in the form of Working for Families payments and income-tested benefits. In the CMDHB, 40.3% (252/625) of data zones were among NZ's 20% most income deprived, while only 13.8% (38/625) of data zones were among the 20% least income deprived. The median income deprivation rank in the CMDHB was 3991, 17.0% (1012 ranks) worse than the NZ median. High (Q5) levels of income deprivation closely followed the pattern of Q5 overall deprivation, but there were slightly fewer Q5 income deprived data zones in Mangere, Wiri and Takanini.

The Crime Domain measures victimisations per 1000 people and is largely driven by thefts (55%), burglaries (24%) and assaults (18%). In the CMDHB, 25.8% (161/625) of data zones were in the most deprived 20% for the Crime Domain, while only 14.7% (92/625) were in the Least Deprived 20%. The median crime deprivation rank in the CMDHB was 3538, 9.4% (559 ranks) worse than the NZ median. On the map, high (Q5) crime deprivation extends over a wider area than Q5 overall deprivation, but it has 96 fewer Q5 data zones (163 for Crime versus 259 for IMD). It extends into East Tamaki, Takanini, Ardmore and Bombay, as well as Waiuku, Pukekohe and Tuakau.
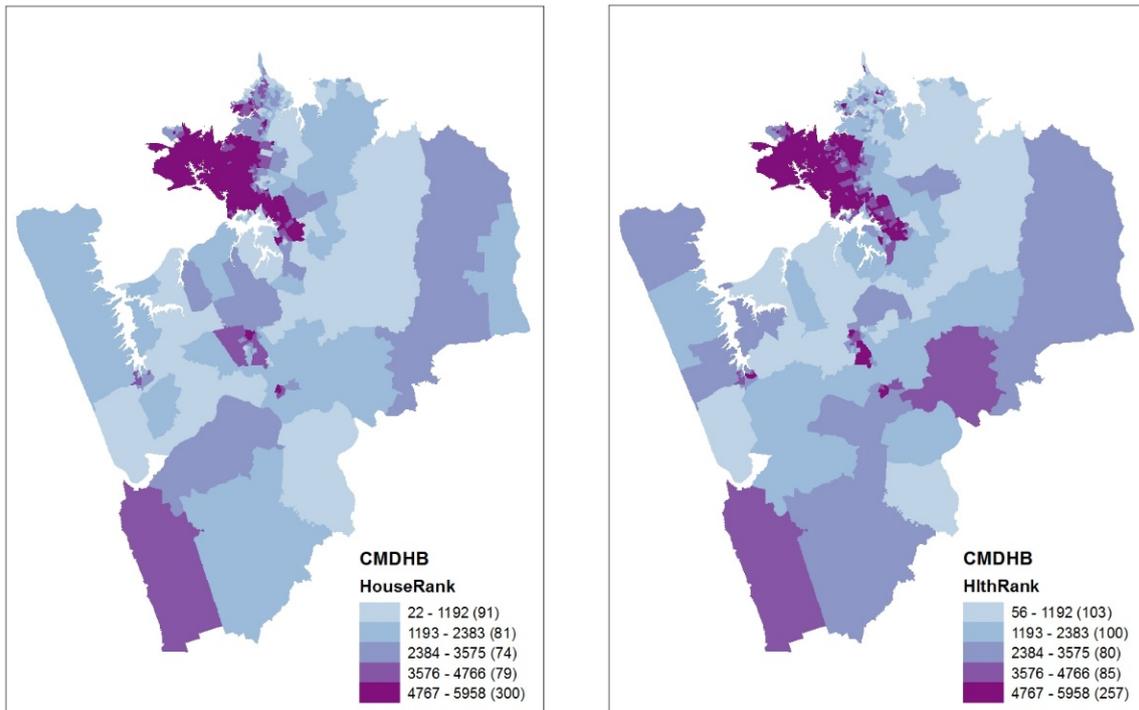
Figure 5. Distribution of housing and health deprivation in the CMDHB

The Housing Domain measures the proportion of people living in overcrowded households (60% of the weighting) and in rented dwellings (40%). In the CMDHB, a massive 48% (300/625) of data zones were among the 20% most deprived in NZ, and only 14.6% (91/625) were among the least deprived 20%. The median housing deprivation rank in the CMDHB was 4640, 27.9% (1661 ranks) worse than the NZ median. On the map, these high (Q5) levels of housing deprivation extend uninterrupted across South Auckland from Mangere to Papakura, and include parts of Pakuranga and Dannemora, as well as Pukekohe and Tuakau.

The Health Domain consists of five indicators: standard mortality ratio, acute hospitalisations related to selected infectious and selected respiratory diseases, emergency admissions to hospital, and people registered as having selected cancers. In the CMDHB, 41.1% (257/625) of data zones were among the 20% most health deprived in NZ, and only 16.5% (103/625) were among the least deprived 20%. The median health deprivation rank in the CMDHB is 4020, 17.5% (1041 ranks) worse than the NZ median. The number of data zone with Q5 health deprivation almost exactly matches the number with Q5 overall deprivation, but there are a few more in East Tamaki and a few less in Takanini, Waiuku, Pukekohe and Tuakau.
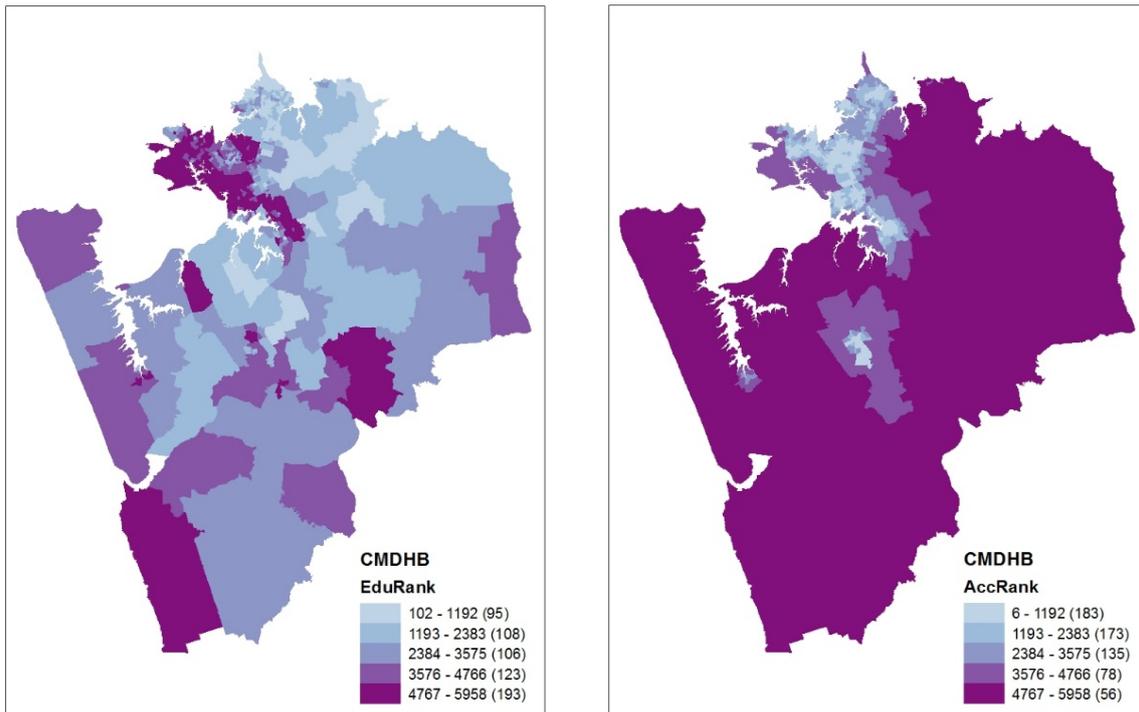
Figure 6. Distribution of education and access deprivation in the CMDHB

The Education Domain measures retention, achievement and transition to education or training for school leavers; as well as the proportion of working age people 15-64 with no formal qualifications; and the proportion of youth aged 15-24 not in education, employment or training (NEET). In the CMDHB, 30.9% (193/625) of data zones were among NZ's 20% the most education deprived, and 15.2% (95/625) were in the least deprived 20%. The median education deprivation rank in the CMDHB was 3594, 10.3% (615 ranks) worse than the NZ median. Q5 levels of education deprivation occurred in many urban areas of South Auckland and further south in Pukekohe, Waiuku and Tuakau. They also occurred in rural areas such as Kingseat, Mercer and Port Waikato.

The Access Domain measures the distance from the population weighted centre of each data zone to the nearest three GPs, supermarkets, service stations, schools and early childhood education centres. In the CMDHB, 9% (56/625) of data zones were among NZ's 20% most access deprived, and 29.3% (183/625) were in NZ's 20% least deprived. The median access deprivation rank in the CMDHB was 2057, 15.5% (922 ranks) better than the NZ median. High (Q5) levels of access deprivation occurred in rural parts of the CMDHB outside the main urban area of South Auckland and the towns of Waiuku, Pukekohe and Tuakau.

Age profile of the Counties Manukau DHB

According to the 2013 census, the CMDHB had a total data zone population of 469,194 people living in 625 data zones, with a mean of 751 people each (range: 501 to 1899).

Mean data zone proportions for five age groups in the CMDHB					
Age group	0-14	15-24	25-44	45-64	65+
Counties Manukau DHB	24.1%	15.1%	26.3%	23.8%	10.7%
New Zealand[2]	20.4%	13.8%	25.6%	25.8%	14.3%
Difference	3.7%	1.3%	0.7%	-2.0%	-3.6%

Table 2. Mean data zone proportions for five age groups in the CMDHB

Table 2 shows that the age profile of the CMDHB differs most from the national age profile in that it has 3.7% more children aged 0-14 and 3.6% fewer people aged 65+. Figure 7 shows the distribution of people in these two age groups.
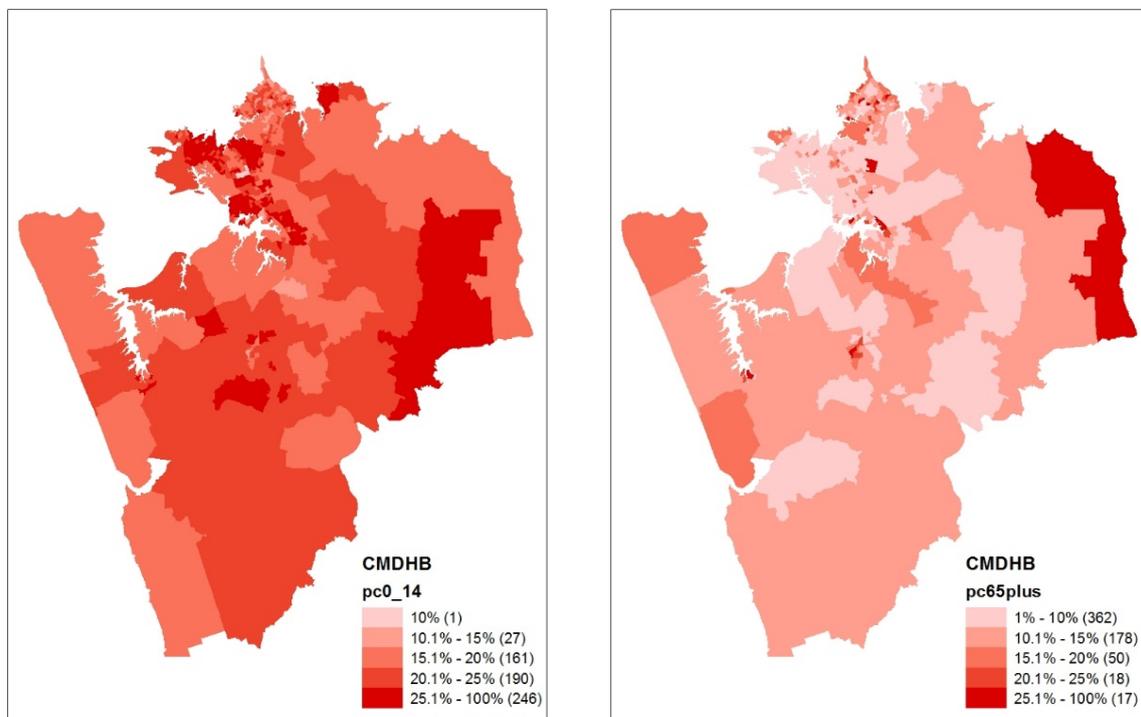

Figure 7. Distribution of children aged 0-14 and people aged 65+ in the CMDHB

---

[2] Proportions for age groups and ethnicities at the national level are calculated using data zone counts to ensure fair comparison with DHB values, which also use data zone counts.

Ethnicity profile of the Counties Manukau DHB

This section uses the Total Response method to calculate proportions for each ethnicity from the 2013 census. Individuals who identify as more than one ethnicity are counted in more than one category. The proportion of Māori living in data zones within the CMDHB in 2013 ranged from 0.0% to 71.4%. The overall proportion of Māori in the CMDHB was 15.5%, which was close to the national proportion of 14.9%. The proportion of Māori per data zone was greatest in a data zone located in Pukekohe (71.4%), followed by one in Papakura (59.2%).

The proportion of Pacific ethnicity living in data zones within the CMDHB ranged from 0.0% to 89.1% in a Mangere East data zone. The overall proportion of Pacific ethnicity in the CMDHB was 23.8%, which is approximately three times greater than the national proportion of 7.3%. The highest proportions of Pacific are located in areas of South Auckland, such as Mangere, Papatoetoe, Otara, Wiri and Manurewa.

The proportion of New Zealand European and Other ethnicities (NZEO) in CMDHB data zones ranged from 8.1% to 100%. The overall proportion of NZEO in the CMDHB was 72.4%, which was significantly lower than the national proportion of 87.5%. The lowest proportions of NZEO (<30%) lived in South Auckland, Pukekohe and Tuakau.
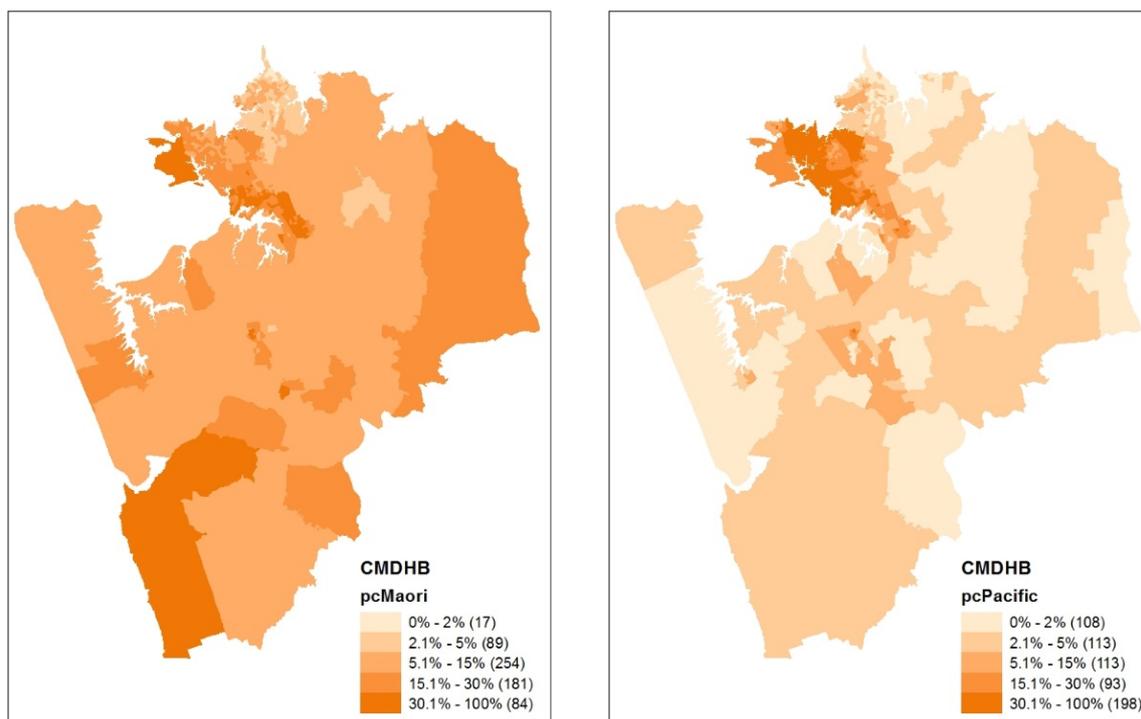

Figure 8. Distribution of Māori and Pacific people in the CMDHB

For more information about the IMD, NZ data zones or this profile, please contact Dan Exeter at d.exeter@auckland.ac.nz. For downloadable spreadsheets of the IMD or NZ data zones, online interactive maps, publications and technical documentation, please go to the IMD website.