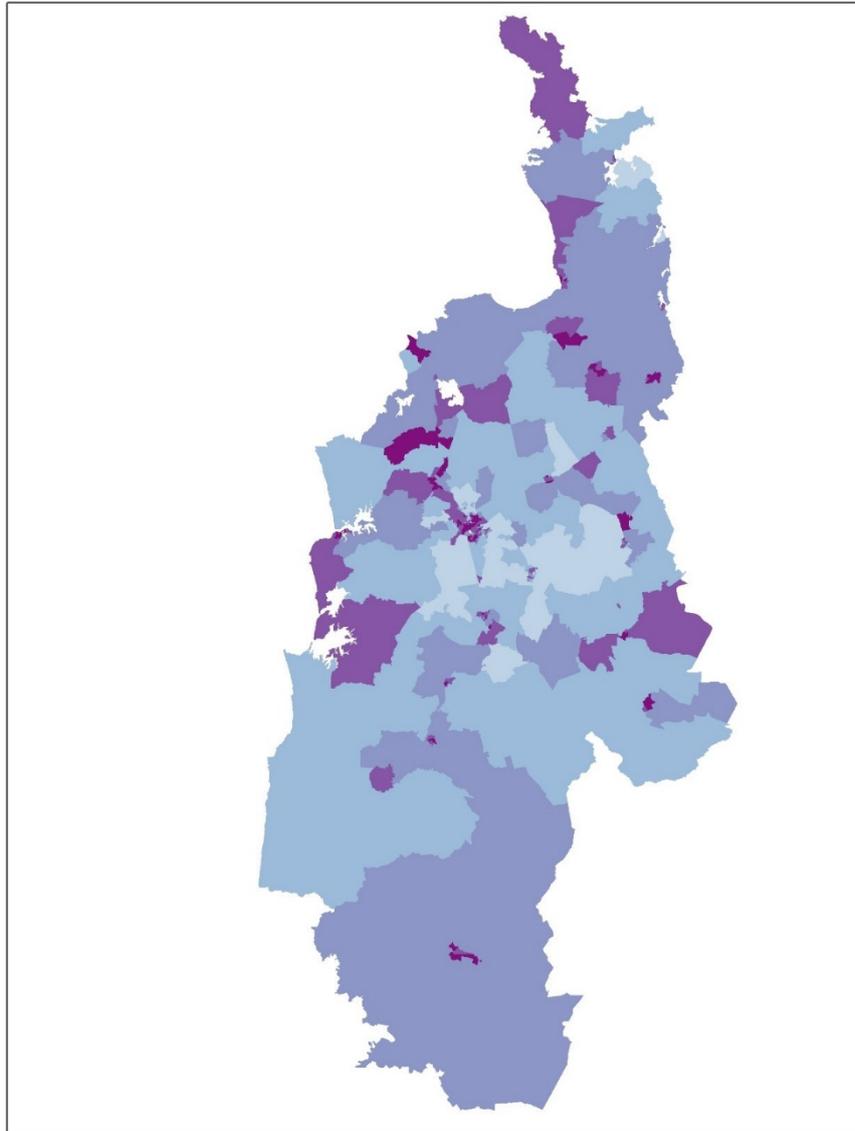


A deprivation and demographic profile of the Waikato DHB



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

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The results in this report are not official statistics, they have been created for research purposes from the Integrated Data Infrastructure (IDI), managed by Statistics New Zealand. The opinions, findings, recommendations, and conclusions expressed in this paper are those of the author(s) not Statistics NZ or the University of Auckland.

Access to the anonymised data used in this study was provided by Statistics NZ in accordance with security and confidentiality provisions of the Statistics Act 1975. Only people authorised by the Statistics Act 1975 are allowed to see data about a particular person, household, business, or organisation and the results in this paper have been confidentialised to protect these groups from identification. Careful consideration has been given to the privacy, security, and confidentiality issues associated with using administrative and survey data in the IDI. Further detail can be found in the Privacy impact assessment for the Integrated Data Infrastructure available from www.stats.govt.nz.

The results are based in part on tax data supplied by Inland Revenue to Statistics NZ under the Tax Administration Act 1994. This tax data must be used only for statistical purposes, and no individual information may be published or disclosed in any other form, or provided to Inland Revenue for administrative or regulatory purposes. Any person who has had access to the unit-record data has certified that they have been shown, have read, and have understood section 81 of the Tax Administration Act 1994, which relates to secrecy. Any discussion of data limitations or weaknesses is in the context of using the IDI for statistical purposes, and is not related to the data's ability to support Inland Revenue's core operational requirements.

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A deprivation and demographic profile of the Waikato 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, they 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.

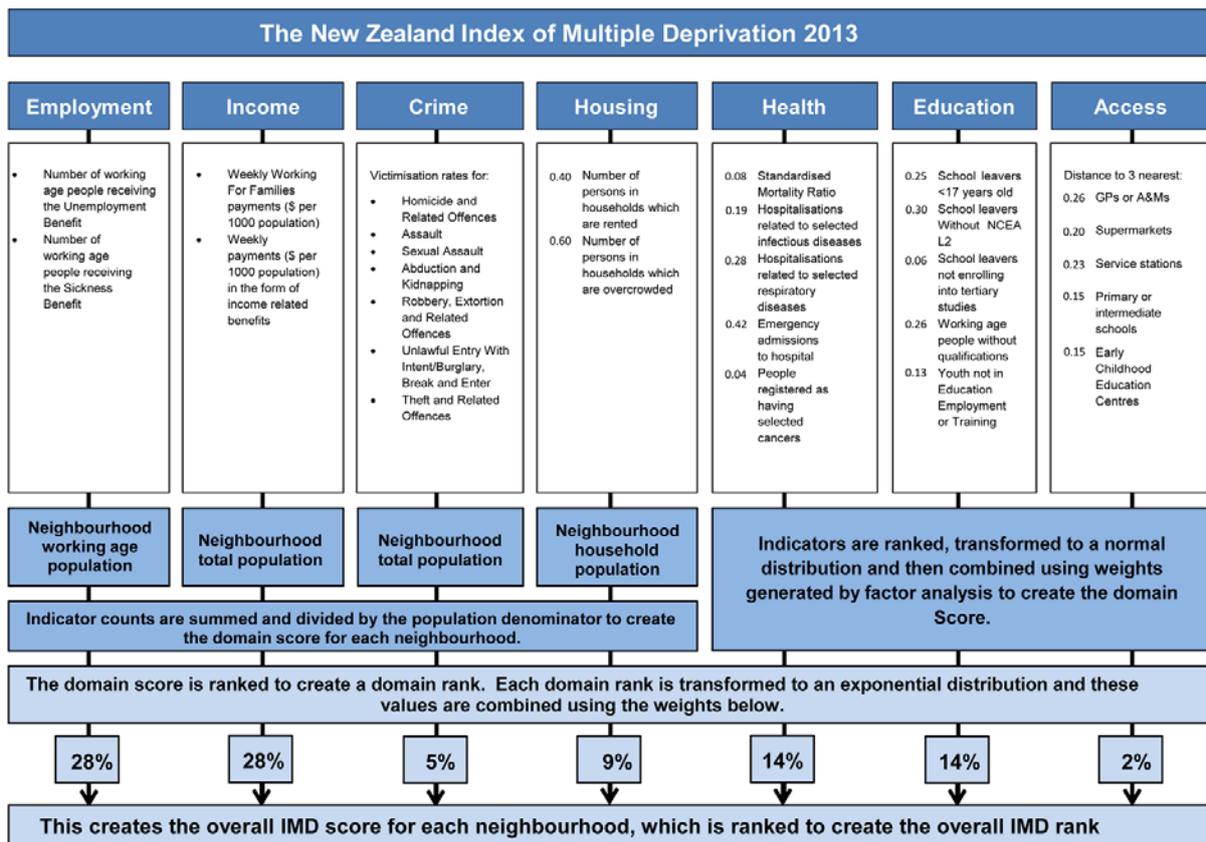


Figure 1. Flow diagram showing the IMD, its indicators, domains and weights. Adapted from Figure 4.2 SIMD 2012 Methodology, in Scottish Index of Multiple Deprivation 2012. Edinburgh: Scottish Government (Crown copyright 2012).

The stacked bar chart in Figure 2 shows the proportion of data zones in the Waikato DHB (WDHB) that belonged to each deprivation quintile for overall IMD deprivation and the seven domains in 2013. If the deprivation circumstances in the WDHB were the same as for all of NZ, we would see 20% of the WDHB's 511 data zones in each quintile. However, Figure 1 shows that the proportion of data zones with Q5 deprivation was greater than 20% for the IMD and all domains except for Housing. Q4 deprivation was greater than 20% for all seven domains. The WDHB had high levels of overall IMD deprivation, with 50.7% (259/511) of its data zones in Q4 or Q5.

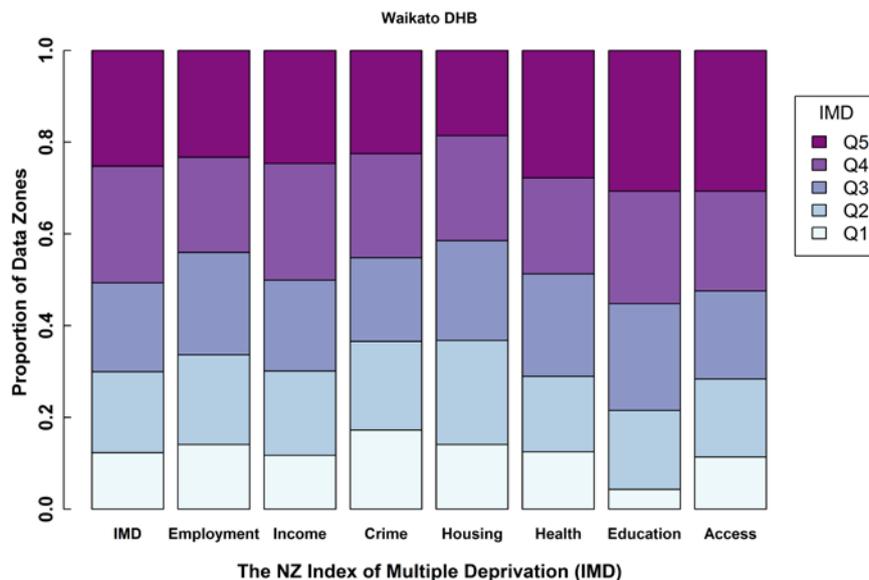


Figure 2. Stacked bar chart showing overall deprivation and seven domains in the WDHB

Table 1 shows summary statistics by domain for 129 WDHB data zones that were among NZ's 20% most deprived (Q5) for the overall IMD, and reveals the contributions of different domains. In descending order, high (Q5) median deprivation ranks for Education (5557), Income (5408), Employment (5369), Health (5285), Crime (4904) and Housing (4884) were contributing to high overall deprivation in these 129 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 129 data zones with Q5 IMD								
	IMD	Employment	Income	Crime	Housing	Health	Education	Access
Min	4779	3812	3586	1233	2409	3296	2128	23
Max	5951	5948	5957	5937	5890	5956	5957	5628
Median	5421	5369	5408	4904	4884	5285	5557	2391

Table 1. Minimum, maximum and median deprivation ranks by domain for 129 data zones in the WDHB 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).

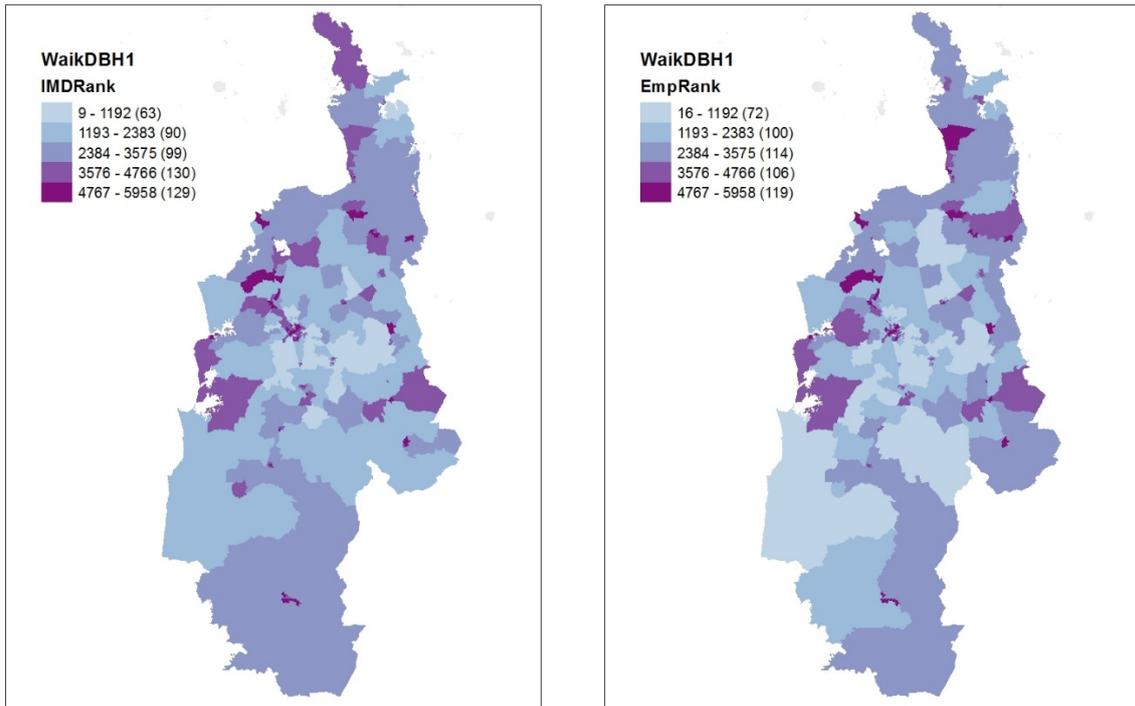


Figure 3. Distribution of overall IMD and employment deprivation in the WDHB

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 moderate levels of deprivation in the WDHB in 2013 with 25.2% (129/511) of data zones among the most deprived 20% in NZ (Q5). Only 12.3% (63/511) of data zones were in the least deprived 20% in NZ (Q1). The median IMD rank was 3597, 10.4% (618 ranks) worse than the NZ median of 2979. There was one large rural data zone with Q5 deprivation to the west of Huntly, but most of the Q5 deprivation occurred in urban areas such as Hamilton and in smaller towns such as Huntly, Waihi, Te Awamutu, Raglan and Tokoroa. 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 WDHB 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 WDHB, 23.3% (119/511) of data zones were among the 20% most deprived in NZ for the Employment Domain, while 14.1% (72/511) of data zones were among the least deprived 20%. The median employment deprivation rank in the WDHB was 3356, 6.3% (377 ranks) worse than the NZ median of 2979. The distribution of Q5 employment deprivation followed a similar pattern to overall IMD deprivation, except that it had ten fewer Q5 data zones.

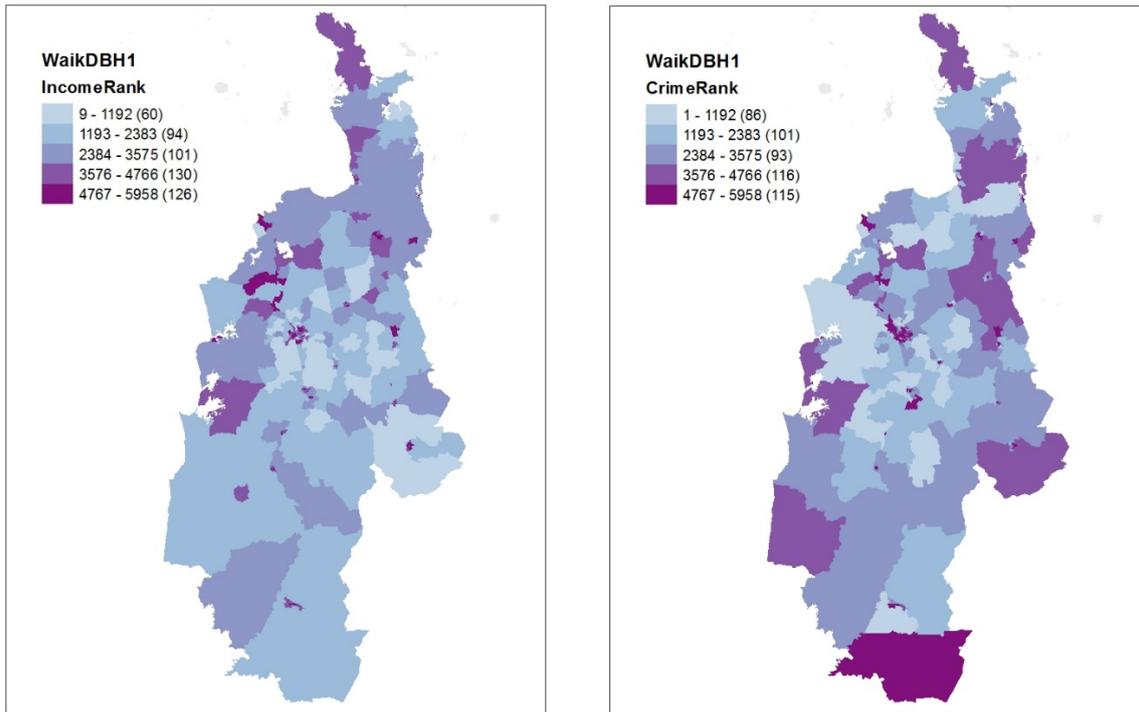


Figure 4. Distribution of income and crime deprivation in the WDHB

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 WDHB, 24.7% (126/511) of data zones were in NZ's 20% most income deprived, while 11.7% (60/511) were in the 20% least income deprived. The median income deprivation rank in the WDHB was 3582, 10.1% (603 ranks) worse than the NZ median. The distribution of Q5 income deprivation followed a similar pattern to overall IMD deprivation, but there were fewer large rural data zones with Q4 income deprivation.

The Crime Domain measures victimisations per 1000 people and is largely driven by thefts (55%), burglaries (24%) and assaults (18%). In the WDHB, 22.5% (115/511) of data zones were among the most deprived 20% for the Crime Domain, while 17.2% (88/511) were among the least deprived 20%. The median crime deprivation rank in the WDHB was 3178, 3.3% (199 ranks) worse than the NZ median. High (Q5) rates of crime victimization occurred in large urban areas like Hamilton and in most towns. There was one small rural data zone with Q5 rates of crime victimization south of Te Awamutu and a large one around National Park.

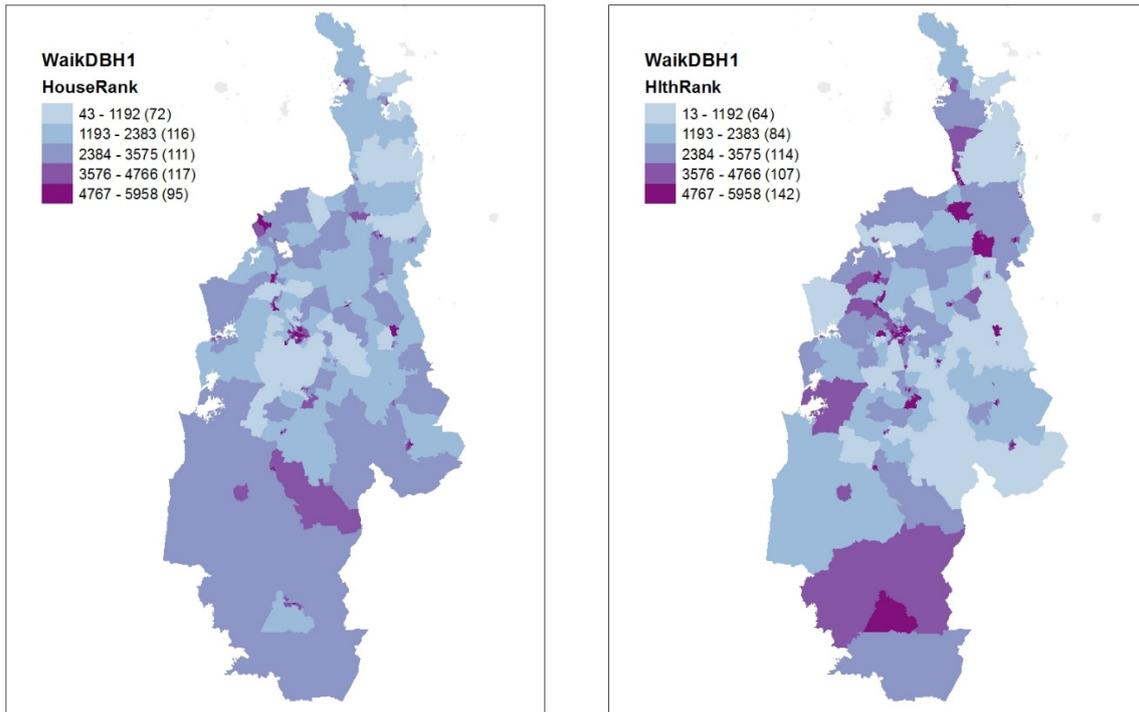


Figure 5. Distribution of housing and health deprivation in the WDHB

The Housing Domain measures the proportion of people living in overcrowded households (60% of the weighting) and rented dwellings (40%) in 2013. In the WDHB, 18.6% (95/511) of data zones were among the most deprived 20% in NZ, while 14.1% (72/511) were among the least deprived 20%. The highest proportions of data zones were in quintiles two, three and four. The median housing deprivation rank in the WDHB was 3029, just 0.8% (50 ranks) worse than the NZ median. Q5 housing deprivation was less concentrated than overall IMD deprivation with 34 fewer Q5 data zones. In addition, there were few large rural data zones with Q4 housing deprivation — the exception being the data zone that includes Te Kuiti and Benneydale.

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 WDHB, 27.8% (142/511) of data zones were among the 20% most health deprived in NZ, while 12.5% (64/511) were among the least deprived 20%. The median health deprivation rank in the WDHB was 3490, 8.6% (511 ranks) worse than the NZ median. Most of the data zones with high (Q5) health deprivation were located in the north and central parts of the WDHB, in urban areas such as Hamilton, Thames, Ngaruawahia and Huntly, but there were also large rural data zones with Q5 health deprivation in Ngatea, Kerepehi, to the south of Paeroa and south of Taumarunui.

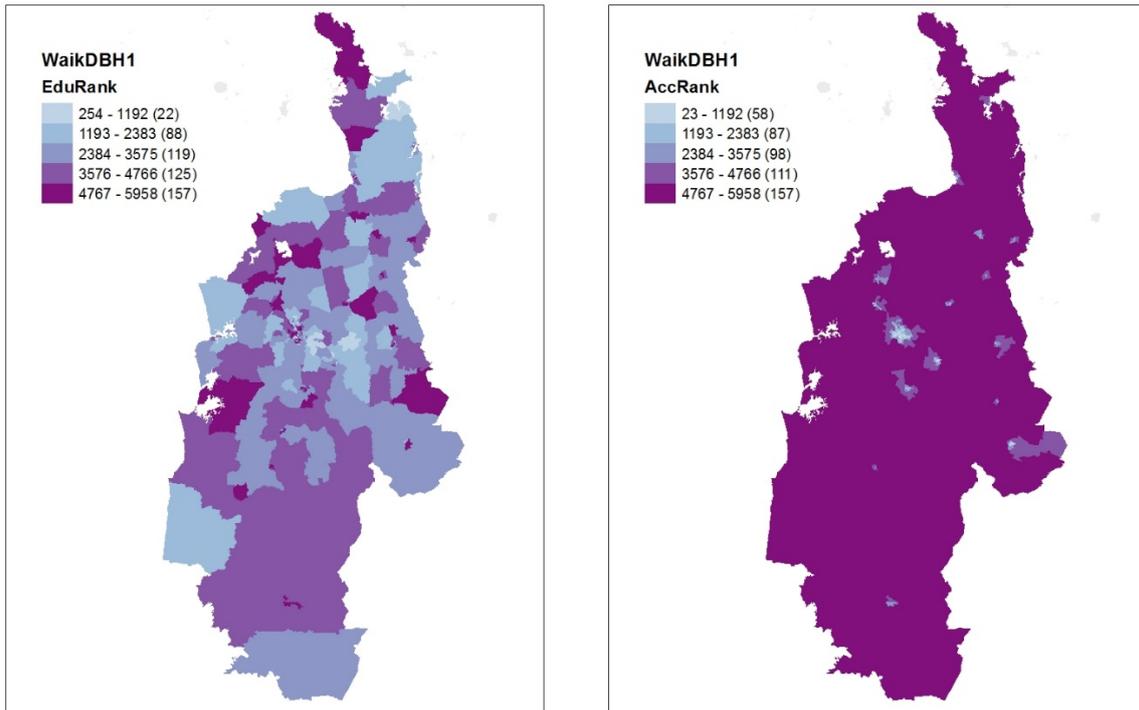


Figure 6. Distribution of education and access deprivation in the WDHB

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 WDHB, 30.7% (157/511) of data zones were among NZ's 20% the most education deprived, while only 4.3% (22/511) were among the least deprived 20%. The median education deprivation rank in the WDHB was 3824, 14.2% (845 ranks) worse than the NZ median. The distribution of Q5 data zones followed a similar pattern to overall (IMD) deprivation, but there were 28 more Q5 data zones for the Education Domain. Many of these were located in rural areas in Coromandel, around Putaruru and Meremere, and in a large rural data zone which stretched from Te Ahurei around the Kāwhia Harbour to Owhiro.

The Access Domain measures the distance from the population weighted centre of each neighbourhood to the nearest three GPs, supermarkets, service stations, schools and early childhood education centres. In the WDHB, 30.7% (157/511) of data zones were among NZ's 20% most access deprived, while 11.4% (58/511) were among NZ's 20% least deprived. The median access deprivation rank in the WDHB was 3660, 11.4% (681 ranks) worse than the NZ median. Predictably, the entire rural hinterland of the WDHB was Q5 access deprived. Access to services was good in Hamilton and larger towns like Huntly, Cambridge, and Morrinsville, but not in small towns like Coromandel, Meremere, Raglan and National Park.

Age profile of the Waikato DHB

According to the 2013 census, the WDHB had a total population of 359235 people living in 511 data zones, with a mean of 703 people each (range: 498 to 1278).

Mean data zone proportions for five age groups in the WDHB					
Age group	0-14	15-24	25-44	45-64	65+
Waikato	21.6%	14.0%	24.4%	25.2%	14.8%
New Zealand ²	20.4%	13.8%	25.6%	25.8%	14.3%
Difference	1.2%	0.2%	-1.2%	-0.6%	0.5%

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

Table 2 shows that the age profile of the WDHB differs most from the national age profile in that it has 1.2% more children aged 0-14 and 1.2% fewer people aged 25-44. Figure 7 shows the distribution of people in these two age groups.

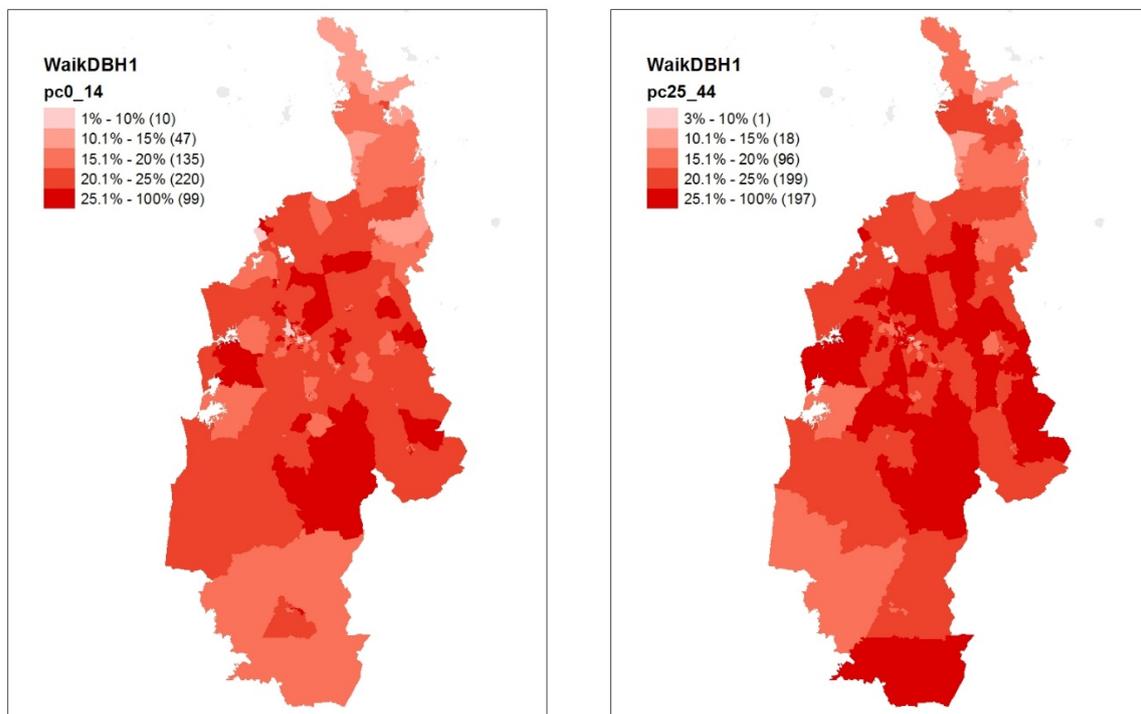


Figure 7. Distribution of children aged 0-14 and people aged 25-44 in the WDHB

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 Waikato DHB

This section uses Total Response 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 WDHB in 2013 ranged from 2.4% to 80.3%. The overall proportion of Māori in the WDHB was 21.7%, which was higher than the national proportion of 14.9%. The proportion of Māori per data zone was greatest in two data zones in Huntly West (80.3% and 80.2%), followed by one in Ngaruawahia (78.3%).

The proportion of Pacific ethnicity living in data zones within the WDHB ranged from 0.0% to 33.1%. The overall proportion of Pacific ethnicity in the WDHB was 3.8%, significantly lower than the national proportion of 7.3%. A data zone in Ngaruawahia had the greatest proportion of Pacific (33.1%), and there were relatively high proportions of Pacific ethnicity (>20%) in Tokoroa, Strathmore, Aotea, Papanui and Meremere.

The percentage of New Zealand European and Other ethnicities (NZE0) in the WDHB ranged from 29.8% to 99.7%. The overall proportion of NZEO was 85.7%, slightly lower than the national proportion of 87.5%. The lowest proportions of NZEO (<40%) lived in data zones in Meremere, Huntly West, Enderley and Te Kuiti.

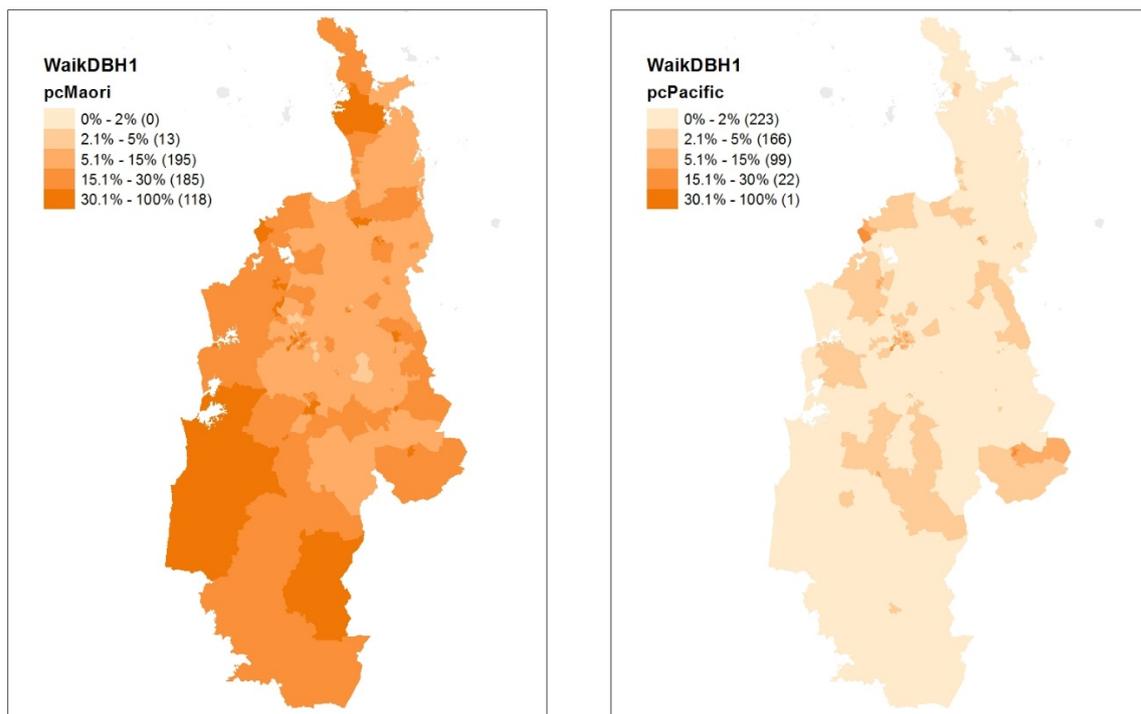


Figure 8. Distribution of Māori and Pacific people in the WDHB

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](#).