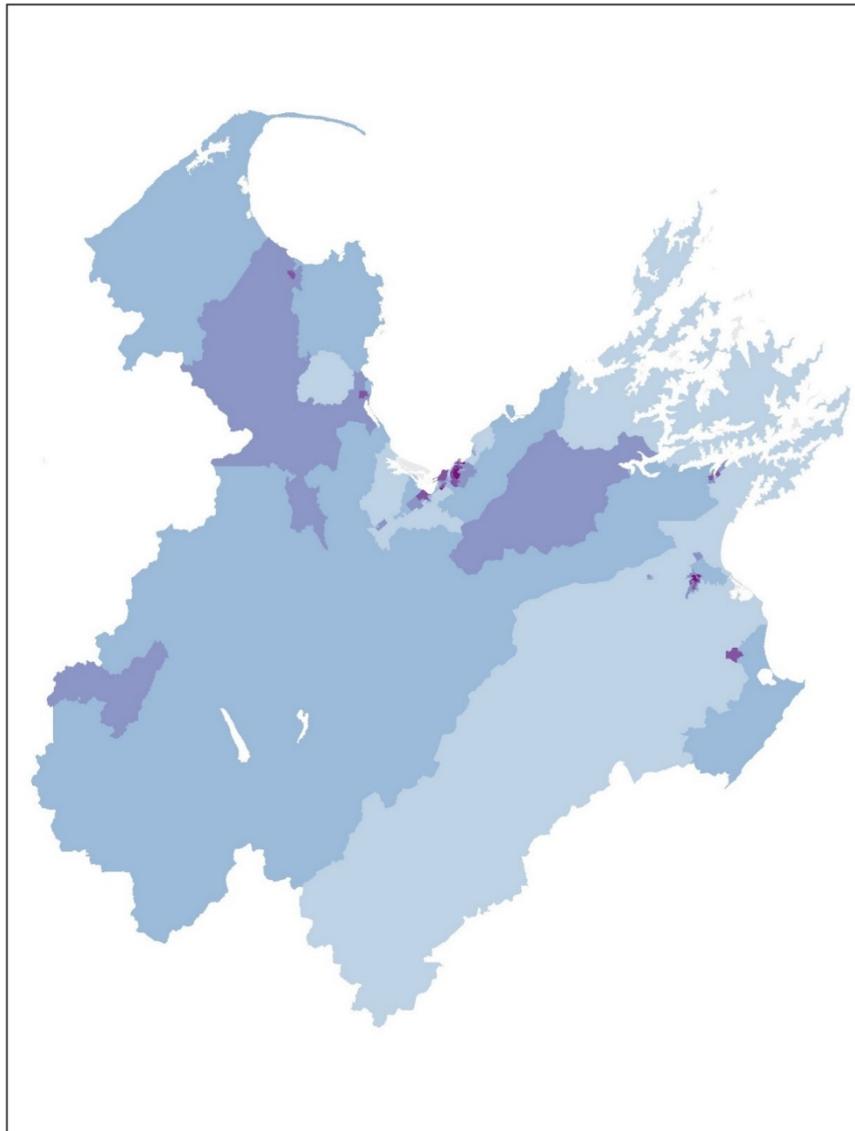


A deprivation and demographic profile of the Nelson Marlborough DHB



Nelson Marlborough 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 Nelson Marlborough 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 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 can be 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.

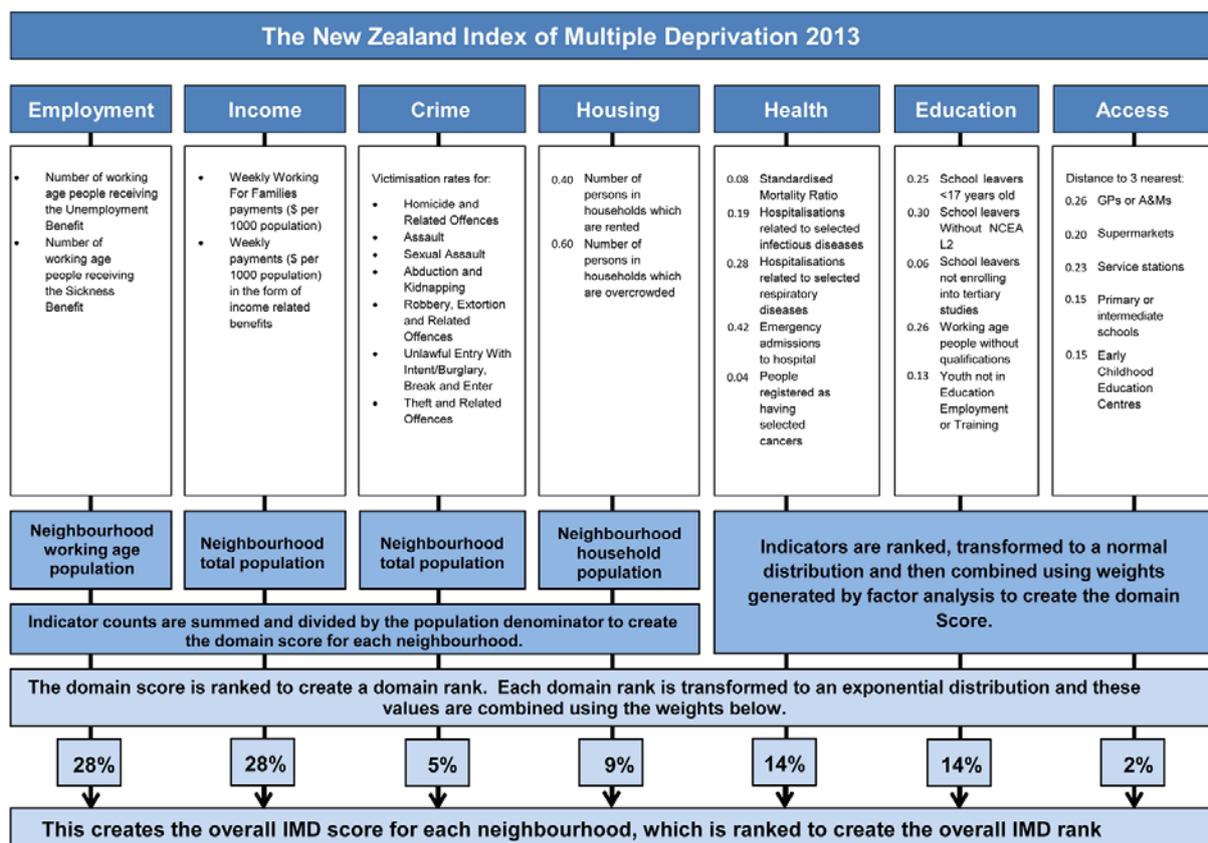


Figure 1. Flow diagram showing the IMD, its indicators, domains and weights. Adapted from Figure 4.2 SIMD 2012 Methodology, in Scottish Index of Multiple Deprivation 2012. Edinburgh: Scottish Government (Crown copyright 2012).

The stacked bar chart in Figure 2 shows the proportion of data zones in the Nelson Marlborough DHB (NMDHB) that belonged to each deprivation quintile for overall IMD deprivation and the seven domains in 2013. If the deprivation circumstances in the Nelson Marlborough DHB were the same as for all of NZ, we would see 20% of the Nelson Marlborough DHB's 196 data zones in each quintile. However, Figure 2 shows that the proportion of data zones with Q5 deprivation was much lower than 20% for overall IMD deprivation and for all domains except Access. Q4 deprivation was also lower than average, except for the Income, Education and Access Domains. The Nelson Marlborough DHB had relatively low levels of overall IMD deprivation, with only 23.5% (46/196) of its data zones in Q4 or Q5.

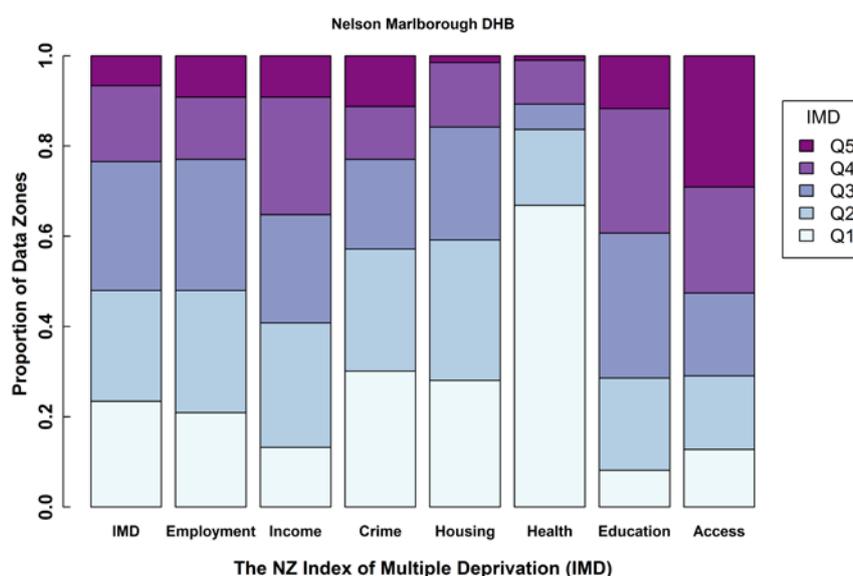


Figure 2. Stacked bar chart showing overall deprivation and seven domains in the NMDHB

Table 1 shows summary statistics by domain for 13 NMDHB data zones that were among NZ's 20% most deprived and reveals the contributions of different domains. In descending order, high (Q5) median deprivation ranks for Income (5275), Employment (5182), Education (5028) and Crime (4788) were contributing to high overall IMD deprivation in these 13 data zones in 2013. Please note that these domains carry different weights in the IMD (see Figure 1).

Min, max and median ¹ deprivation ranks by domain for 13 data zones with Q5 IMD								
	IMD	Employment	Income	Crime	Housing	Health	Education	Access
Min	4793	4198	4335	2936	2974	626	2680	29
Max	5384	5714	5674	5920	4840	5606	5589	2905
Median	4845	5182	5275	4788	4467	1630	5028	1253

Table 1. Minimum, maximum and median deprivation ranks by domain for the 13 data zones in the NMDHB 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).

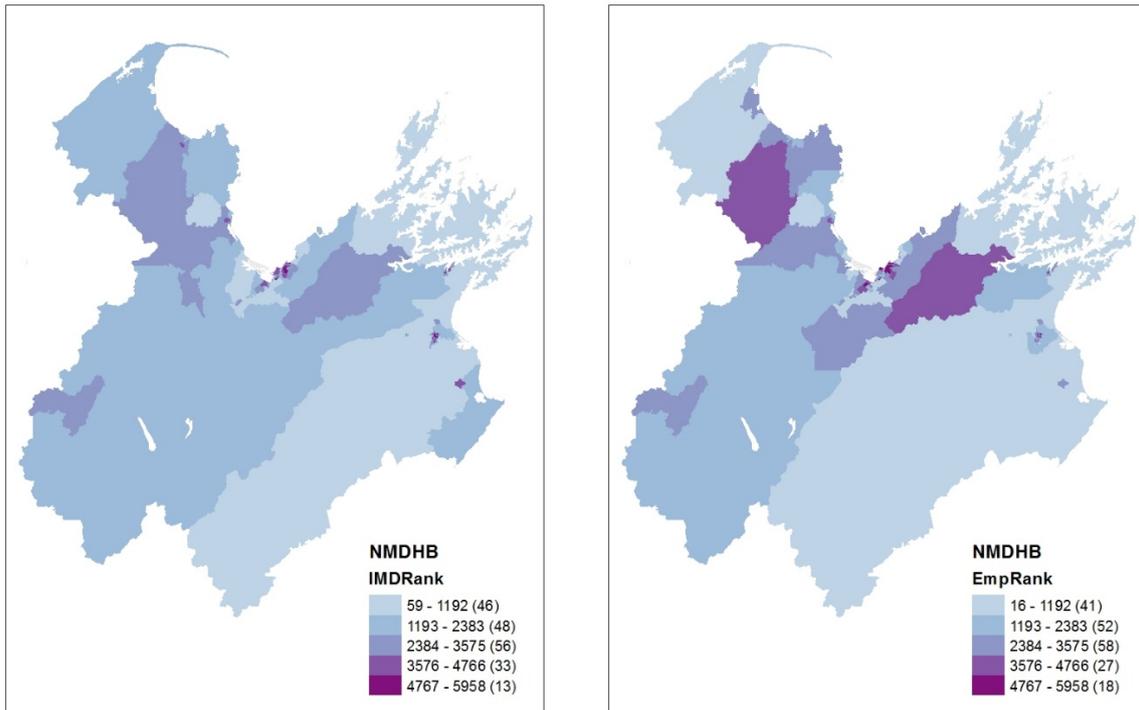


Figure 3. Distribution of overall IMD and employment deprivation in the NMDHB

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 low levels of Q5 deprivation in the Nelson Marlborough DHB. Only 6.6% (13/196) of data zones were among the most deprived 20% in NZ (Q5), while 23.5% (46/196) of data zones were in the least deprived 20% in NZ (Q1). The median IMD rank in the NMDHB was 2481, 8.4% (498 ranks) better than the NZ median of 2979. The majority (11/13) of Q5 data zones were in Neale Park, Washington Valley, Toi Toi, Nelson South, Bishopsdale and Stoke. 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 NMDHB 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 NMDHB, only 9.2% (18/196) of data zones were in the 20% most deprived in NZ for the Employment Domain. In contrast, 20.9% (41/196) of data zones were in the least deprived 20%. The median employment deprivation rank in the NMDHB was 2477, 8.4% (502 ranks) better than the NZ median of 2979. The distribution of Q5 employment deprivation followed a similar pattern to overall IMD deprivation, except that it had five more Q5 data zones.

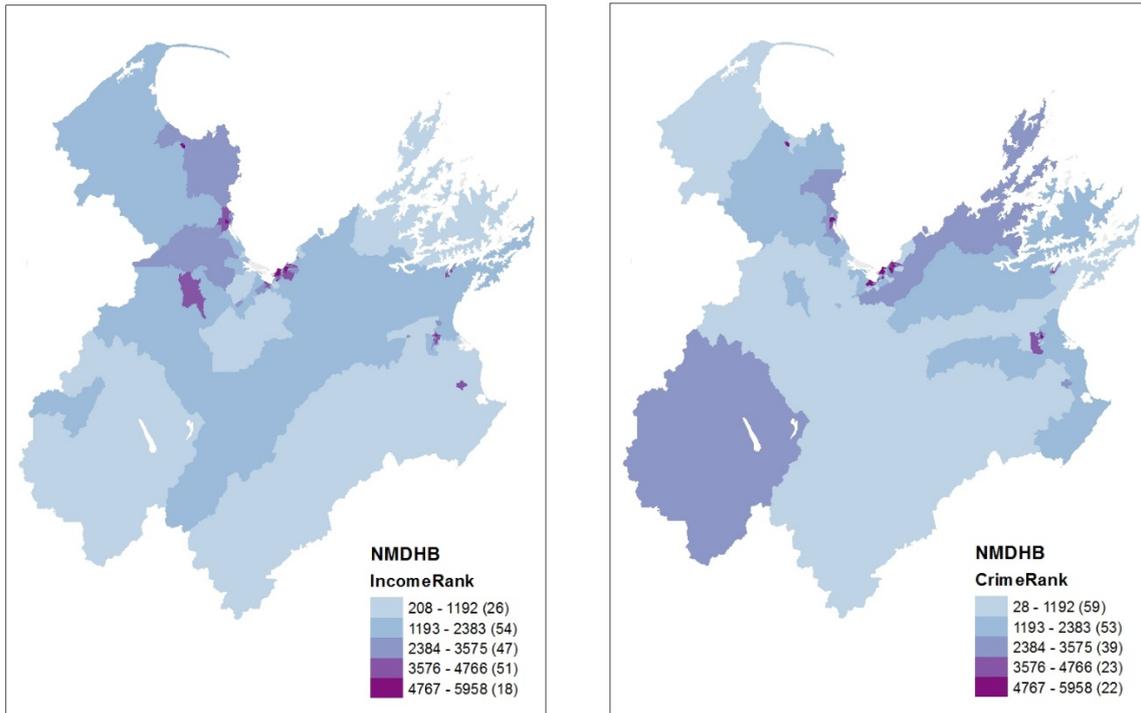


Figure 4. Distribution of income and crime deprivation in the Nelson Marlborough DHB

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 Nelson Marlborough DHB, only 9.2% (18/196) of data zones were among NZ's 20% most income deprived, while 13.3% (26/196) were among the 20% least income deprived. The median income deprivation rank in the NMDHB was 2969, 0.2% (10 ranks) better than the NZ median. The distribution of Q5 data zones followed a similar pattern to overall (IMD) deprivation. There were no Q5 income deprived data zones in rural parts of the NMDHB.

The Crime Domain measures victimisations per 1000 people and is largely driven by thefts (55%), burglaries (24%) and assaults (18%). In the Nelson Marlborough DHB, only 11.2% (22/196) of data zones were among NZ's 20% most deprived for the Crime Domain, while 30.1% (59/196) were among NZ's 20% least deprived. The median crime deprivation rank in the Nelson Marlborough DHB was 2091, 14.9% (889 ranks) better than the NZ median. High (Q5) rates of crime victimization occurred in urban areas including Nelson, Richmond, Annesbrook and Motueka.

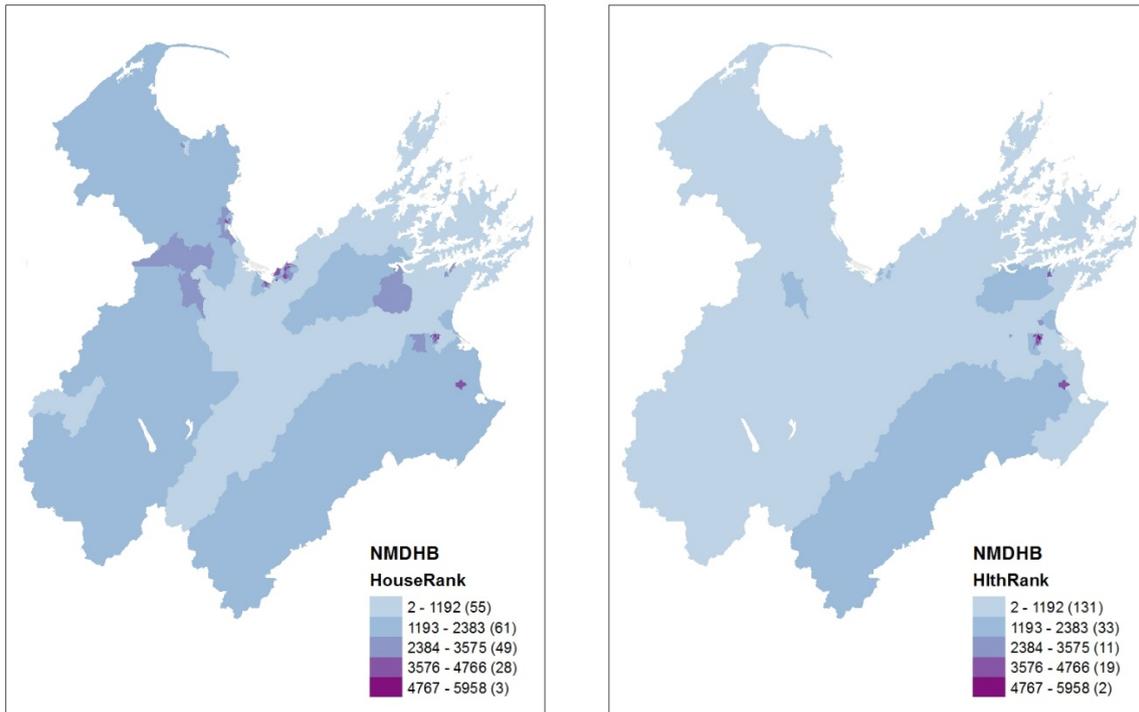


Figure 5. Distribution of housing and health deprivation in the Nelson Marlborough DHB

The Housing Domain measures the proportion of people living in overcrowded households (60% of the weighting) and rented dwellings (40%) in 2013. In the Nelson Marlborough DHB, only 1.5% (3/196) of data zones were among the 20% most deprived in NZ while 28.1% (55/196) of data zones were among the 20% least deprived. The median housing deprivation rank in the Nelson Marlborough DHB was 2008, 16.3% (971 ranks) better than the NZ median. The three data zones that had Q5 housing deprivation were located in Nelson South, Stoke and Blenheim.

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 Nelson Marlborough DHB, only 1.0% (2/196) of data zones were among the 20% most health deprived in NZ, while 66.8% (131/196) were among the least deprived 20%. The median health deprivation rank in the Nelson Marlborough DHB was 665, 38.8% (2314 ranks) better than the NZ median, showing that there are very low levels of health deprivation in the Nelson Marlborough DHB. The two data zones with Q5 health deprivation were located in Blenheim.

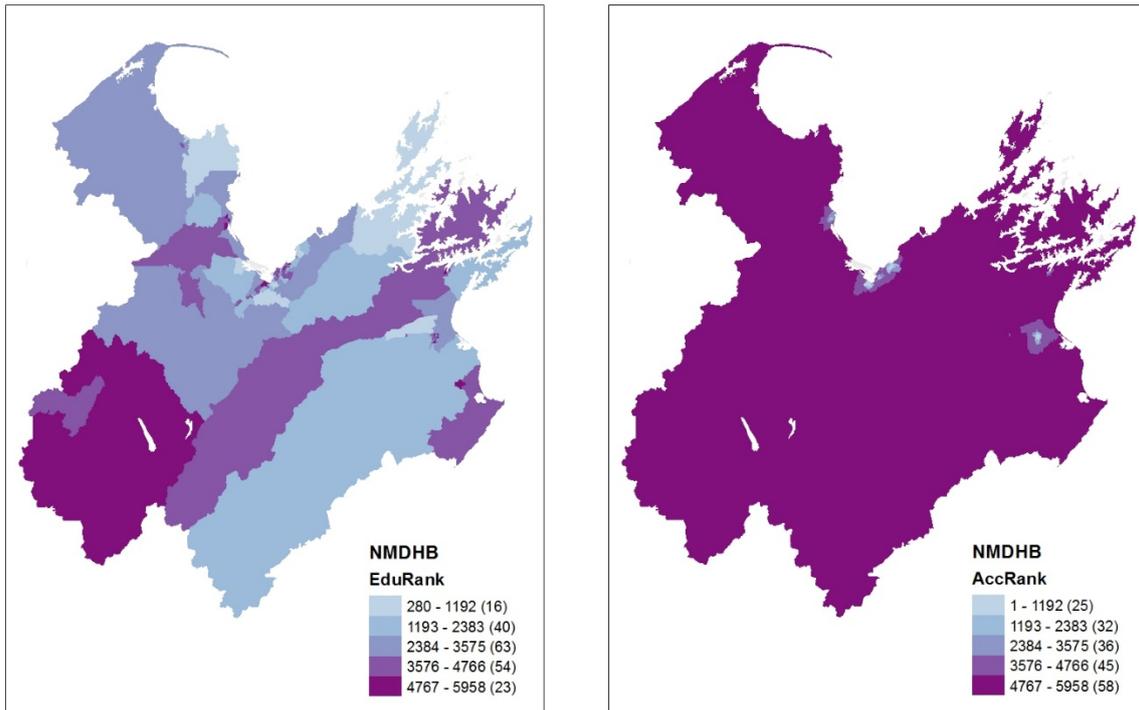


Figure 6. Distribution of education and access deprivation in the Nelson Marlborough DHB

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 NMDHB, 11.7% (23/196) of data zones were among NZ's 20% most education deprived, and 8.2% (16/196) were in the least deprived 20%. The median education deprivation rank in the NMDHB was 3202, 3.7% (223 ranks) worse than the NZ median. Data zones with Q5 education deprivation were distributed primarily in Nelson, Richmond, Motueka and Blenheim, but there was one each in Seddon and Picton. There was also a large rural data zone with Q5 education deprivation that included Tutaki, Burnbrae and Matakītaki.

The Access Domain measures the distance from the centre of each neighbourhood to the nearest three GPs, supermarkets, service stations, schools and early childhood education centres. In the Nelson Marlborough DHB, 29.1% (57/196) of data zones were among NZ's 20% most access deprived, while 12.8% (25/196) were in NZ's 20% least deprived. The median access deprivation rank in the NMDHB was 3690, 11.9% (711 ranks) worse than the NZ median. Predictably, the entire rural part of the NMDHB was Q5 access deprived. Access to services was good in and around Motueka, Nelson and Blenheim.

Age profile of the Nelson Marlborough DHB

According to the 2013 census, the NMDHB had a total population of 136,974 people living in 196 data zones, with a mean of 699 people each (range: 501 to 951).

Mean data zone proportions for five age groups in the NMDHB					
Age group	0-14	15-24	25-44	45-64	65+
Nelson Marlborough DHB	19.0%	10.2%	22.6%	29.6%	18.6%
New Zealand ²	20.4%	13.8%	25.6%	25.8%	14.3%
Difference	-1.4	-3.6	-3.0	3.8	4.3

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

Table 2 shows that the age profile of the NMDHB differs most from the national age profile in that it has 3.6% fewer people aged 15-24 and 4.3% more people aged 65+. Figure 7 shows the distribution of people in these two age groups.

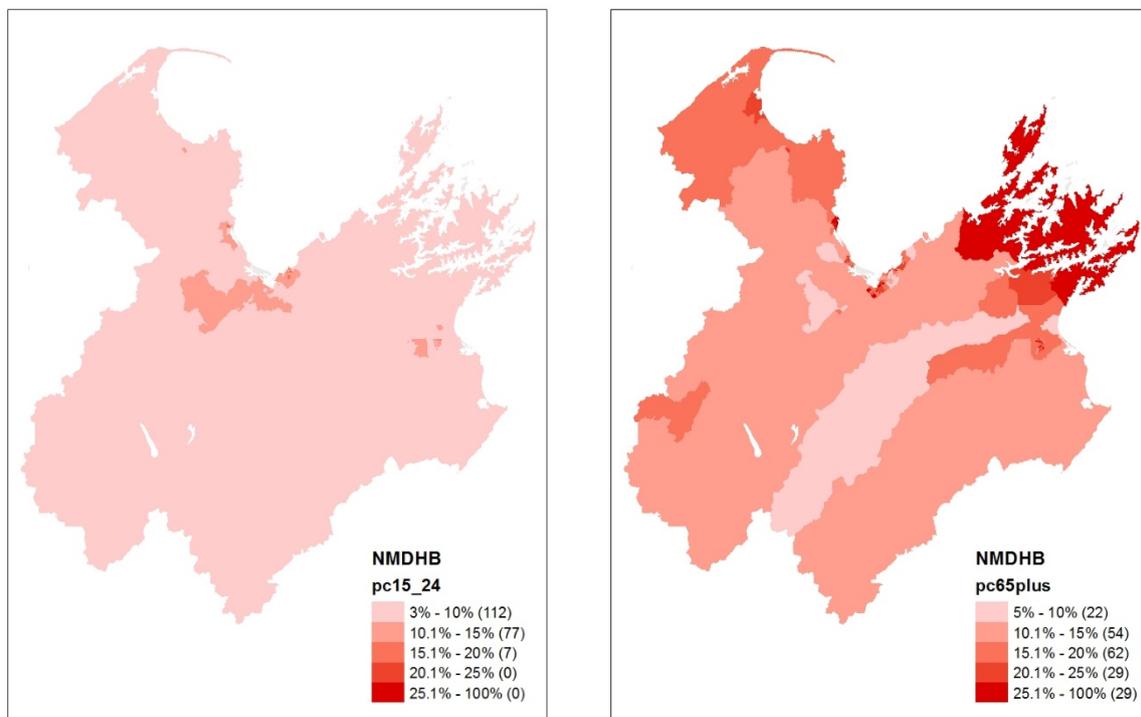


Figure 7. Distribution of people aged 15-24 and people aged 65+ in the NMDHB

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 Nelson Marlborough 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 NMDHB ranged from 1.6% to 24.9%. The overall proportion of Māori in the NMDHB was 9.4%, much lower than the national proportion of 14.9%. The proportion of Māori per data zone was greatest in a data zone located in Blenheim (24.9%), followed by Picton (24.7%) and Karaka (23.1%).

The proportion of Pacific ethnicity living in data zones within the NMDHB in 2013 ranged from 0.0% to 8.9%. The overall proportion of Pacific ethnicity was 1.5%, much lower than the national proportion of 7.3%. The proportion of Pacific people was greatest in a data zone located in Blenheim (8.9%), followed by Stepneyville (7.8%).

The percentage of New Zealand European and Other ethnicities (NZE0) living in data zones within the NMDHB ranged from 80.9% to 100.0%. The overall proportion of NZEO was 95.6%, which is greater than the national proportion of 87.5%. The lowest proportions of NZEO (<90%) lived in Motueka, Nelson, Picton, Blenheim and Seddon.

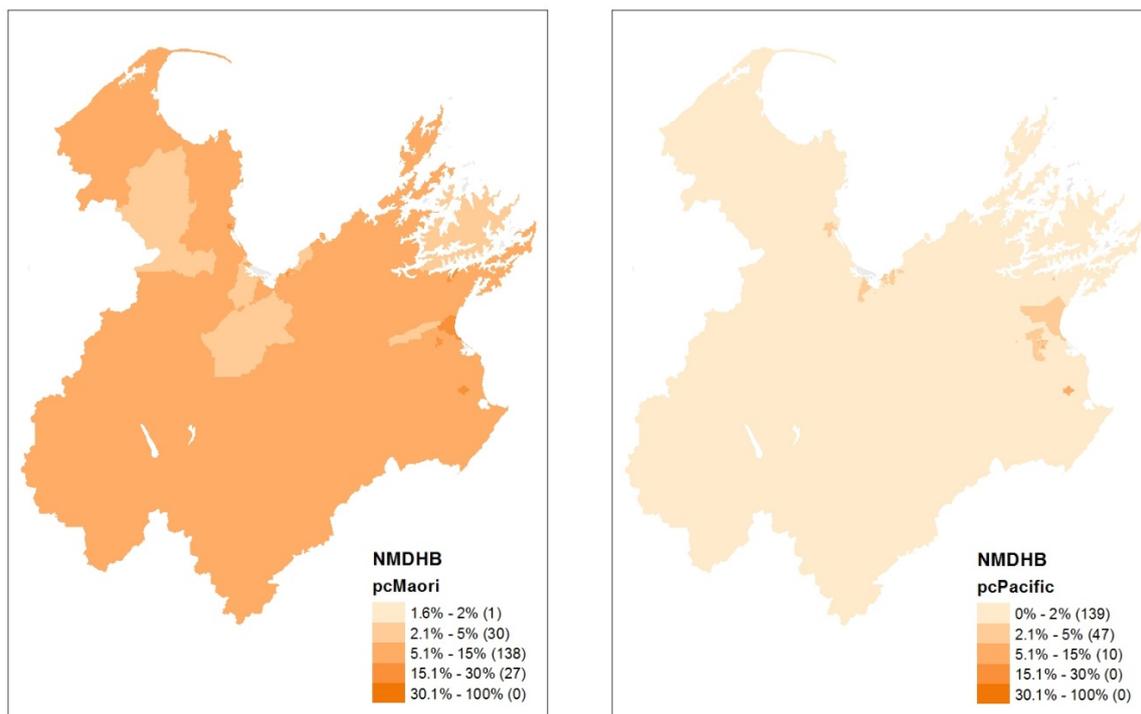


Figure 8. Distribution of Māori and Pacific people in the NMDHB

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