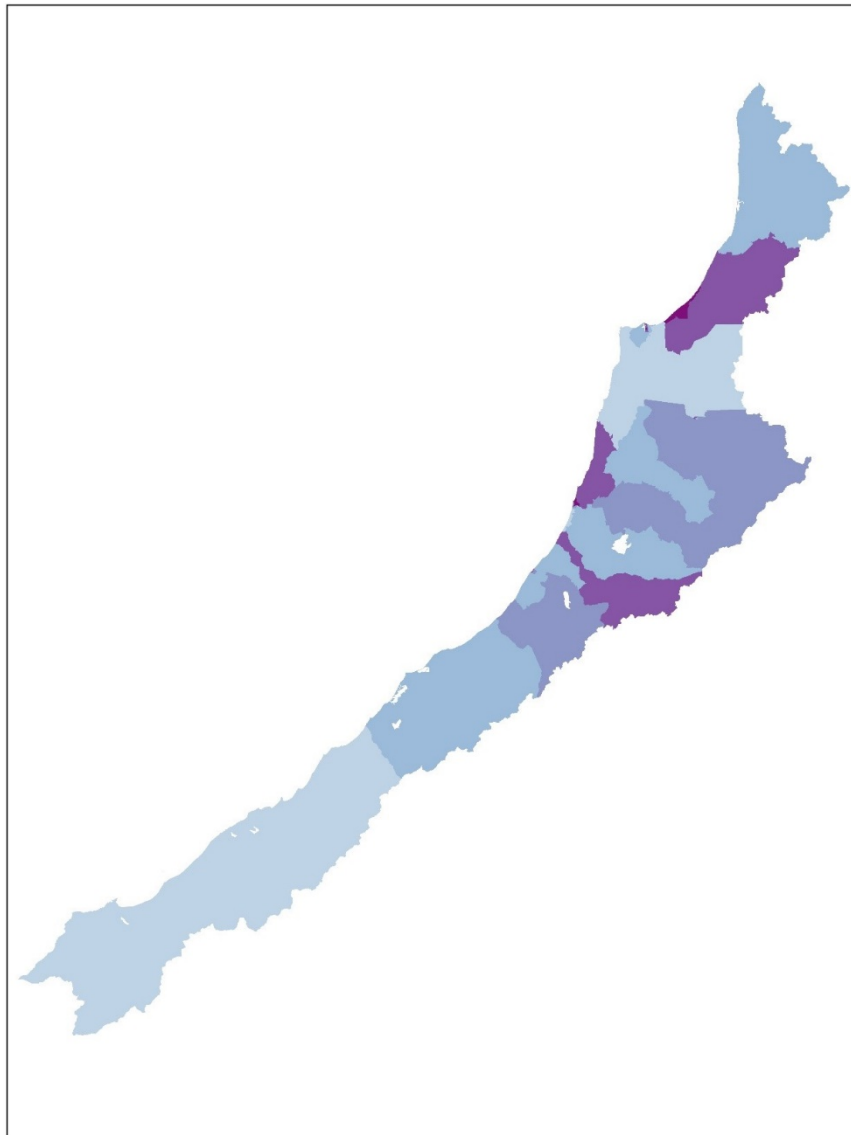


A deprivation and demographic profile of the West Coast DHB



West Coast 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
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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 West Coast 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.

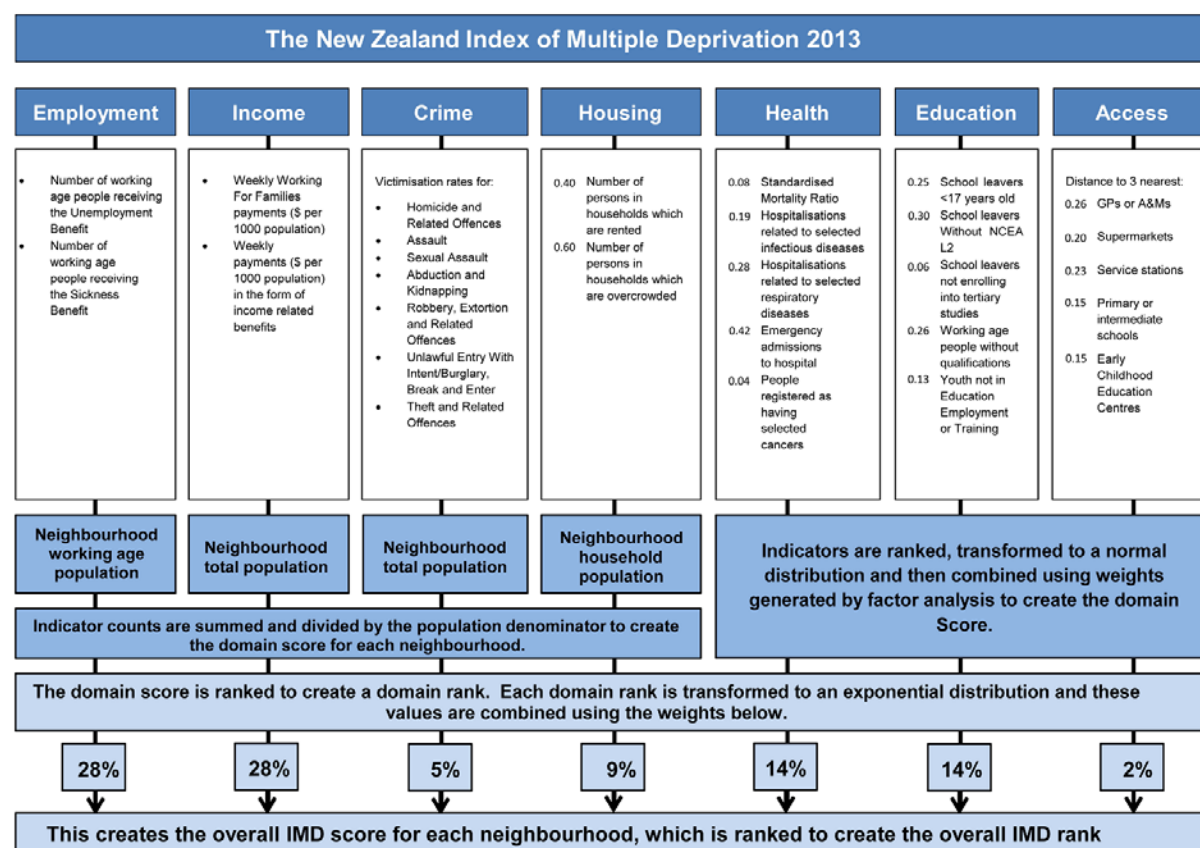


Figure 1. Flow diagram showing the IMD, its indicators, domains and weights. Adapted from Figure 4.2 SIMD 2012 Methodology, in Scottish Index of Multiple Deprivation 2012. Edinburgh: Scottish Government (Crown copyright 2012).

The stacked bar chart in Figure 2 shows the proportion of data zones in the West Coast DHB (WCDHB) that belonged to each deprivation quintile for overall IMD deprivation and the seven domains in 2013. If the deprivation circumstances in the WCDHB were the same as for all of NZ, we would see 20% of the WCDHB's 48 data zones in each quintile. However, Figure 2 shows that the proportion of data zones with Q5 deprivation was greater than 20% for the Employment, Education and Access domains. The proportion of data zones with Q4 deprivation was also greater than 20% for overall IMD deprivation, Employment, Income, Education and Access. The WCDHB had moderate levels of overall IMD deprivation, with 39.6% (19/48) of its data zones in Q4 or Q5.

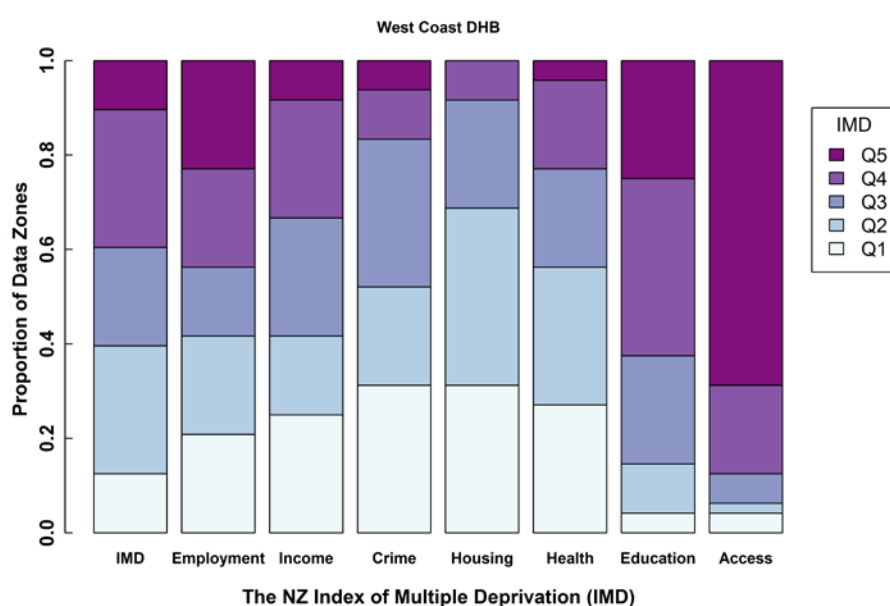


Figure 2. Stacked bar chart showing overall deprivation and seven domains in the WCDHB

Table 1 shows summary statistics by domain for the five WCDHB data zones that were among NZ's 20% most deprived (Q5) for the overall IMD and reveals the contributions of different domains. High (Q5) median deprivation ranks for Education (5556) and Employment (5395) were contributing to high overall deprivation in these five data zones in 2013, bearing in mind that these domains carry different weights in the IMD (see Figure 1).

Min, max and median ¹ IMD deprivation ranks by domain for 5 data zones with Q5 IMD								
	IMD	Employment	Income	Crime	Housing	Health	Education	Access
Min	4809	5040	3500	2496	1926	2226	3320	1002
Max	5110	5682	4863	5722	3897	5194	5843	5875
Median	5011	5395	4556	3704	3485	4522	5556	4462

Table 1. Minimum, maximum and median IMD deprivation ranks by domain for 5 WCDHB data zones 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).

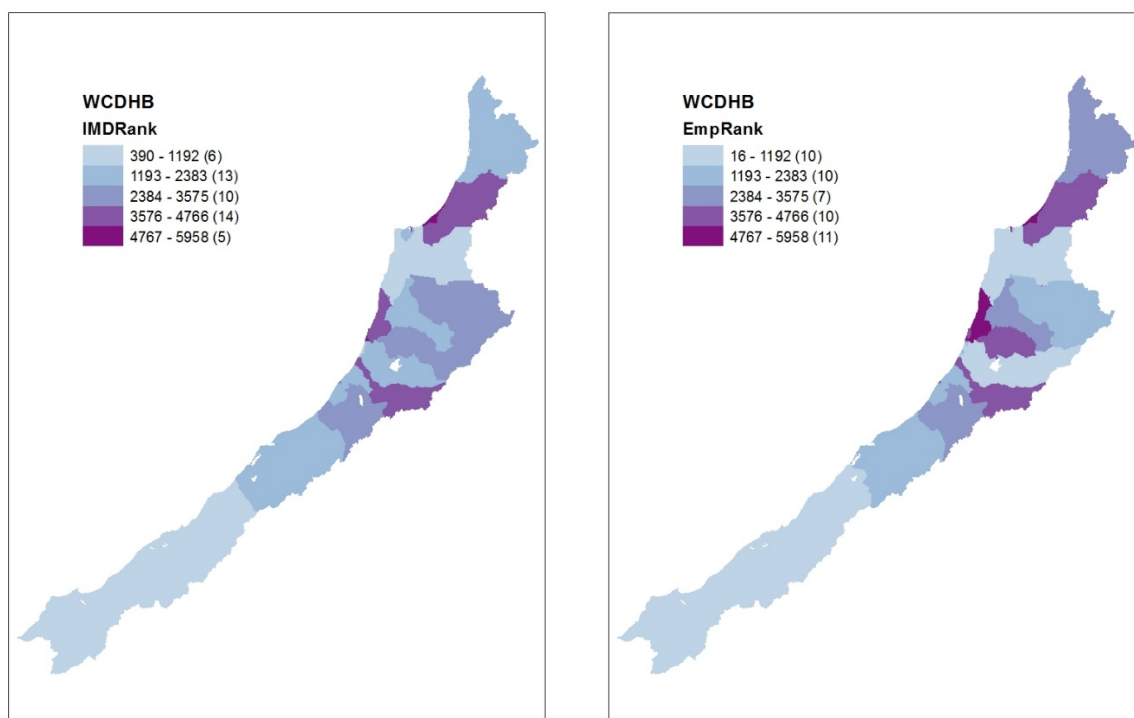


Figure 3. Distribution of overall IMD and employment deprivation in the WCDHB

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 relatively low levels of Q5 deprivation in the WCDHB. Only 10.4% (5/48) of data zones were among the most deprived 20% in NZ (Q5), while 12.5% (6/48) of data zones were among the least deprived 20% in NZ (Q1). The median IMD rank in the WCIMD was 2955, 0.4% (25 ranks) better than the NZ median of 2979. Three of the five Q5 data zones were in Greymouth and the other two were in Westport and Waimangaroa. 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 WCDHB 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 WCDHB, 22.9% (11/48) of data zones were among the 20% most deprived in NZ for the Employment Domain, while 20.8% (10/48) were in the least deprived 20%. The median employment deprivation rank in the WCDHB was 3319, 5.7% (340 ranks) worse than the NZ median. The distribution of Q5 employment deprivation followed a similar pattern to overall IMD deprivation, but there were six more Q5 data zones. There were three in Westport, one in Waimangaroa, four in Greymouth, and one each in Runanga, to the west of Blackball (rural), and Hokitika.

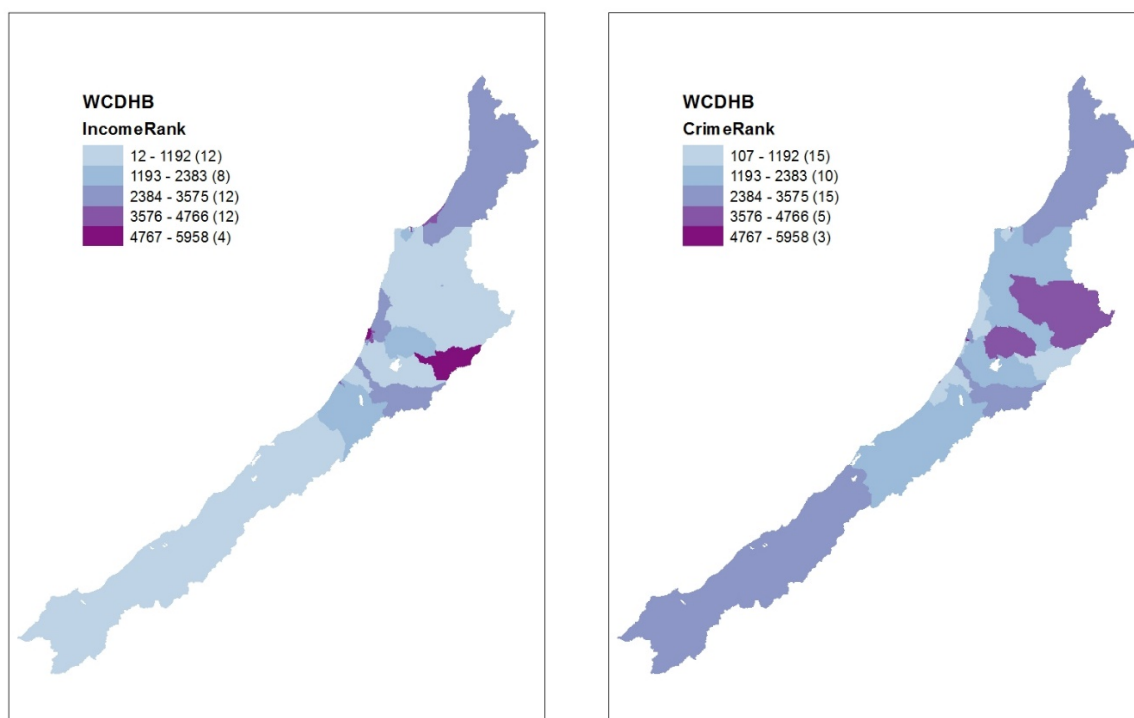


Figure 4. Distribution of income and crime deprivation in the WCDHB

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 WCDHB, only 8.3% (4/48) of data zones were among NZ's 20% most income deprived, while 25.0% (12/48) of data zones were among the 20% least income deprived. The median income deprivation rank in the WCDHB was 2666, 5.3% (314 ranks) better than the NZ median. Three of the four Q5 income deprived data zones were located in Greymouth and one was a large rural data zone near Lake Haupiri.

The Crime Domain measures victimisations per 1000 people and is largely driven by thefts (55%), burglaries (24%) and assaults (18%). In the WCDHB, only 6.3% (3/48) of data zones were among NZ's 20% most deprived for the Crime Domain, while 31.3% (15/48) were among the 20% least deprived. The median crime deprivation rank in the WCDHB was 2333, 10.9% (647 ranks) better than the NZ median. High (Q5) rates of crime victimization occurred in two data zones in Westport and one in Greymouth. Q4 rates of crime victimization occurred in Westport, Greymouth and Hokitika, but also in two large rural data zones, one in and around Arnold Valley, and the other to the south of Reefton.

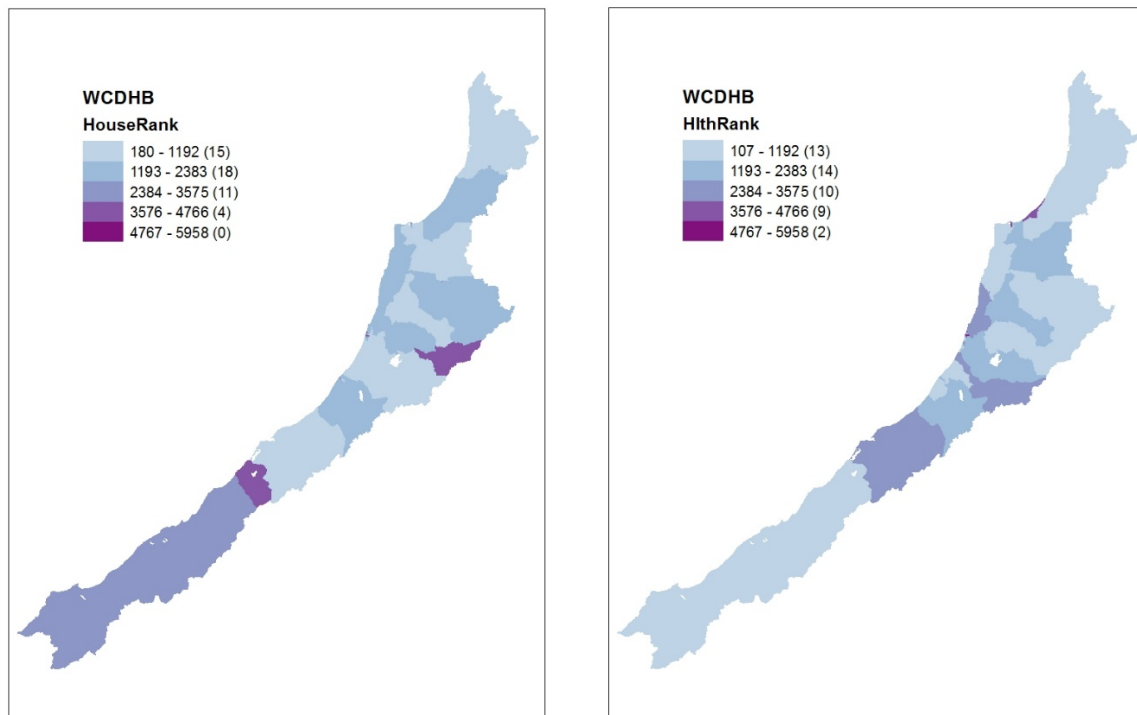


Figure 5. Distribution of housing and health deprivation in the WCDHB

The Housing Domain measures the proportion of people living in overcrowded households (60% of the weighting) and rented dwellings (40%) in 2003. In the WCDHB, 0% (0/48) of data zones were among the most deprived 20% in NZ, while 31.3% (15/48) of data zones were among the least deprived 20%. The median housing deprivation rank in the WCDHB was 1893, 18.2% (1087 ranks) better than the NZ median. There were four data zones with Q4 housing deprivation in Franz Josef, Greymouth (2) and a large rural data zone near Lake Haupiri.

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 WCDHB, only 4.2% (2/48) of data zones were among the 20% most health deprived in NZ, while 27.1% (13/48) were among the 20% least deprived. The median health deprivation rank in the WCDHB was 2272, 11.9% (707 ranks) better than the NZ median. The two data zones with Q5 health deprivation were located in Westport and Greymouth.

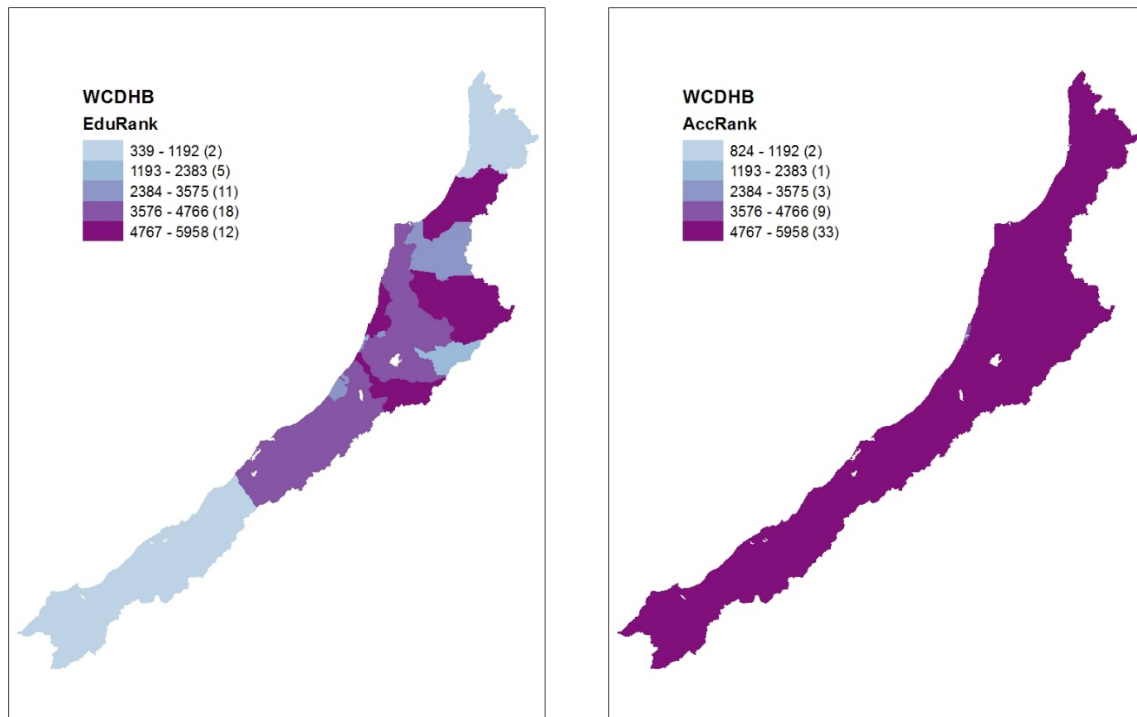


Figure 6. Distribution of education and access deprivation in the WCDHB

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 WCDHB, 25.0% (12/48) of data zones were among NZ's 20% most education deprived, while only 4.2% (2/48) were in the least deprived 20%. The median education deprivation rank in the WCDHB was 3959, 16.4% (980 ranks) worse than the NZ median. High Q5 levels of education deprivation were located in four urban data zones (three in Greymouth and one in Westport) and in eight rural data zones: Waimangaroa, a large rural data zone near Waimarie, another to the south of Reefton, another to the west of Blackball, and one along the Arthur's Pass road.

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 WCDHB, 66.8% (33/48) of data zones were among NZ's 20% most access deprived, while only 4.2% (2/48) were in NZ's 20% least deprived. The median access deprivation rank in the WCDHB was 5611, 44.2% (2632 ranks) worse than the NZ median. Predictably, the entire rural part of the WCDHB had Q5 access deprivation.

Age profile of the West Coast DHB

According to the 2013 census, the WCDHB had a total population of 32,142 people living in 48 data zones, with a mean of 670 people each (range: 510 to 933).

Mean data zone proportions for five age groups in the WCDHB					
Age group	0-14	15-24	25-44	45-64	65+
West Coast	19.1%	10.9%	23.1%	30.7%	16.1%
New Zealand ²	20.4%	13.8%	25.6%	25.8%	14.3%
Difference	-1.3%	-2.9%	-2.5%	4.9%	1.8%

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

Table 2 shows that the age profile of the WCDHB differs most from the national age profile in that it has 2.9% fewer people aged 15-24 and 4.9% more people aged 45-64. Figure 7 shows the distribution of people in these two age groups.

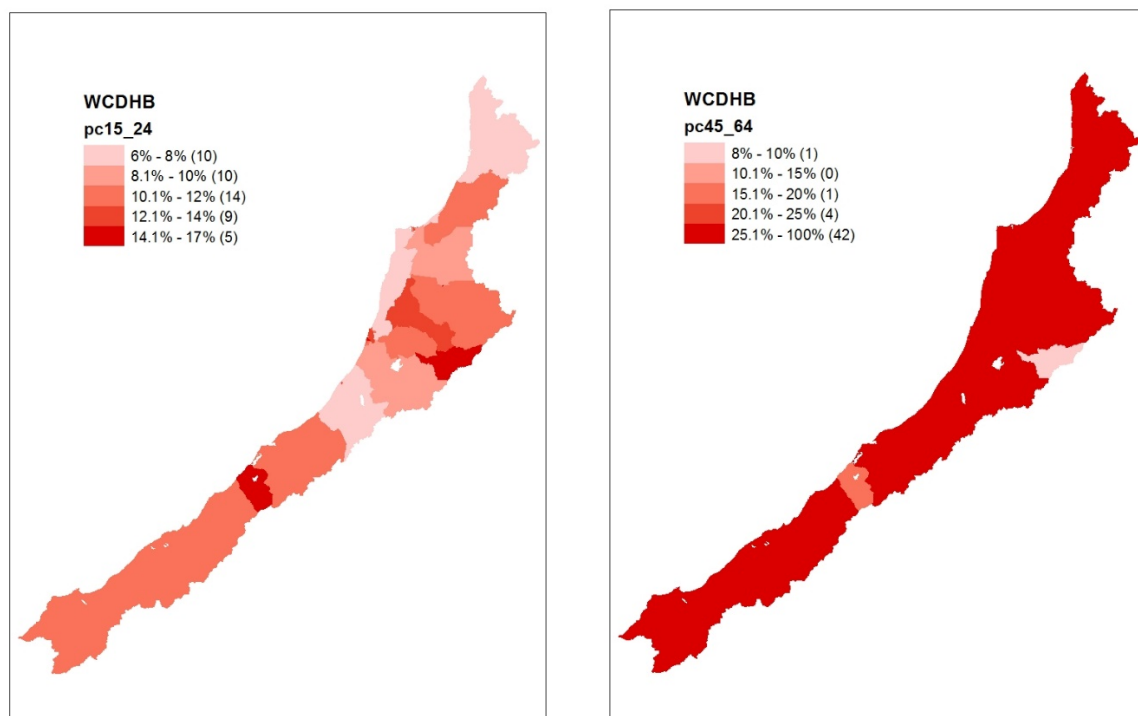


Figure 7. Distribution of people aged 15-24 and people aged 45-64 in the WCDHB

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 West Coast 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 WCDHB ranged from 5.4% to 20.8%. The overall proportion of Māori in the WCDHB was 10.6%, significantly lower than the national proportion of 14.9%. The proportion of Māori per data zone was greatest in two Hokitika data zones (20.8% and 19.1%).

The proportion of Pacific ethnicity living in data zones within the WCDHB in 2013 ranged from 0.0% to 3.4%. The overall proportion of Pacific ethnicity was 0.9%, much lower than the national proportion of 7.3%. The proportion of Pacific was greatest in a data zone located in Cobden (3.4%).

The percentage of New Zealand European and Other ethnicities (NZEO) living in data zones within the WCDHB ranged from 90.6% to 99.4%. The overall proportion of NZEO in the WCDHB was 96.0%. The lowest proportions of NZEO (<95%) were located in Cobden, Greymouth, Reefton and Westport, as well as in the entire southern part of the DHB, from just south of Franz Josef to well beyond Haast.

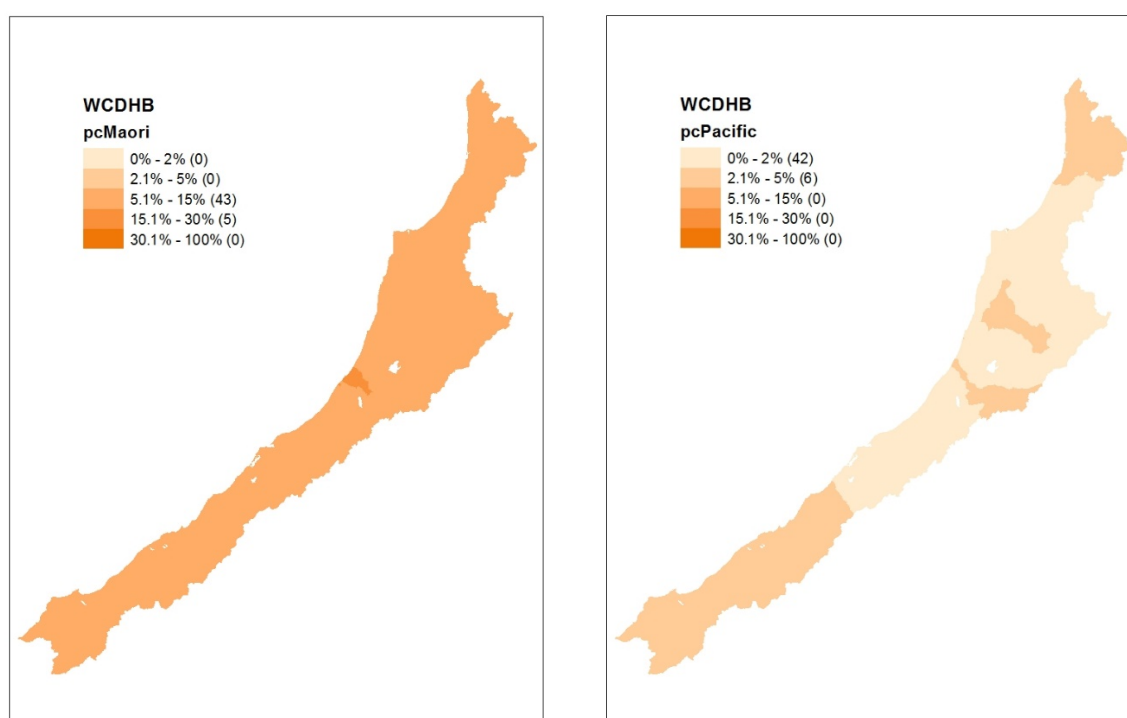


Figure 8. Distribution of Māori and Pacific people in the WCDHB

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](#).