

A deprivation and demographic profile of the South Canterbury DHB



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

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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 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.

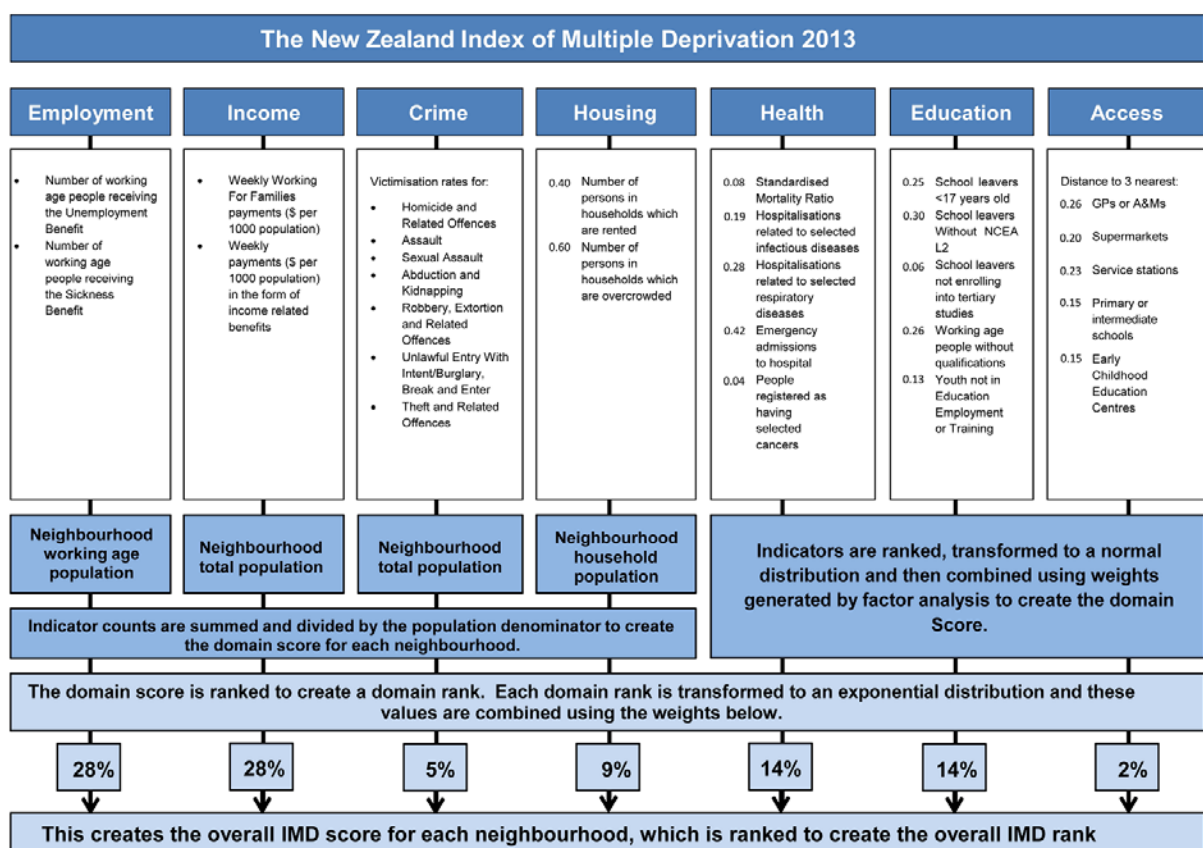


Figure 1. Flow diagram showing the IMD, its indicators, domains and weights. Adapted from Figure 4.2 SIMD 2012 Methodology, in Scottish Index of Multiple Deprivation 2012. Edinburgh: Scottish Government (Crown copyright 2012).

The stacked bar chart in Figure 2 shows the proportion of data zones in the South Canterbury DHB (SCDHB) that belong to each deprivation quintile for overall IMD deprivation and the seven domains in 2013. If the deprivation circumstances in the SCDHB were the same as for all of NZ, we would see 20% of the SCDHB's 78 data zones in each quintile. However, Figure 2 shows that the proportion of data zones with Q5 deprivation was significantly less than 20% for the overall IMD and all domains except Access and Education. The proportion of data zones with Q4 deprivation was less than 20% for the IMD and all domains except for Income and Education. The SCDHB has low levels of overall IMD deprivation, with only 23.1% (18/78) of its data zones either in Q4 or Q5.

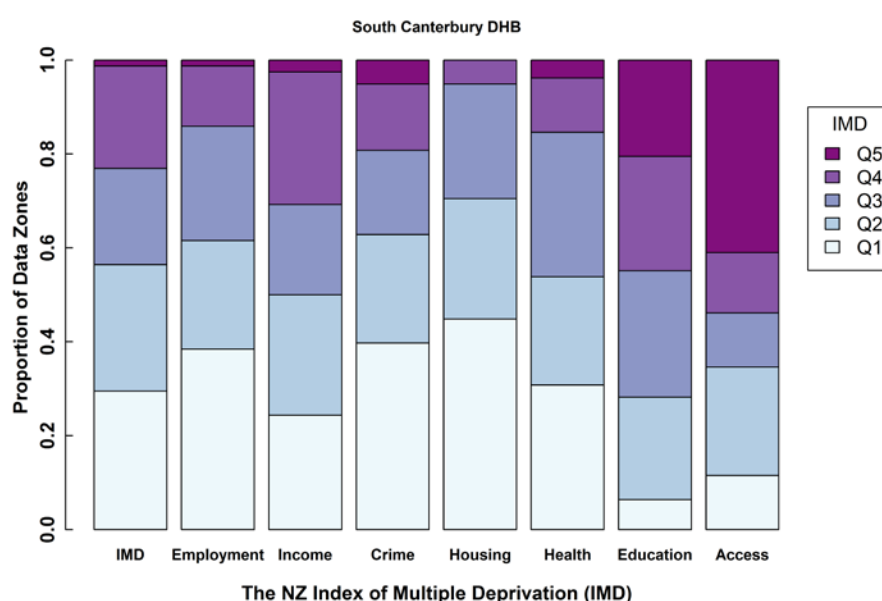


Figure 2. Stacked bar chart showing overall deprivation and seven domains in the South Canterbury

Table 1 shows summary statistics by domain for the SCDHB's 18 most deprived (Q4 and Q5 combined) data zones for the IMD and reveals the contributions of different domains. High median deprivation ranks for Education (4960) and Income (4369) were contributing to high overall IMD deprivation in these 18 data zones in 2013, bearing in mind that these domains carry different weights in the IMD (see Figure 1).

Min, max and median ¹ ranks by domain for 18 data zones with Q4 or Q5 IMD								
	IMD	Employment	Income	Crime	Housing	Health	Education	Access
Min	3583	2934	3687	1197	1241	1552	3766	387
Max	5026	5128	4853	5805	4386	5835	5705	5250
Median	4173	3767	4369	3509	3053	3556	4960	2150

Table 1. Minimum, maximum and median deprivation ranks by domain for 18 Q4 and Q5 IMD data zones in the SCDHB

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).

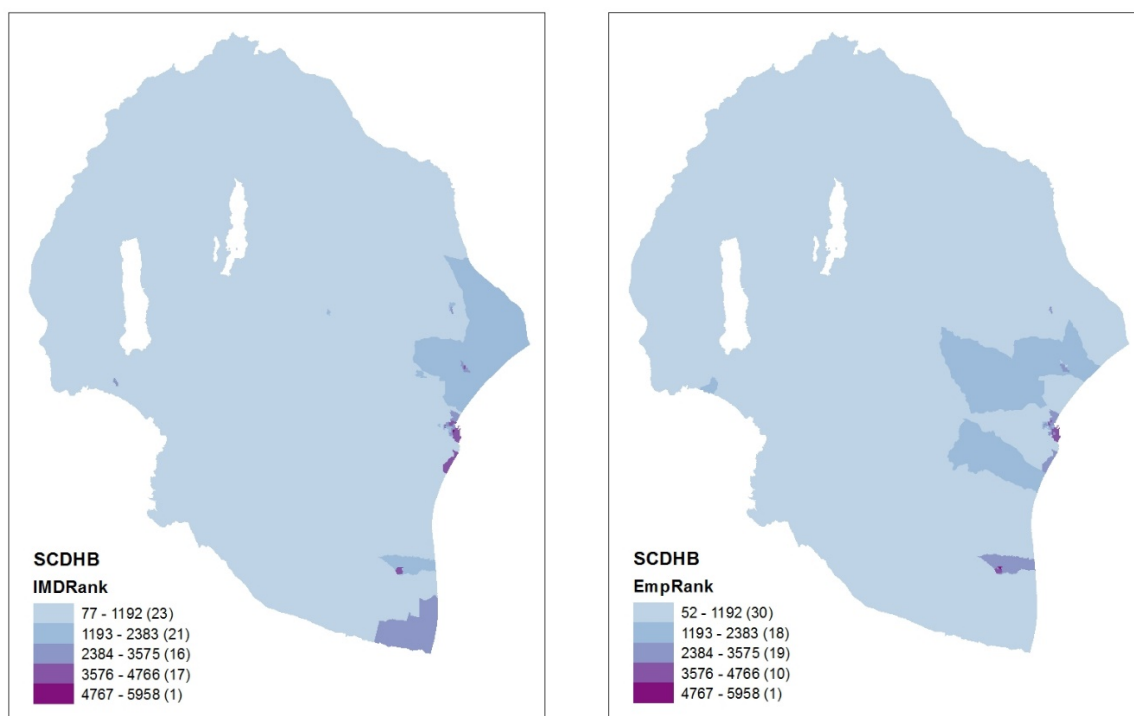


Figure 3. Distribution of overall IMD and employment deprivation in the SCDHB

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 (IMD) on the left of Figure 3 shows very low levels of Q5 deprivation in the SCDHB. Only 1.3% (1/78) of its data zones were among the most deprived 20% in NZ (Q5), while 29.5% (23/78) were in the least deprived 20% (Q1). The median IMD rank in the SCDHB was 2017, 16.2% (963 ranks) better than the NZ median of 2979. There was only one Q5 data zone in the SCDHB, located in Seaview in Timaru, and there were 17 Q4 data zones in Temuka, Timaru, Pareora and Waimate. 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 SCDHB further.

The Employment Domain measures the proportion of working age people who are receiving the Unemployment or Sickness Benefits. In the SCDHB, only 1.3% (1/78) of data zones were among the 20% most deprived in NZ for the Employment Domain, while 38.5% (30/78) of data zones were among the least deprived 20%. The median employment deprivation rank in the SCDHB was 1460, 25.5% (1519 ranks) better than the NZ median. There was only one Q5 employment deprived data zone, and it was located in Waimate. Of the ten Q4 data zones, eight were concentrated in Timaru in Parkside, Seaview and Marchwiell and two were in Waimate.

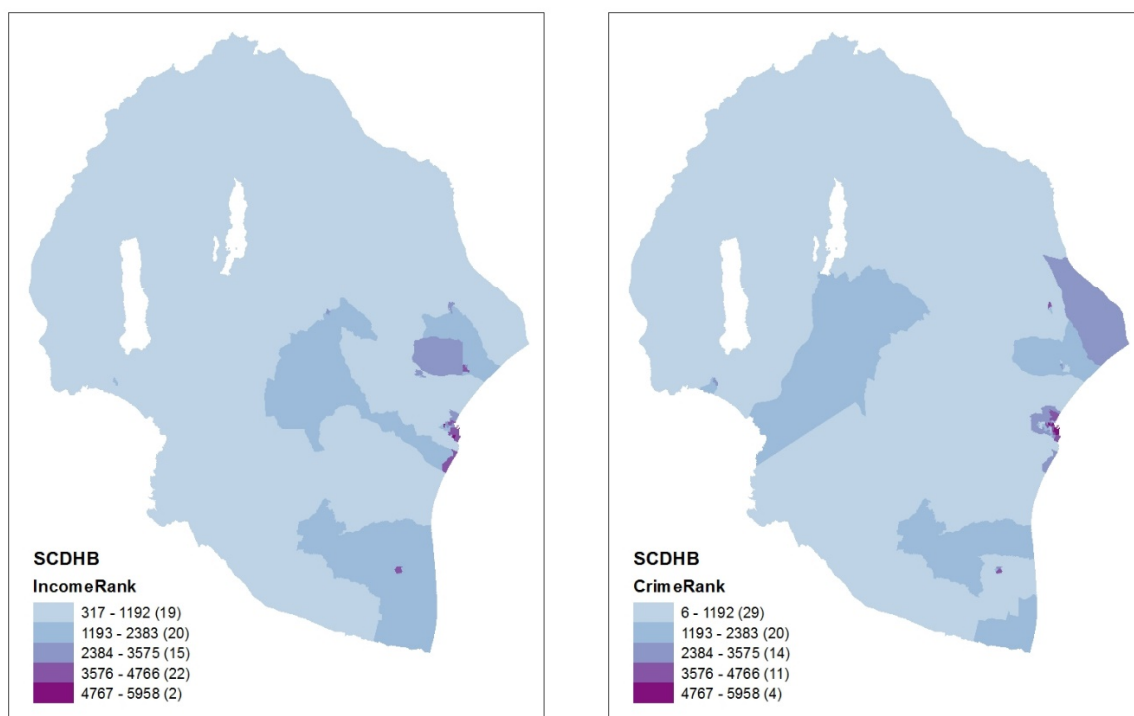


Figure 4. Distribution of income and crime deprivation in the SCDHB

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 SCDHB, only 2.6% (2/78) of data zones were among NZ's 20% most income deprived, while 24.4% (19/78) of data zones were among the 20% least income deprived. The median income deprivation rank in the SCDHB was 2379, 10.1% (601 ranks) better than the NZ median. Q5 levels of income deprivation occurred in Glenwood and Kensington, and Q4 data zones were concentrated in Timaru and in small towns such as Pareora, Temuka and Waimate.

The Crime Domain measures victimisations per 1000 people and is largely driven by thefts (55%), burglaries (24%) and assaults (18%). In the SCDHB, only 5.1% (4/78) of data zones were among the most deprived 20% for the Crime Domain, while 39.7% (31/78) were among the least deprived 20%. The median crime deprivation rank in the SCDHB was 1592, 23.3% (1387 ranks) better than the NZ median. High (Q5) levels of crime deprivation occurred in Parkside, Timaru Central, Waimataitai and Marchwiell.

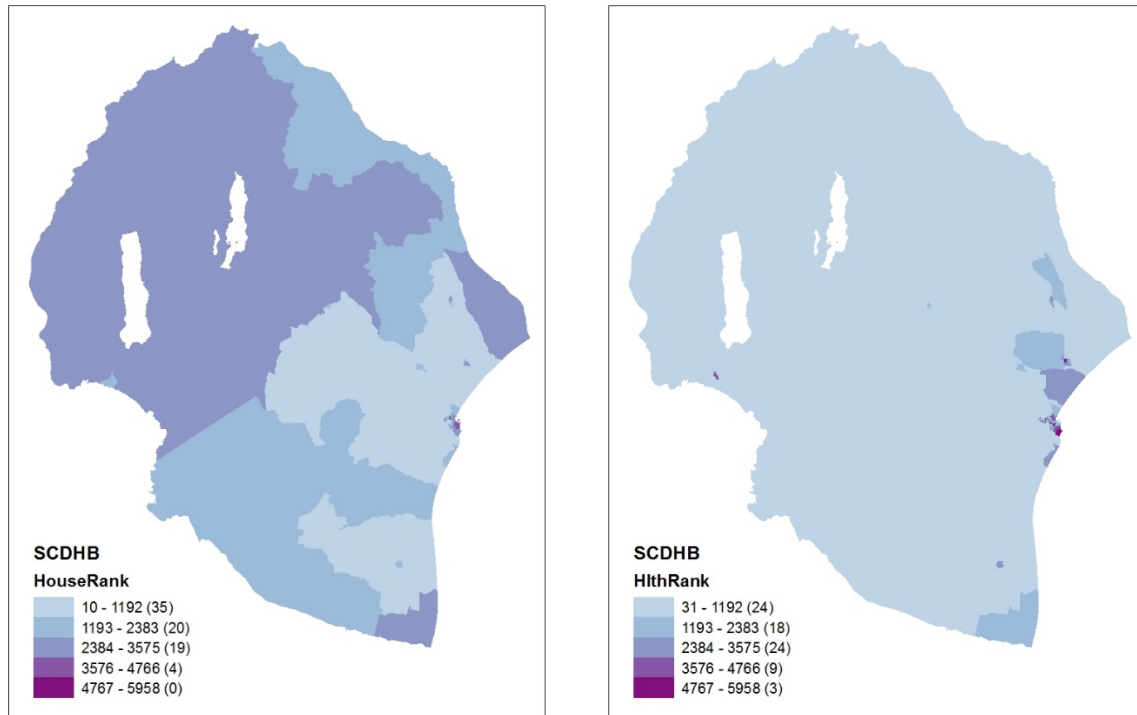


Figure 5. Distribution of housing and health deprivation in the SCDHB

The Housing Domain measures the proportion of people living in overcrowded households (60% of the weighting) and in rented dwellings (40%). In the SCDHB, there were no data zones among the most deprived 20% in NZ, while 44.9% (35/78) of data zones were among the least deprived 20%. The median housing deprivation rank in the SCDHB was 1307, 28.1% (1672 ranks) better than the NZ median. There were four data zones with Q4 levels of housing deprivation in Marchwiell, Glenwood, Seaview and Parkside.

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 SCDHB, only 3.8% (3/78) of data zones were among the 20% most health deprived in NZ, while 30.8% (42/78) were among the least deprived 20%. The median health deprivation rank in the SCDHB was 2249, 12.3% (731 ranks) better than the NZ median. There were three Q5 health deprived data zones located in Temuka, Seaview and Redruth. Q4 data zones were concentrated in Timaru, but there was one in Twizel.

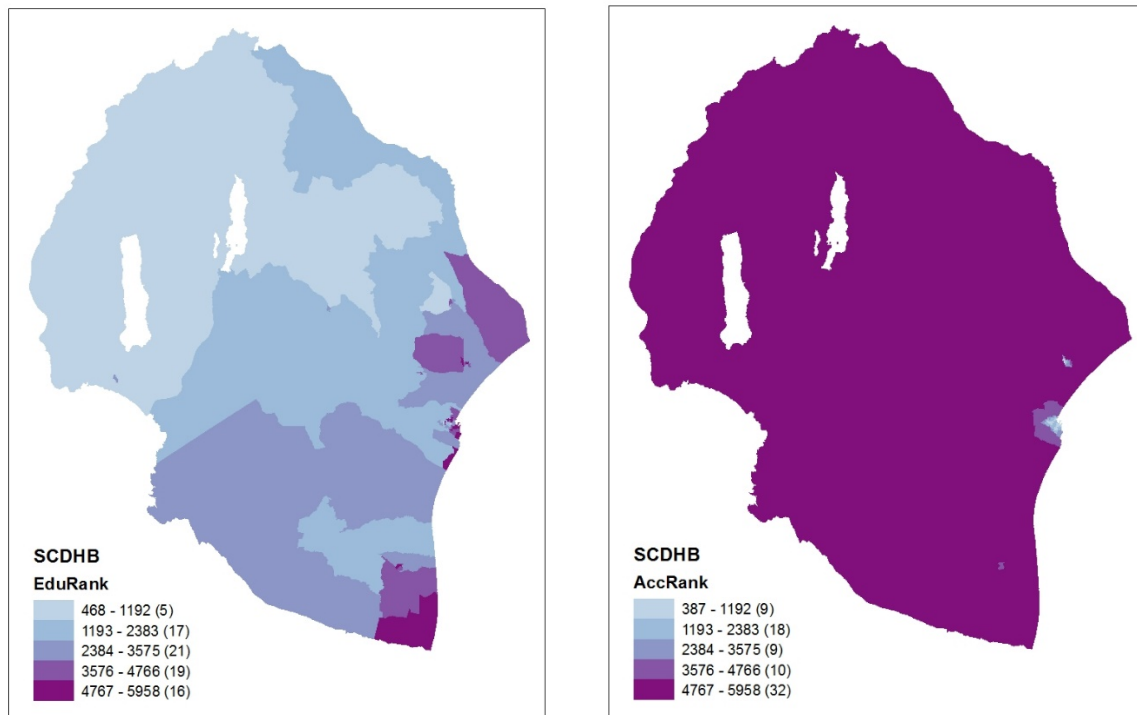


Figure 6. Distribution of education and access deprivation in the SCDHB

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 SCDHB, 20.5% (16/78) of data zones were among NZ's 20% most education deprived, while only 6.4% (5/78) were among the least deprived 20%. The median education deprivation rank in the SCDHB was 3445, 7.8% (466 ranks) worse than the NZ median. Q5 levels of education deprivation occurred in many urban areas and in small towns in the SCDHB such as Temuka, Timaru, Pareora, and Waimate. There was also a large rural Q5 data zone that extended uninterrupted from Tawai to Glenavy up to Morven and Grays Corner.

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 SCDHB, 41.0% (32/78) of data zones were among NZ's 20% most access deprived, while 11.5% (9/78) were among NZ's 20% least deprived. The median access deprivation rank in the SCDHB was 3918, 15.8% (939 ranks) worse than the NZ median. High (Q5) levels of access deprivation occurred outside the urban areas of Timaru, Temuka and Waimate.

Age profile of the South Canterbury DHB

According to the 2013 census, the SCDHB had a total population of 55,611 people living in 78 data zones, with a mean of 713 people each (range: 495 to 972).

Mean data zone proportions for five age groups in the SCDHB					
Age group	0-14	15-24	25-44	45-64	65+
South Canterbury DHB	18.2%	10.9%	21.4%	29.2%	20.4%
New Zealand ²	20.4%	13.8%	25.6%	25.8%	14.3%
Difference	-2.2	-2.9	-4.2	3.4	6.1%

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

Table 2 shows that the age profile of the SCDHB differs most from the national age profile in that it has 4.2% fewer people aged 25-44 and 6.1% more people aged 65+. Figure 7 shows the distribution of people in these two age groups.

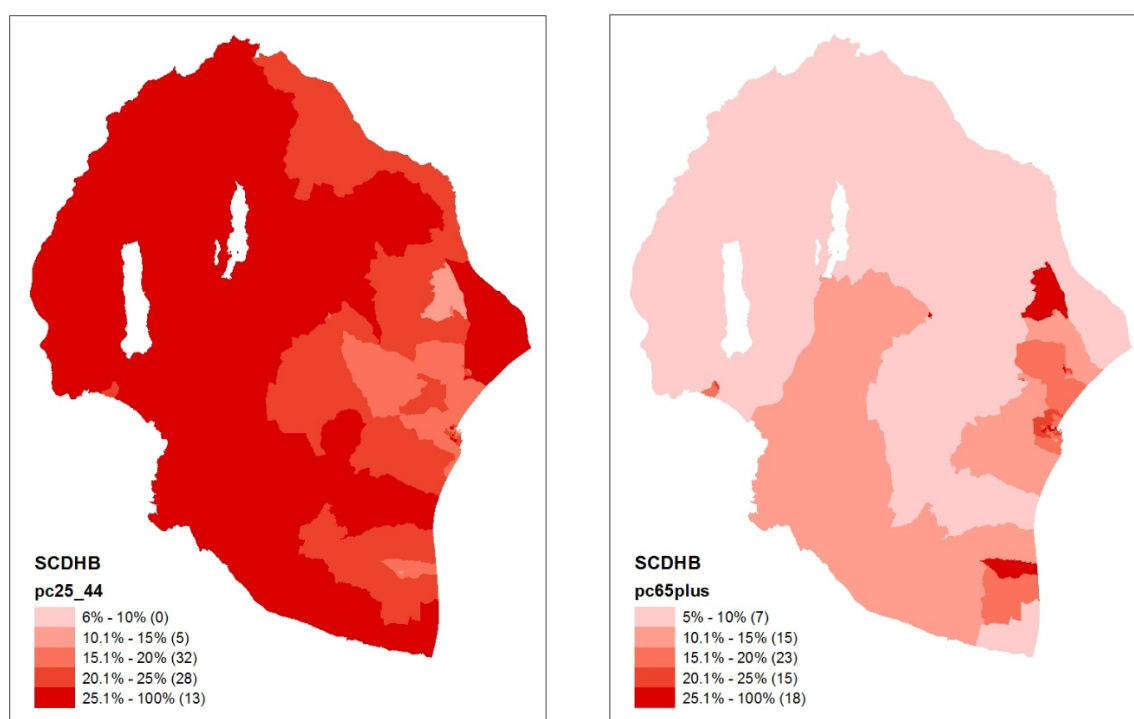


Figure 7. Distribution of people aged 25-44 and people aged 65+ in the SCDHB

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 South Canterbury 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 SCDHB in 2013 ranged from 1.7% to 15.8%. The overall proportion of Māori was 7.2%, which was less than half the national proportion of 14.9%. The proportion of Māori per data zone was greatest in a data zone located in Temuka (15.8%), followed by one in Timaru (13.9%). Data zones with the greatest proportions of Māori (>10%) were located in urban areas such as Parkside, Seaview, Glenwood, Pleasant Point and Temuka.

The proportion of Pacific ethnicity living in data zones within the SCDHB ranged from 0.0% to 4%. The overall proportion of Pacific ethnicity was 0.8%, which is significantly lower than the national proportion of 7.3%. The data zone with the highest proportion of Pacific people was located in Redruth (4.0%), and there are slightly lower proportions in areas such as Timaru, Pareora, Normanby, Temuka and Twizel.

The proportion of New Zealand European and Other ethnicities (NZEO) in the SCDHB ranged from 93.1% to 100%. The overall proportion of NZEO was 97%, much higher than the national proportion of 87.2%, and they were distributed throughout the DHB.

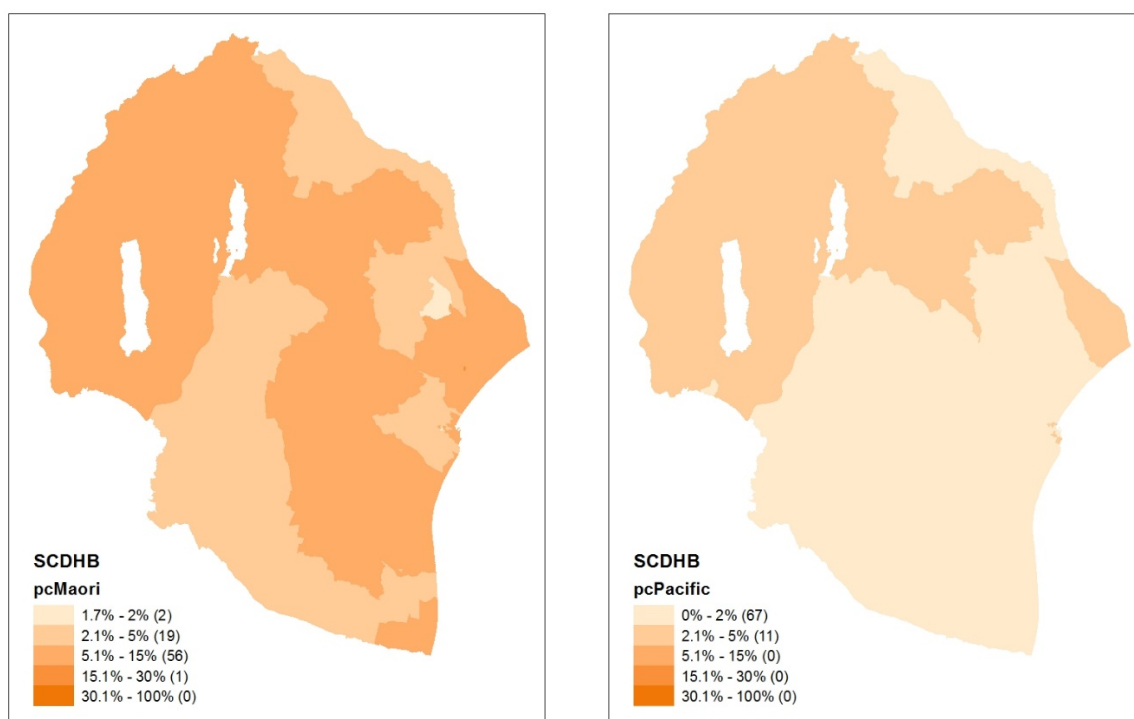


Figure 8. Distribution of Māori and Pacific people in the SCDHB

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](http://www.imd.org.nz).