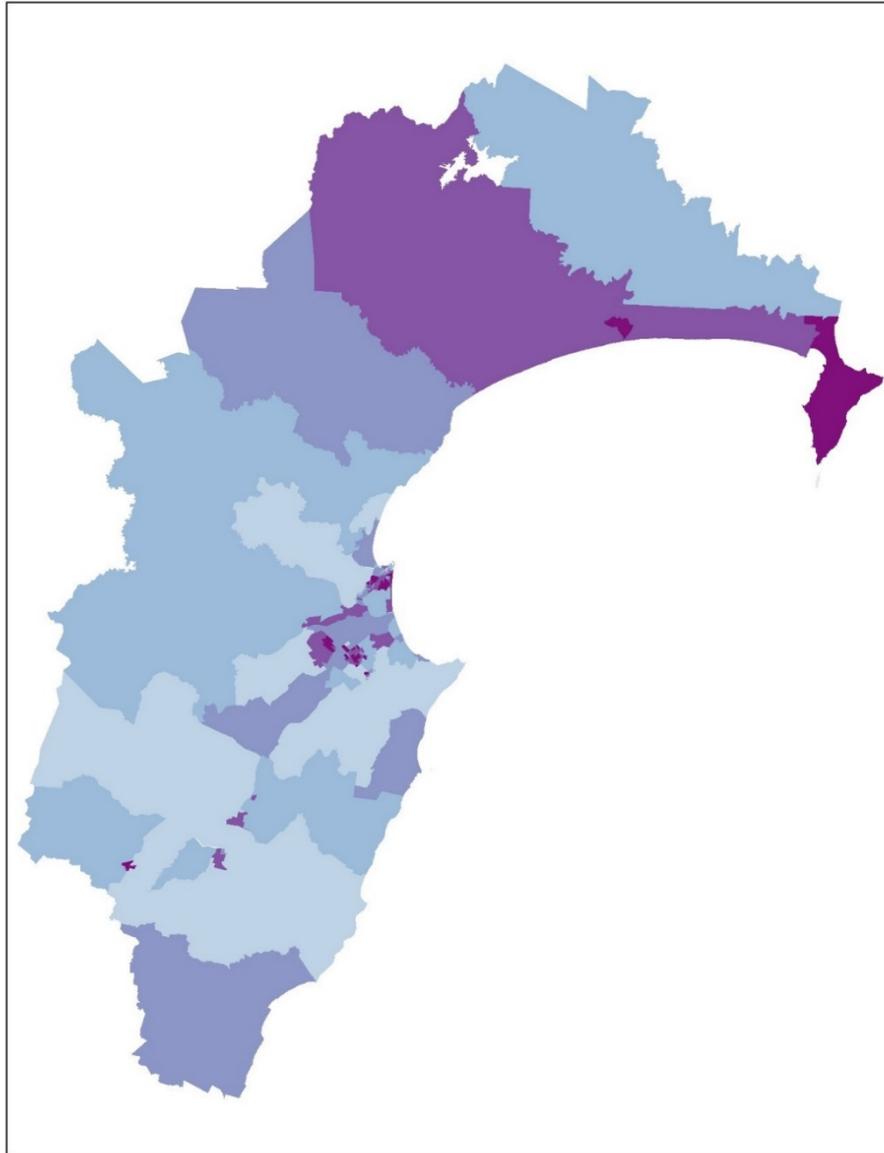


# A deprivation and demographic profile of the Hawke's Bay DHB



Hawke's Bay DHB, showing overall IMD deprivation with the most deprived areas shaded darkest

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## Statistics New Zealand Disclaimer

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](http://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.

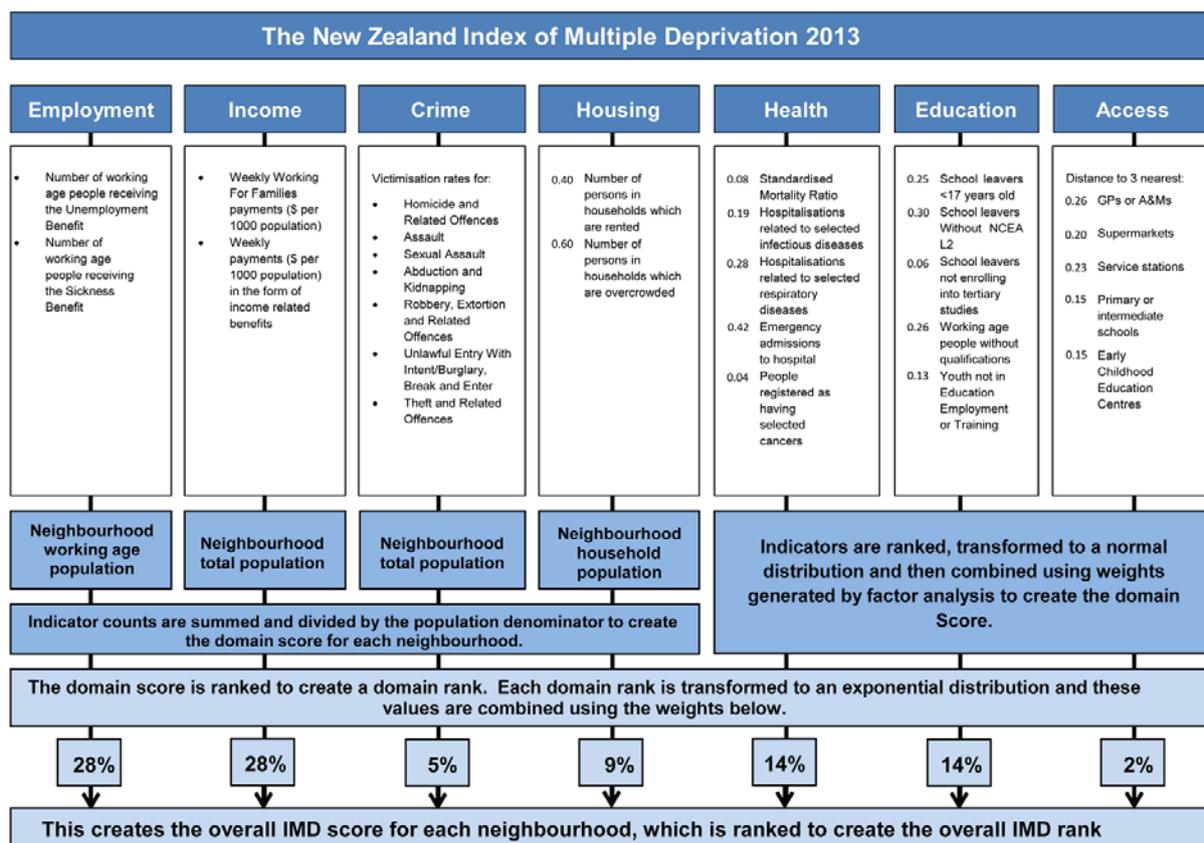
## Acknowledgments

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## A deprivation and demographic profile of the Hawke's Bay DHB

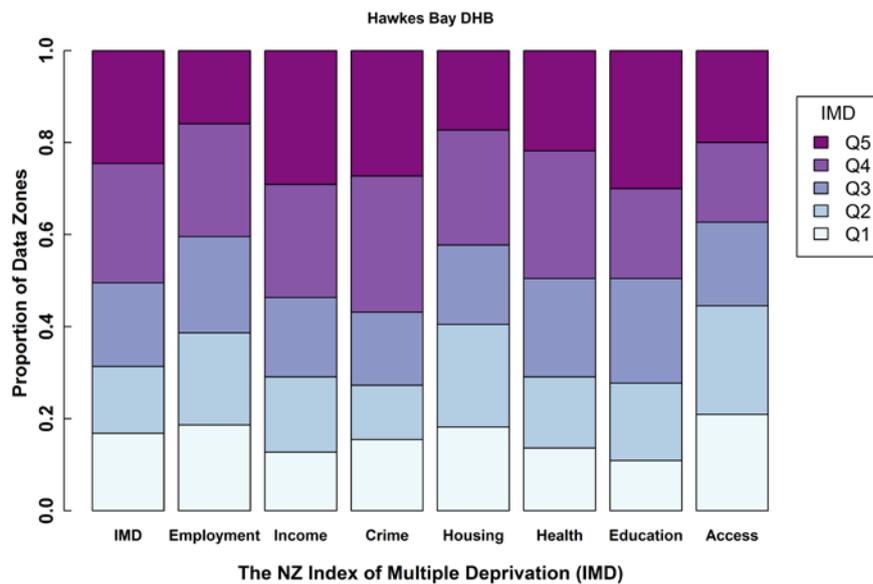
The New Zealand Index of Multiple Deprivation (IMD) allows one to look at disadvantage in overall terms, as well as in terms of seven domains of deprivation: Employment, Income, Crime, Housing, Health, Education and Access. The seven domains are weighted to reflect the relative importance of each domain 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 Hawke’s Bay DHB (HBDHB) that belong to each deprivation quintile for overall IMD deprivation and for the seven domains. If the deprivation circumstances were the same as all of NZ, we would see 20% of the HBDHB 220 data zones to be in each quintile. However, Figure 2 shows this not to be the case. The proportion of data zones with Q5 deprivation was greater than 20% for overall (IMD) deprivation and for all the domains except Employment, Housing and Access. The proportion of data zones with Q4 deprivation was also greater than 20% for all the domains except Education and Access. The HBDHB has high levels of overall IMD deprivation, with 50.5% (111/220) of its data zones in either Q4 or Q5.



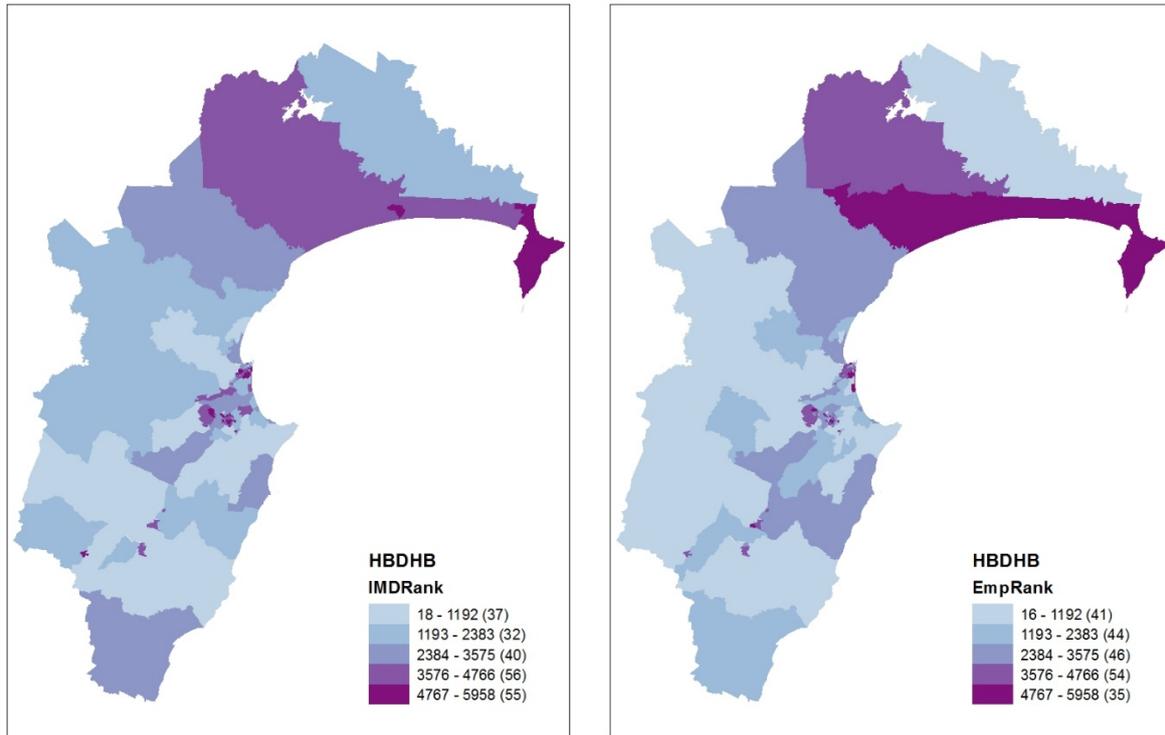
**Figure 2. Stacked bar chart showing overall deprivation and seven domains in the HBDHB**

Table 1 shows summary statistics by domain for the 54 HBDHB 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 (5647), Education (5557), Health (5088), Housing (5076) and Employment (4829) were contributing to high overall deprivation in these 54 data zones in 2013, bearing in mind that these domains carry different weights in the IMD (see Figure 1).

Min, max and median <sup>1</sup> deprivation ranks by domain for 54 data zones with Q5 IMD								
	IMD	Employment	Income	Crime	Housing	Health	Education	Access
Min	4786	2413	3042	2926	3749	2832	3731	9
Max	5910	5917	5950	5956	5889	5933	5955	5915
Median	5407	4829	5647	5010	5076	5088	5557	1922

**Table 1. Minimum, maximum and median deprivation ranks for 54 data zones within the HBDHB with Q5 IMD deprivation**

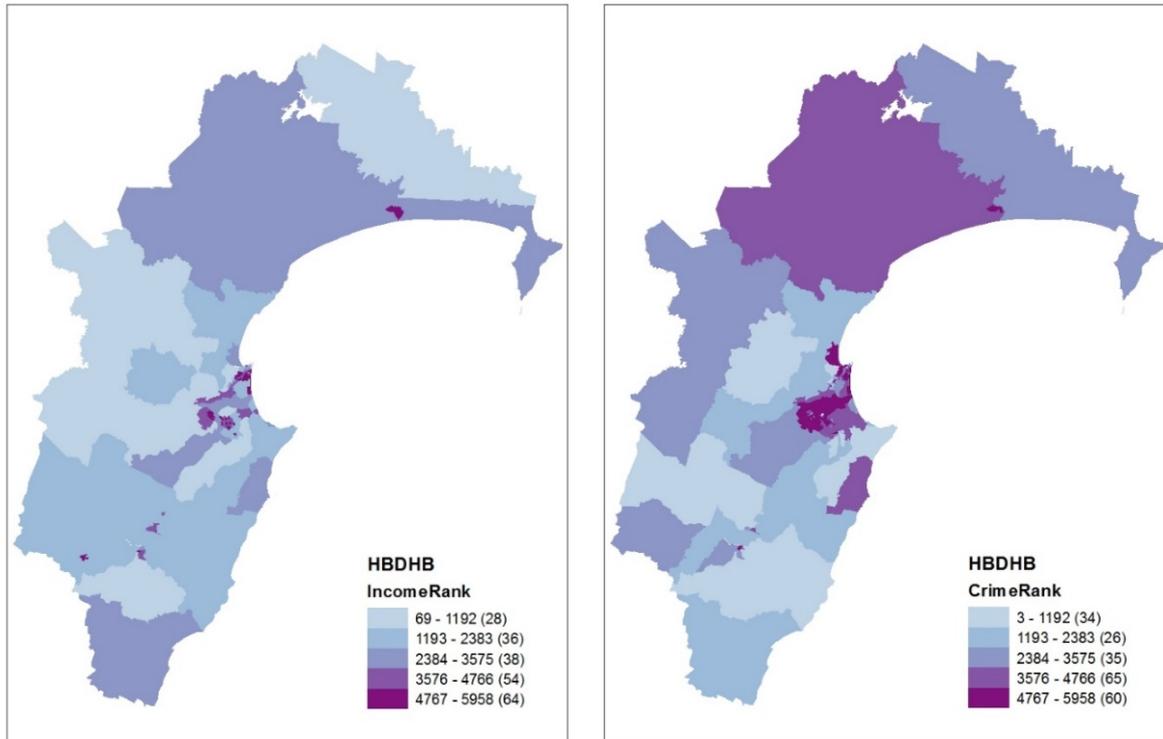
<sup>1</sup> When discussing the 20% most deprived data zones, ranks will usually be skewed, so it is better to discuss the median rank (the middle value) rather than the mean rank (the average, which can be disproportionately affected by very high values).



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

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) deprivation on the left of Figure 3 shows high levels of Q5 deprivation in the HBDHB. 24.5% (54/220) of data zones in HBDHB were among the most deprived 20% in NZ, while only 16.8% (37/220) were in the least deprived 20% (Q1). The median deprivation rank in the HBDHB was 3586, 10.2% (607 ranks) worse than the NZ median of 2979. Most of the Q5 data zones were concentrated near the eastern coast of the HBDHB, but six of the 56 Q5 data zones were located in Wairoa. Urban data zones are difficult to see on these maps, so we suggest that readers use the interactive maps at the [IMD website](#) to further explore the HBDHB.

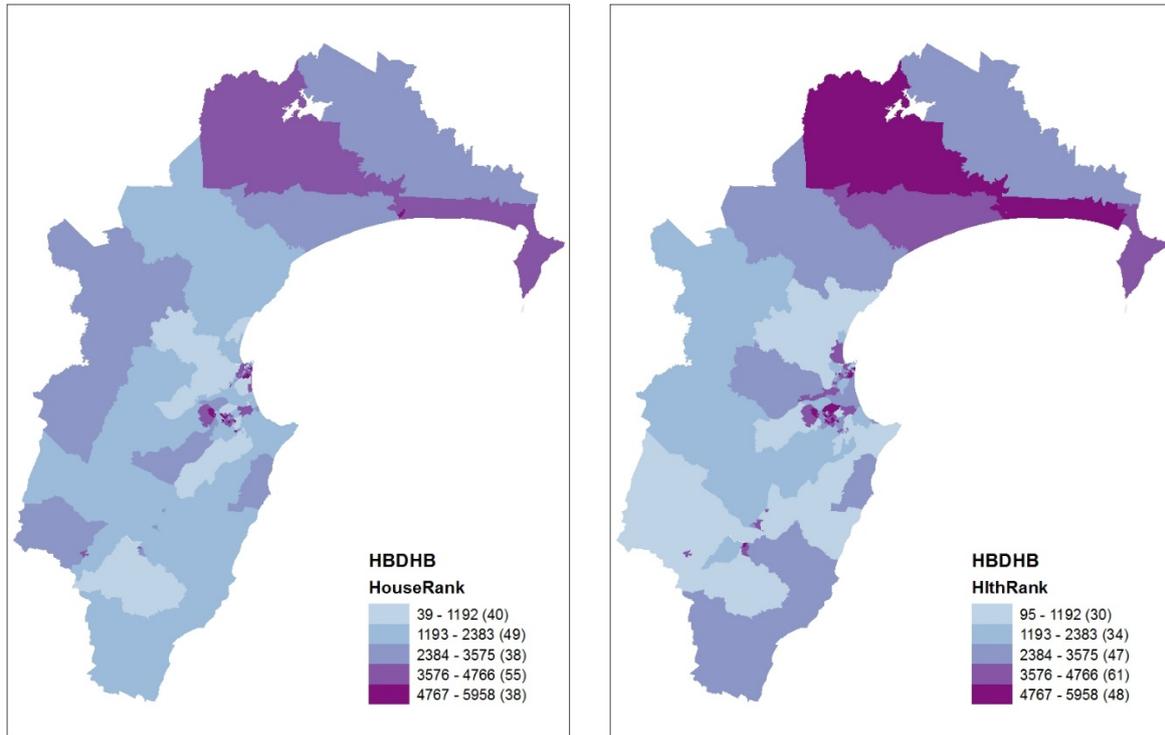
The map of the Employment Domain on the right of Figure 3 reflects the proportion of working age people who are receiving the Unemployment or Sickness Benefits in 2013. In the HBDHB, only 15.9% (35/220) of data zones were in the 20% most deprived in NZ for the Employment Domain, while 18.6% (41/220) of data zones were in the least deprived 20%. The median employment deprivation rank in the HBDHB was 2974, 0.1% (five ranks) better than the NZ median. High (Q5) employment deprivation occurred throughout the north and east of the DHB, and there was one Q5 data zone in Waipawa.



**Figure 4. Distribution of income and crime deprivation in the HBDHB**

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 HBDHB, 29.1% (64/220) of data zones were in NZ's 20% most income deprived, while only 12.7% (28/220) of data zones were in the 20% least income deprived. The median income deprivation rank in the HBDHB was 3755, 13.0% (776 ranks) worse than the NZ median. These high levels of income deprivation closely followed the pattern of overall IMD deprivation, with high (Q5) income deprivation in the north and east of the DHB and in two Q5 data zones in the southern part.

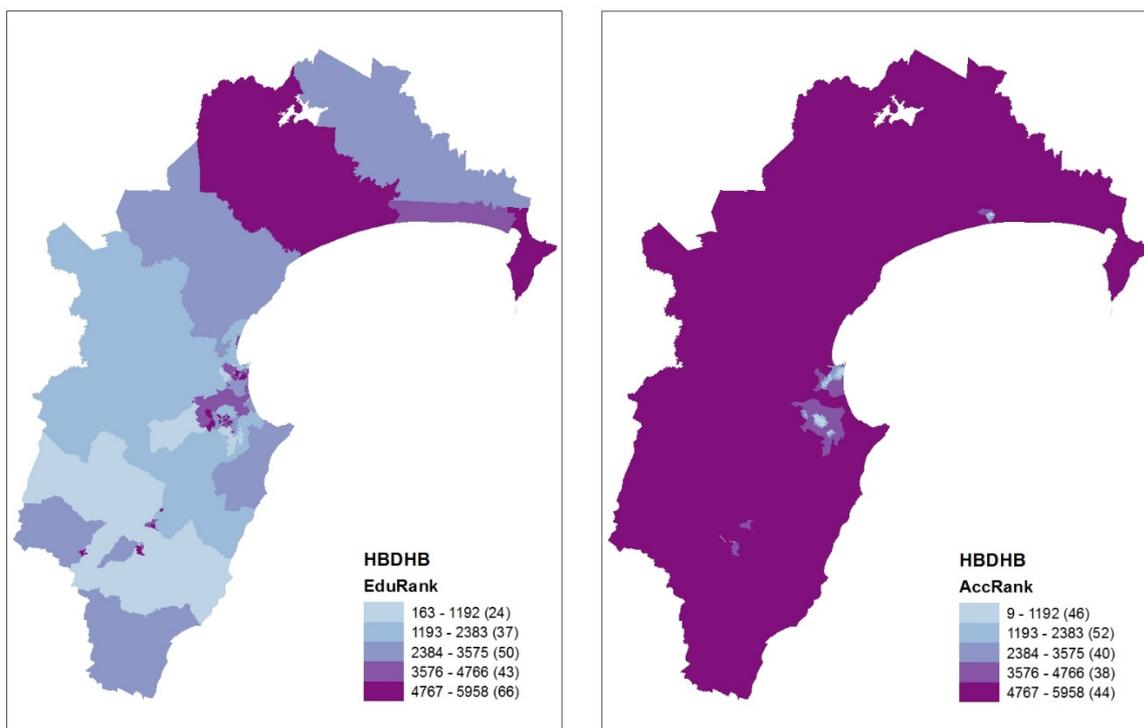
The Crime Domain measures victimisations per 1000 people and is largely driven by thefts (55%), burglaries (24%) and assaults (18%). In the HBDHB, 27.3% (60/220) of data zones were in the most deprived 20% for the Crime Domain, while 15.5% (34/220) were in the least deprived 20%. The median crime deprivation rank in the HBDHB was 3799, 13.8% (820 ranks) worse than the NZ median. High (Q5) levels of crime deprivation were concentrated in urban areas such as Napier and Hastings.



**Figure 5. Distribution of housing and health deprivation in the HBDHB**

The Housing Domain measures the proportion of people living in overcrowded households (60% of the weighting) and rented dwellings (40%). In the HBDHB, 17.3% (38/220) of data zones were in the most deprived 20% in NZ, while 18.2% (40/220) of data zones were in the least deprived 20%. The median housing deprivation rank in the HBDHB was 2941, 0.6% (38 ranks) better than the NZ median. High (Q5) levels of housing deprivation occurred in the east of the HBDHB, including Napier and Hastings, and there were three Q5 data zones in Wairoa.

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 HBDHB, 21.8% (48/220) of data zones were among the 20% most health deprived in NZ, while 13.6% (30/220) were among the least deprived 20%. The median health deprivation rank in the HBDHB was 3540, 9.4% (561 ranks) worse than the NZ median. High (Q5) levels of health deprivation occurred in the northern part of the DHB in Putere, Wairoa and Nuhaka, and there were 12 data zones with Q5 health deprivation in Napier and Hastings.



**Figure 6. Distribution of education and access deprivation in the HBDHB**

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 HBDHB, 30% (66/220) of data zones were among NZ's 20% most education deprived, and only 10.9% (24/220) were in the least deprived 20%. The median education deprivation rank in the HBDHB was 3542, 9.4% (563 ranks) worse than the NZ median. These high (Q5) levels of education deprivation occurred throughout the HBDHB: in the north in Putere, Wairoa and Mahia, in the east in Napier and Hastings, and in the south in Otane, Waipawa and Waipukurau.

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 HBDHB, 20% (44/220) of data zones were among NZ's 20% most access deprived, while 20.9% (46/220) were in NZ's 20% least deprived. The median access deprivation rank in the HBDHB was 2722, 4.3% (227 ranks) better than the NZ median. High (Q5) levels of access deprivation occurred throughout rural parts of the DHB. Urban centres like Napier, Hastings and Wairoa had good access to services, while Waipawa and Waipukurau had Q4 access deprivation.

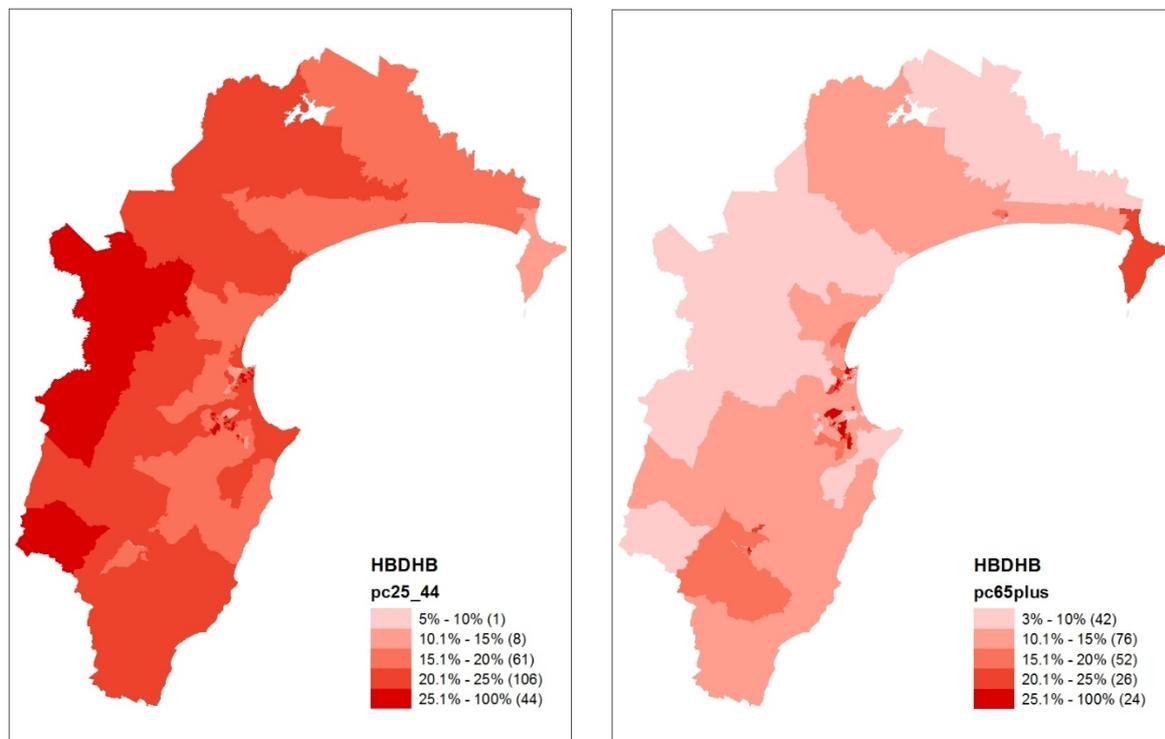
## Age profile of the Hawke's Bay DHB

According to the 2013 census, the HBDHB had a total data zone population of 151,080 people living in 220 data zones, with a mean of 687 people each (range: 498 to 999).

Mean data zone proportions for five age groups in the HBDHB					
Age group	0-14	15-24	25-44	45-64	65+
Hawke's Bay DHB	21.8%	11.9%	22.4%	27.1%	16.8%
New Zealand <sup>2</sup>	20.4%	13.8%	25.6%	25.8%	14.3%
Difference	1.4%	-1.9%	-3.2%	1.3%	2.5%

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

Table 2 shows that the age profile of the HBDHB differs most from the national age profile in that it has 3.2% fewer people aged 25-44 and 2.5% 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 HBDHB**

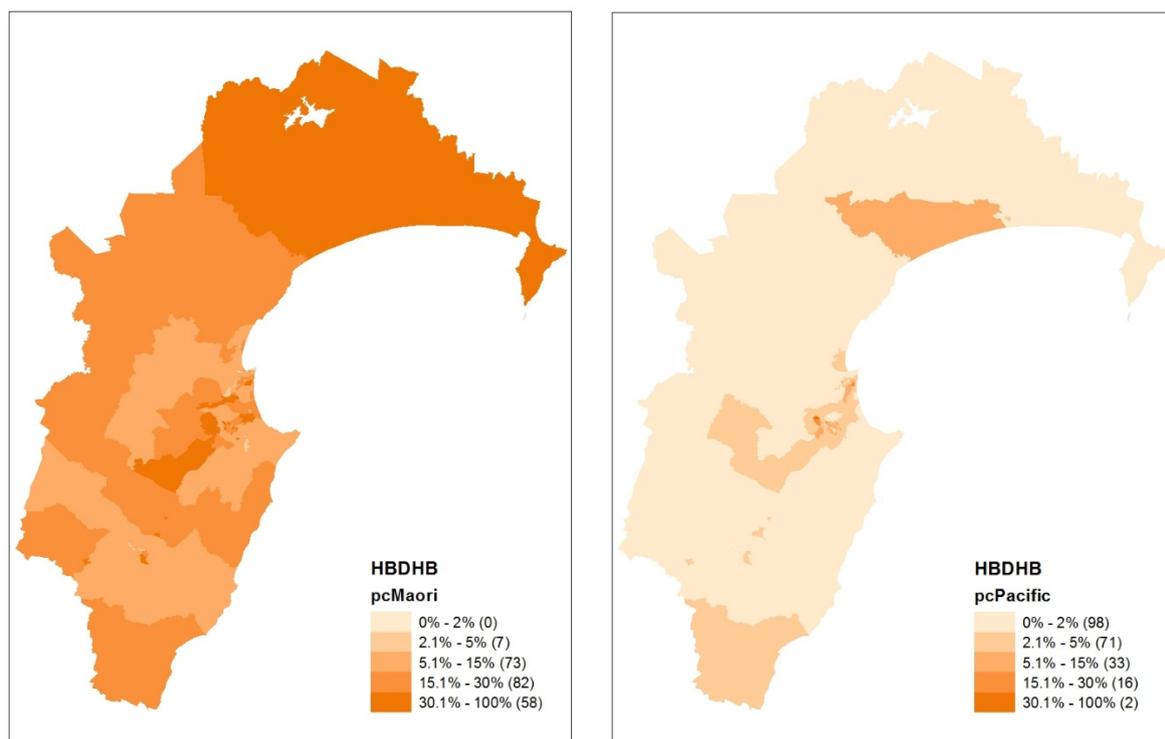
<sup>2</sup> Proportions for age groups and ethnicities at the national level are calculated using data zone counts to ensure fair comparison with DHB values, which also use data zone counts.

## Ethnicity profile of the Hawke's Bay 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 HBDHB in 2013 ranged from 2.7% to 75%. The overall proportion of Māori in the HBDHB was 24.3%, significantly greater than the national proportion of 14.9%. The proportion of Māori per data zone was greatest in northern rural parts of the HBDHB and in urban areas such as Flaxmere and Camberley. A data zone in Wairoa had the greatest proportion of Māori (75%).

The proportion of Pacific ethnicity living in data zones within the HBDHB in 2013 ranged from 0.0% to 37.3% for a data zone in Hastings. The overall proportion of Pacific ethnicity in the HBDHB was 4.3%, which was very low compared to the national proportion of 7.3%.

The proportion of New Zealand European and Other ethnicities (NZEO) in HBDHB data zones ranged from 21.6% to 99.7%. The overall proportion of NZEO in the HBDHB was 82.8%, slightly lower than the national proportion of 87.5%. The lowest proportions of NZEO (<40%) lived in Hastings.



**Figure 8. Distribution of Māori and Pacific people in the HBDHB**

For more information about the IMD, NZ data zones or this profile, please contact Dan Exeter at [d.exeter@auckland.ac.nz](mailto: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](#).