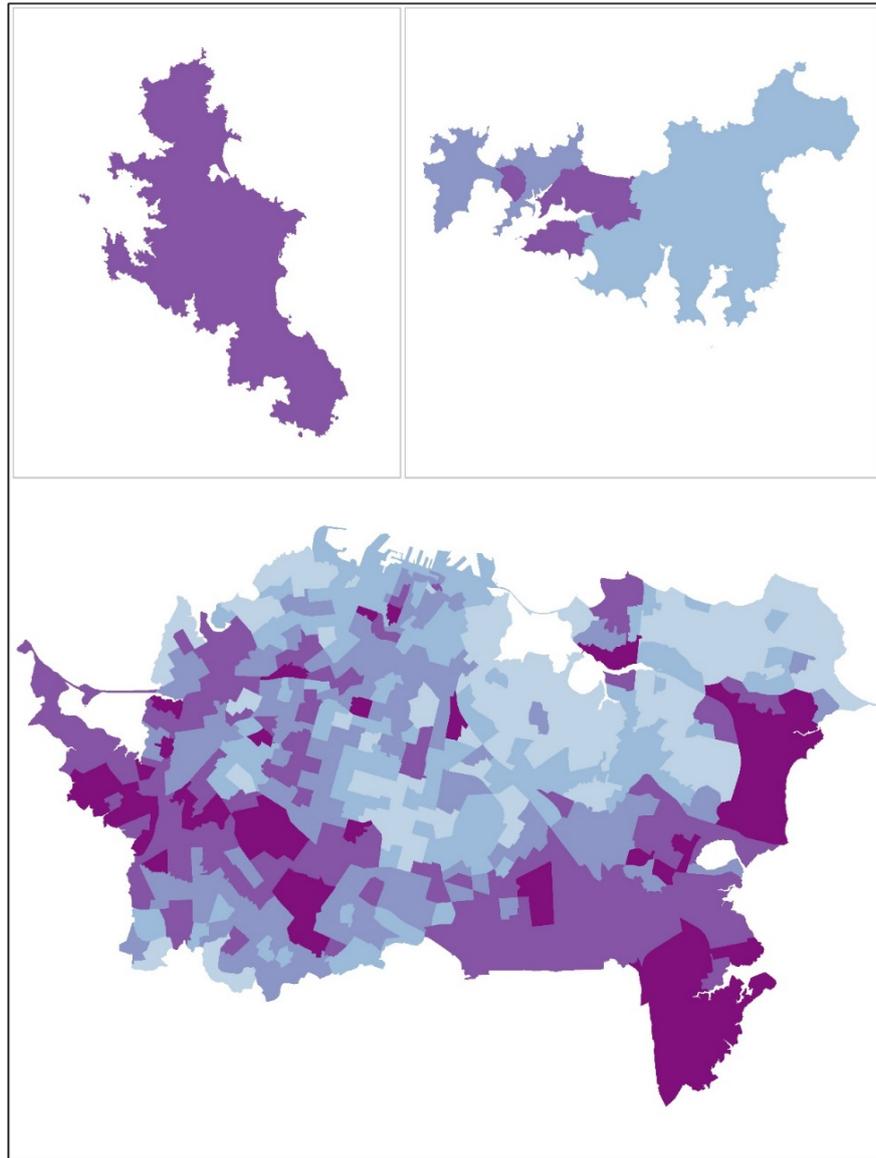


A deprivation and demographic profile of the Auckland DHB



Auckland 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.

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 Auckland 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 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.

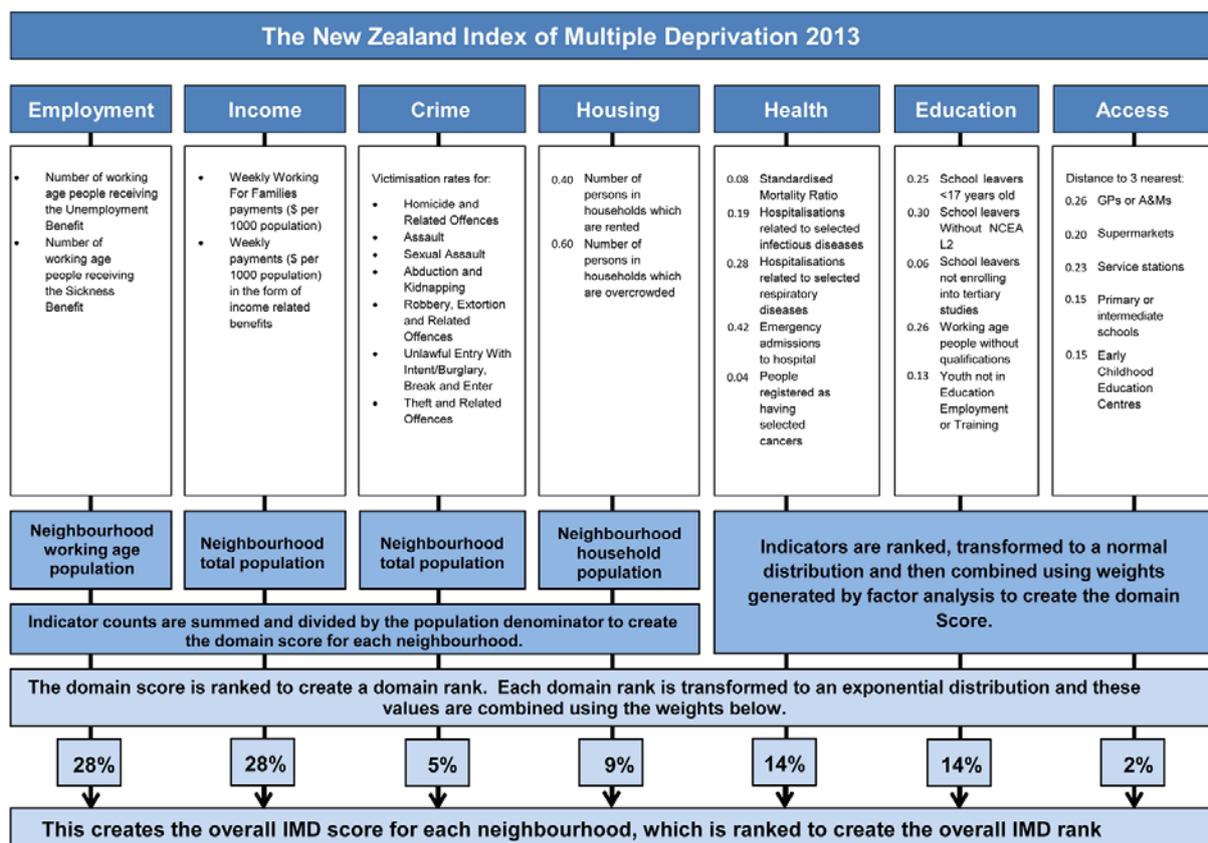


Figure 1. Flow diagram showing the IMD, its indicators, domains and weights. Adapted from Figure 4.2 SIMD 2012 Methodology, in Scottish Index of Multiple Deprivation 2012. Edinburgh: Scottish Government (Crown copyright 2012).

The stacked bar chart in Figure 2 shows the proportion of data zones in the Auckland DHB (ADHB) that belonged to each deprivation quintile for overall IMD deprivation and the seven domains in 2013. If the deprivation circumstances were the same as for all of NZ, we would see 20% of the ADHB's 592 data zones in each quintile. However, Figure 2 shows that the proportion of data zones with Q5 overall IMD deprivation and Q5 income deprivation was less than 20%, while the proportion with Q5 crime and housing deprivation was significantly greater than 20%. The ADHB has slightly lower than average overall IMD deprivation, with 36.5% (216/592) of its data zones either in Q4 or Q5.

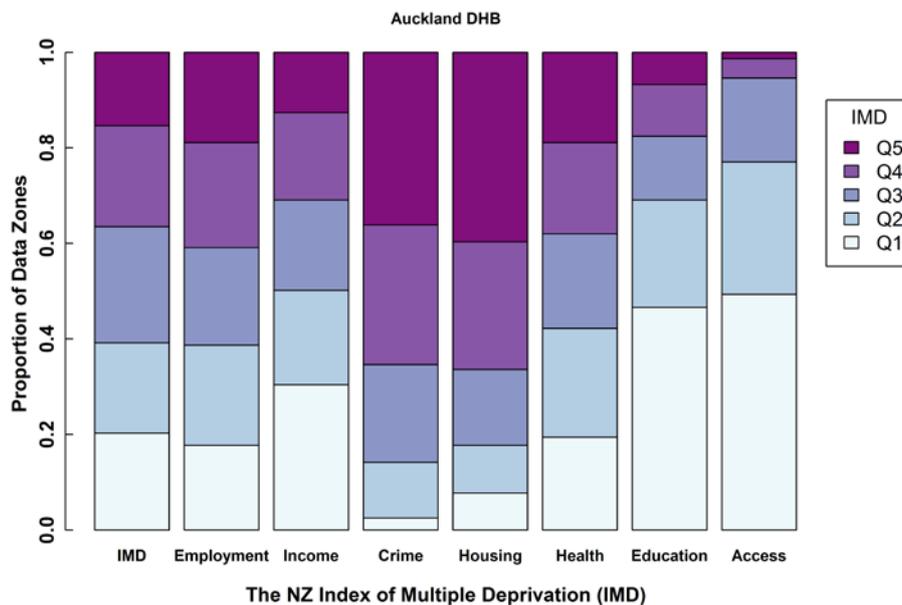


Figure 2. Stacked bar chart showing overall deprivation and seven domains in the ADHB

Table 1 shows summary statistics by domain for 91 ADHB 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 Housing (5752), Employment (5544) Health (5374) and Income (5227) were contributing to high overall deprivation in these 91 data zones in 2013. Note: domains carry different weights in the IMD (see Figure 1).

Min, max and median ¹ deprivation ranks by domain for 91 data zones with Q5 IMD								
	IMD	Employment	Income	Crime	Housing	Health	Education	Access
Min	4771	4014	3089	1042	3699	1738	416	11
Max	5928	5941	5851	5923	5954	5950	5858	3981
Median	5399	5544	5227	4704	5752	5374	4563	863

Table 1. Minimum, maximum and median deprivation ranks by domain for 91 data zones in the ADHB 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).

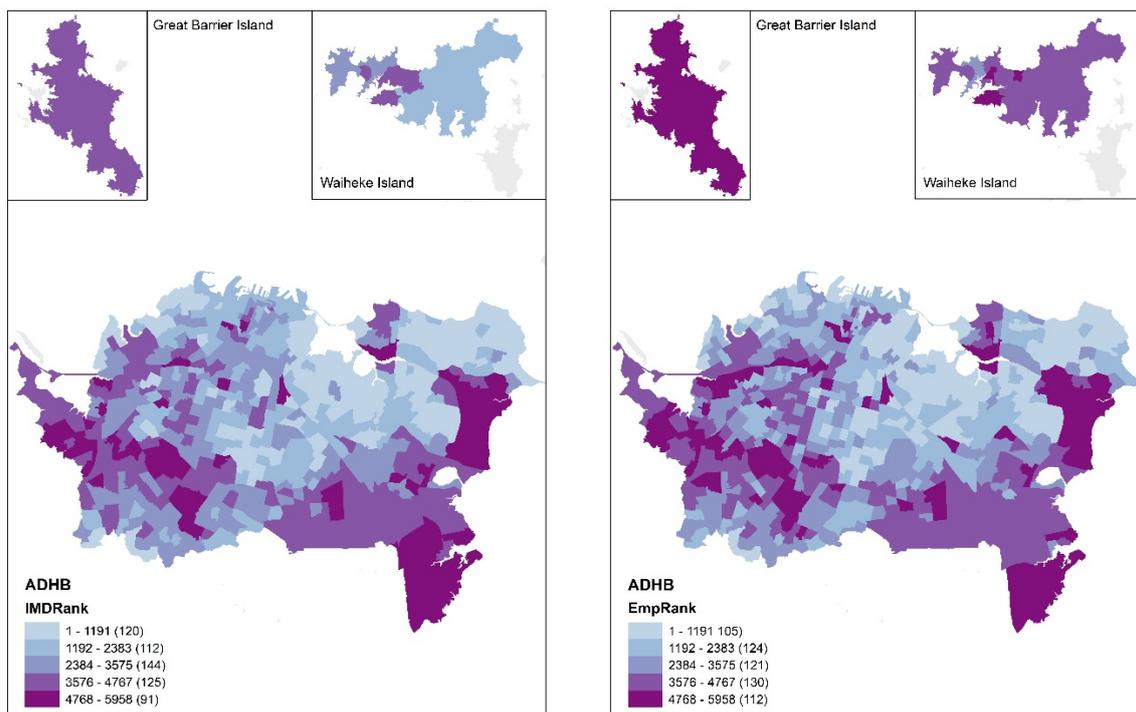


Figure 3. Distribution of overall IMD and employment deprivation in the ADHB

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 ADHB in 2013, with the highest number of data zones (144) in the third quintile (Q3). Only 15.4% (91/592) of data zones were among the most deprived 20% in NZ (Q5), while 20.3% (120/592) were in the least deprived 20% (Q1). The median IMD rank in the ADHB was 2878, 1.7% (102 ranks) better than the NZ median of 2979. Most of the Q5 data zones were concentrated in the southern part of the ADHB from Avondale to Point England and Otahuhu. 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 ADHB 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 ADHB, 18.9% (112/592) of data zones were among the 20% most employment deprived in NZ, while 17.7% (105/592) of data zones were in the least deprived 20%. The median employment deprivation rank in the ADHB was 3029, only 0.8% (50 ranks) worse than the NZ median of 2979. These moderate levels of employment deprivation closely followed the pattern of overall IMD deprivation. However, the Employment Domain has 19 additional Q5 data zones, most of them in the west of the DHB.

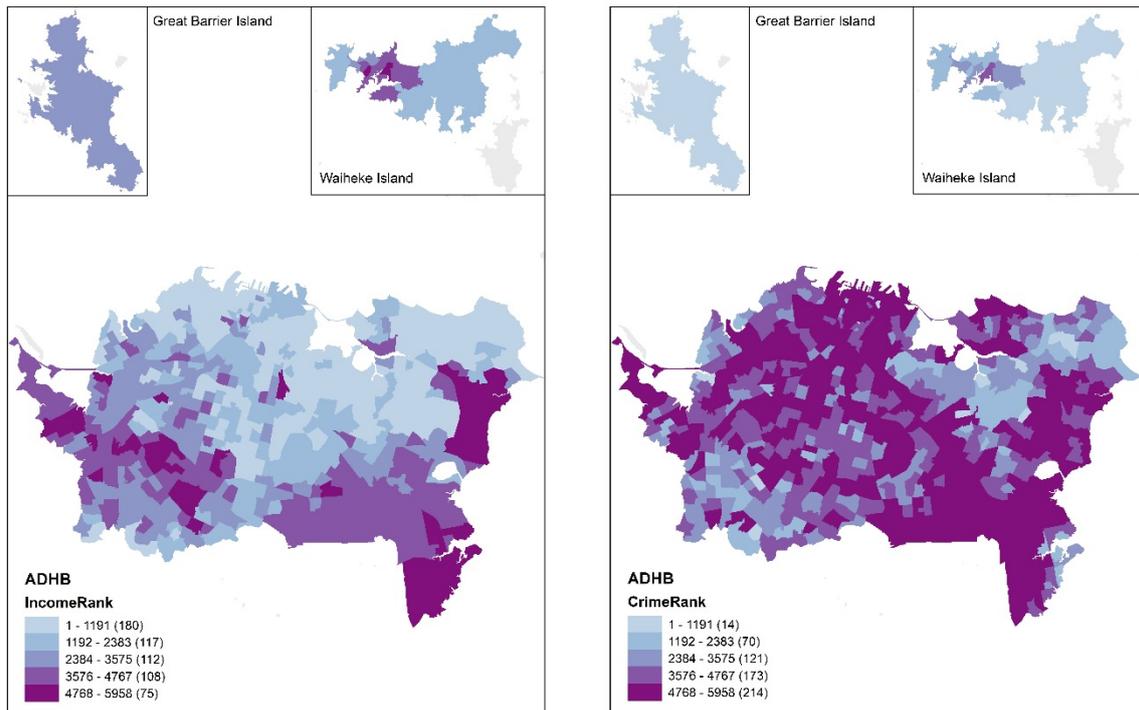


Figure 4. Distribution of income and crime deprivation in the ADHB

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 ADHB, only 12.7% (75/592) of data zones were in NZ's 20% most income deprived, while 30.4% (180/592) were in the 20% least income deprived. The median income deprivation rank in the ADHB was 2359, 10.4% (621 ranks) better than the NZ median. Q5 levels of income deprivation occur in a similar pattern to overall IMD deprivation, but the Income Domain has 16 fewer Q5 data zones. There was very little Q5 income deprivation in northern parts of the ADHB.

The Crime Domain measures victimisations per 1000 people and is largely driven by thefts (55%), burglaries (24%) and assaults (18%). In the ADHB, 36% (214/592) of data zones were among NZ's 20% most deprived for the Crime Domain, while only 2.4% (14/592) were among NZ's 20% least deprived. The median crime deprivation rank in the ADHB was 4235, 21.1% (1256 ranks) worse than the NZ median. High (Q5) rates of crime victimisation occurred in patches throughout the Auckland isthmus, but there were relatively few Q5 data zones in Point Chevalier, New Windsor and Blockhouse Bay — and fewer still in Remuera, Meadowbank and Glendowie.

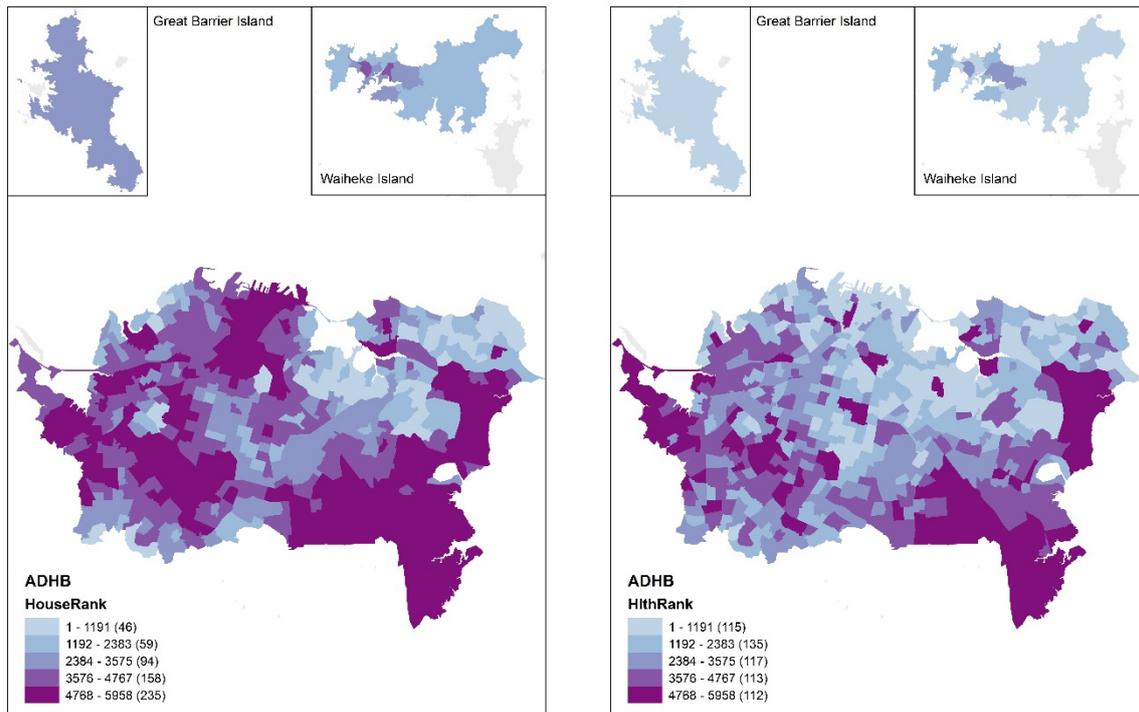


Figure 5. Distribution of housing and health deprivation in the ADHB

The Housing Domain measures the proportion of people living in overcrowded households (60% of the weighting) and in rented dwellings (40%). In the ADHB, 40.0% (235/592) of data zones were among the 20% most deprived in NZ, while only 7.8% (46/592) were among the 20% least deprived. The median housing deprivation rank in the ADHB was 4350, 23.0% (1371 ranks) worse than the NZ median. High (Q5) levels of housing deprivation were concentrated in the CDB and in many western and eastern suburbs. There were 235 Q5 data zones for housing deprivation compared to 91 Q5 data zones for overall IMD deprivation.

The Health Domain consists of five indicators: standard mortality ratio, acute hospitalisations related to selected infectious and respiratory diseases, emergency admissions to hospital, and people registered as having selected cancers. In the ADHB, 18.9% (112/592) of data zones were among the 20% most health deprived in NZ, and 19.4% (115/592) were among the least deprived 20%. The median health deprivation rank in the ADHB was 2946, 0.6% (33 ranks) better than the NZ median. Data zones with Q5 health deprivation follow the general pattern of overall IMD deprivation, but health deprivation has 21 more Q5 data zones and a more scattered pattern.

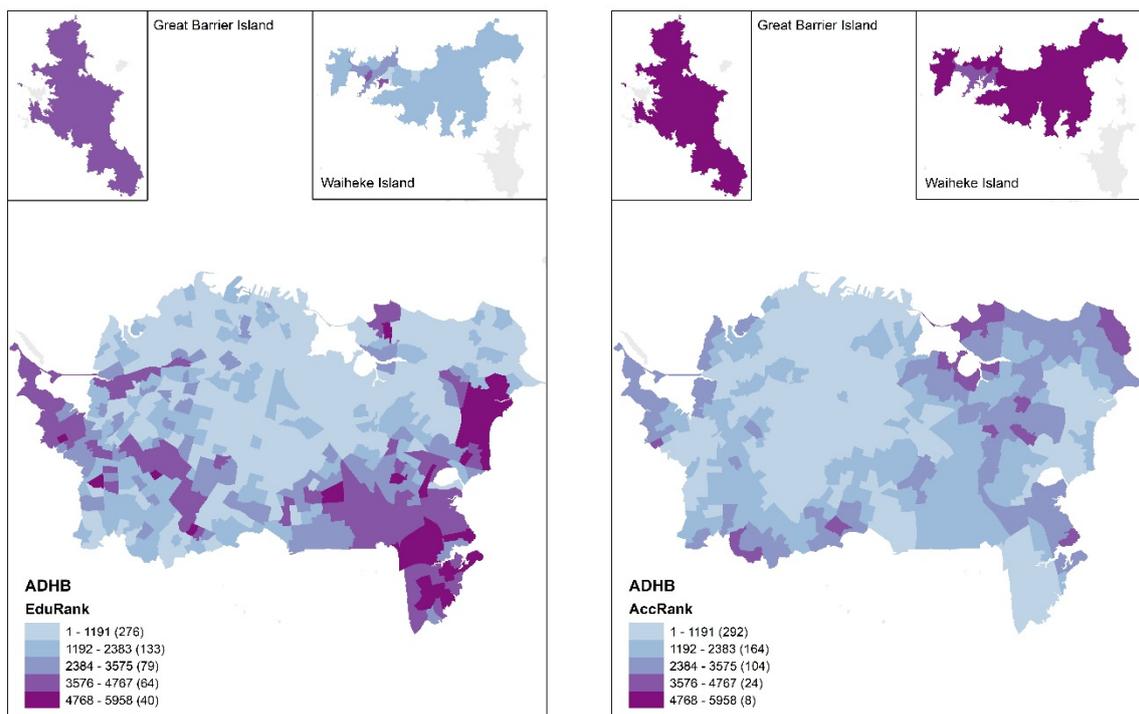


Figure 6. Distribution of education and access deprivation in the ADHB

The Education Domain measures retention, achievement and transition to education or training for school leavers; 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 ADHB, only 6.8% (40/592) of data zones were among the 20% most education deprived in NZ (Q5), and a surprising 46.6% (276/592) were among the 20% least deprived (Q1). The median education deprivation rank in the ADHB was 1302, 28.2% (1678 ranks) better than the NZ median. Q5 education deprivation was limited to just 40 data zones in the ADHB; most of which occurred in the east of the DHB in Orakei and Penrose, and from Point England to Mount Wellington and Otahuhu. However, there were four data zones with Q5 education deprivation in the west: Avondale, New Windsor and two in Mount Roskill.

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 ADHB, only 1.4% (8/592) of data zones were among NZ's 20% most access deprived, and 49.3% (292/592) were among NZ's 20% least deprived. The median access deprivation rank in the ADHB was 1215, 29.6% (1764 ranks) better than the NZ median. The eight data zones with Q5 access deprivation were on islands in the Hauraki Gulf. There was no Q5 access deprivation in Auckland's isthmus.

Age profile of the Auckland DHB

According to the 2013 census, the ADHB had a total population of 436,461 people living in 592 data zones, with a mean of 737 people each (range: 501 to 1428).

Mean data zone proportions for five age groups in the ADHB					
Age group	0-14	15-24	25-44	45-64	65+
Auckland DHB	18.1%	16.1%	31.6%	23.5%	10.6%
New Zealand ²	20.4%	13.8%	25.6%	25.8%	14.3%
Difference	-2.3%	2.3%	6.0%	-2.3%	-3.7%

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

Table 2 shows that the age profile of the ADHB differs most from the national age profile for people aged 25-44 (the ADHB has 6.0% more) and people aged 65+ (the ADHB has 3.7% fewer). Figure 7 shows the distribution of people in these two age groups.

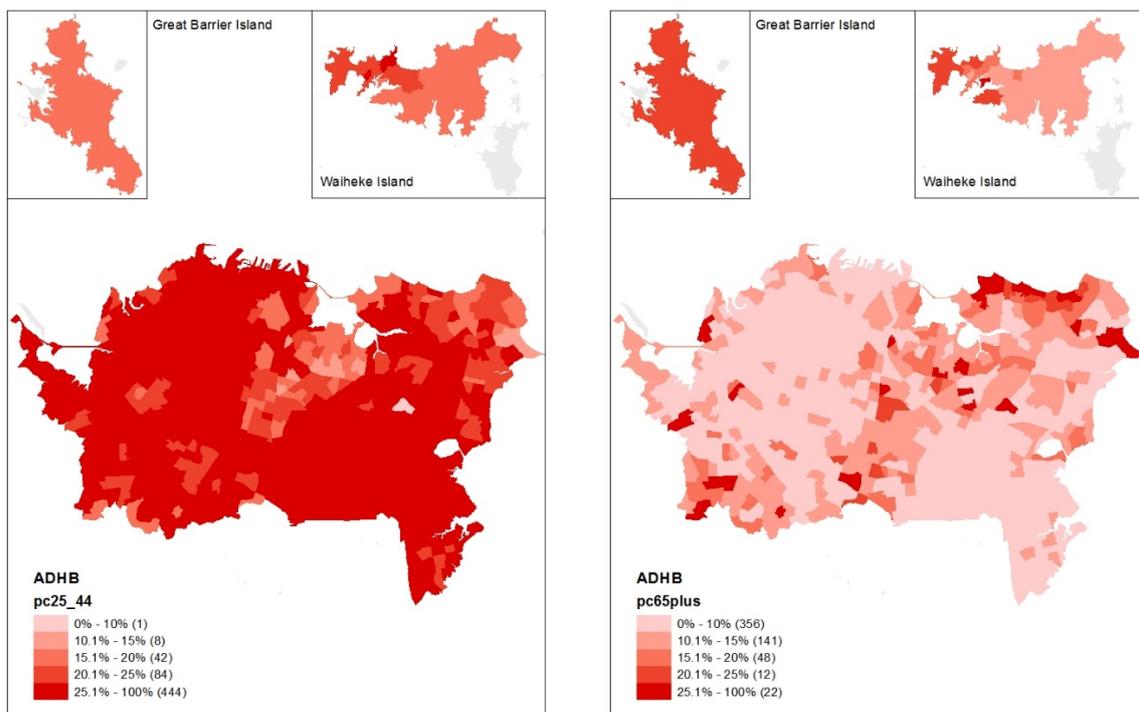


Figure 7. Distribution of people aged 25-44 and people aged 65+ in the ADHB

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 Auckland 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 ADHB in 2013 ranged from 0% to 40.8%. The mean (7.7%) was just under half the proportion of Māori at the national level (14.9%). There were only two data zones in Orakei with more than 30% Māori, but 19 data zones from Point England to Mount Wellington and Otahuhu that had more than 20%.

The proportion of Pacific ethnicity ranged from 0% to 65.3%. The mean was 12.5%, which is significantly higher than the national proportion of 7.3%. There were 81 data zones with more than 30% Pacific ethnicity through the south of the ADHB from Avondale to Point England and Otahuhu.

The proportion of New Zealand European and Other ethnicities (NZE0) living in data zones within the ADHB ranged from 31.2% to 100%. The average was 87.5%, which was the same as the national proportion. The lowest proportions of NZEO (<50%) lived in 31 data zones in Avondale, Mount Roskill, Onehunga, Otahuhu and Point England.

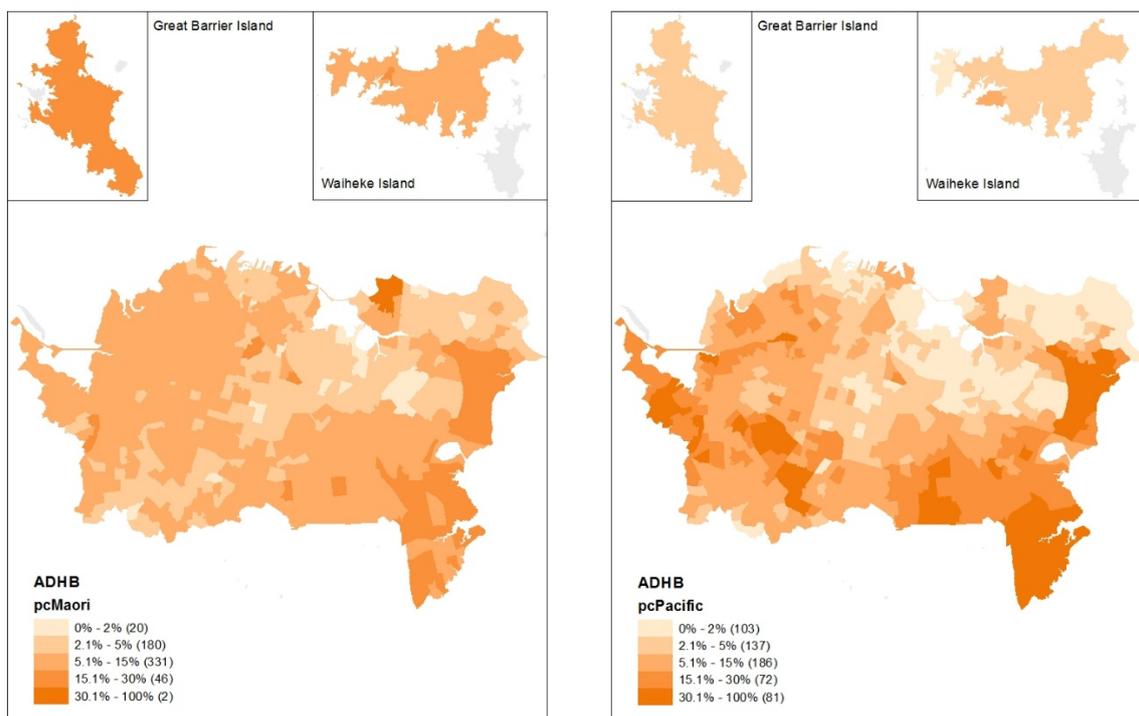


Figure 8. Distribution of Māori and Pacific people in the ADHB

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](#).