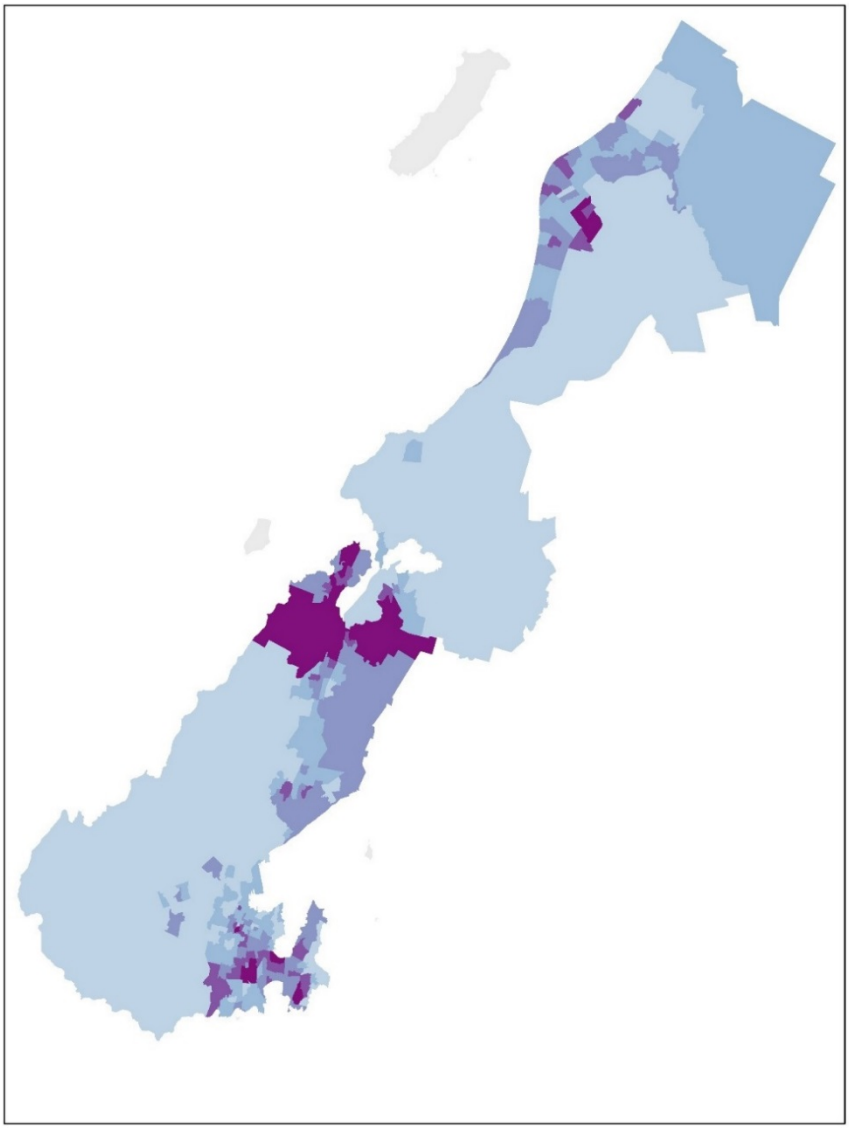
A deprivation and demographic profile of the Capital and Coast DHB



Capital and Coast DHB, showing overall IMD deprivation with the most deprived areas shaded darkest

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17/10/2017

THE UNIVERSITY OF AUCKLAND
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NEW ZEALAND

MEDICAL AND HEALTH SCIENCES

hrc Health Research Council of New Zealand

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.

Acknowledgments

The research team are grateful to the Health Research Council of New Zealand for funding this research project. This research would not have been possible without the provision of data, expert guidance and support of many individuals and the following organisations: Accident Compensation Corporation, Action on Smoking and Health, *Aotearoa* People's Network *Kaharoa*, ANZ Bank, ASB Bank, Association of Public Library Managers Inc., Auckland Uniservices Ltd, Auckland University of Technology, Beacon Pathway, BNZ Bank, BRANZ, Child Poverty Action Group, COMET Auckland, Counties-Manukau DHB, Department of Corrections, Energy Efficiency and Conservation Association, Family Start, Heart Foundation, Housing New Zealand Corporation, Inland Revenue, Kiwibank, Leeds University, Maritime NZ, Massey University, Ministries of Business, Innovation and Employment, Education, Health, Justice and Social Development, National Collective of Independent Women's Refuges, *Ngāti Whātua o Ōrākei*, Northland DHB, New Zealand Certified Builders Association, NZ Fire Service, NZ-Libs, NZ Police, NZ Post, NZ Racing Board, Royal New Zealand College of General Practitioners, Ollivier & Company, Otago University, Participants in the Feb 2014 and Feb 2017 hui, Pharmac, Plunket, Prisoners Aid and Rehabilitation Trust, Problem Gambling Foundation, Salvation Army, St John's Ambulance, Southern African Social Policy Research Institute, Statistics New Zealand, TSB Bank, *Tairāwhiti* DHB, *Te Kāhui Mana Ririki Trust*, *Te Kupenga Hauora Māori*, *Te Matapihi he tirohanga mō te iwi* Trust (National Maori Housing Trust)*, Te Rūnanga o Ngāti Hine, Te Wānanga o Aotearoa*, *Te Whānau O Waipareira Trust*, Telco2 Ltd, Tenancy Tribunal, University of Auckland, University of Canterbury, University of Otago, University of Oxford, Waikato University, *Waitemata* DHB, Wellington Free Ambulance, Westpac Bank, and Woopa Design.

A deprivation and demographic profile of the Capital and 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.

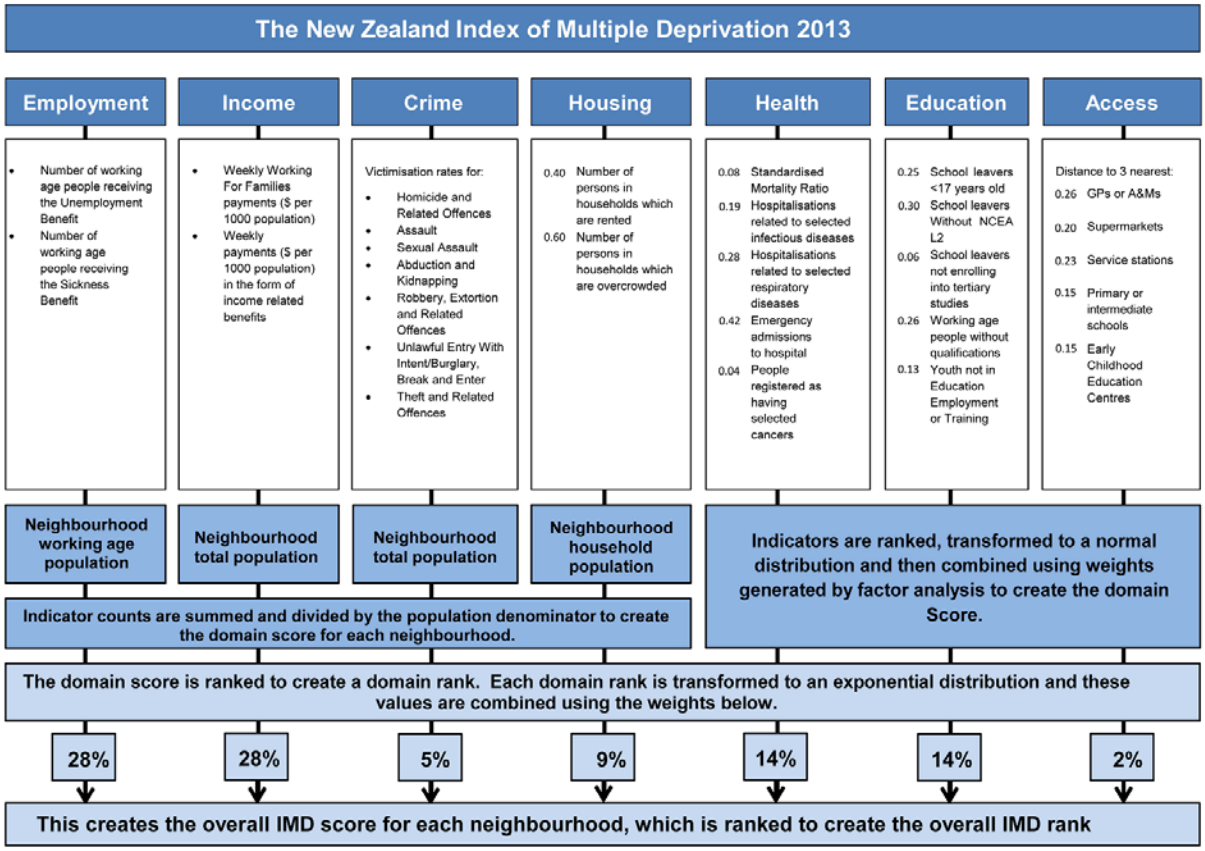

Figure 1. Flow diagram showing the IMD, its indicators, domains and weights. Adapted from Figure 4.2 SIMD 2012 Methodology, in Scottish Index of Multiple Deprivation 2012. Edinburgh: Scottish Government (Crown copyright 2012).

The stacked bar chart in Figure 2 shows the proportion of data zones in the Capital and Coast DHB (CCDHB) that belonged to each deprivation quintile for overall IMD deprivation and the seven domains in 2013. If the deprivation circumstances were the same as all of NZ, we would see 20% of the CCDHB's 404 data zones in each quintile. However, Q5 deprivation was significantly lower than average for six of the seven domains, as well as for overall deprivation (IMD). Only the Housing Domain had above average rates of Q5 deprivation. Q4 deprivation was also lower than average except for the Access Domain (115/404 = 28.5%). The CCDHB has low levels of overall IMD deprivation, with only 22.5% (91/404) of its data zones in Q4 or Q5.

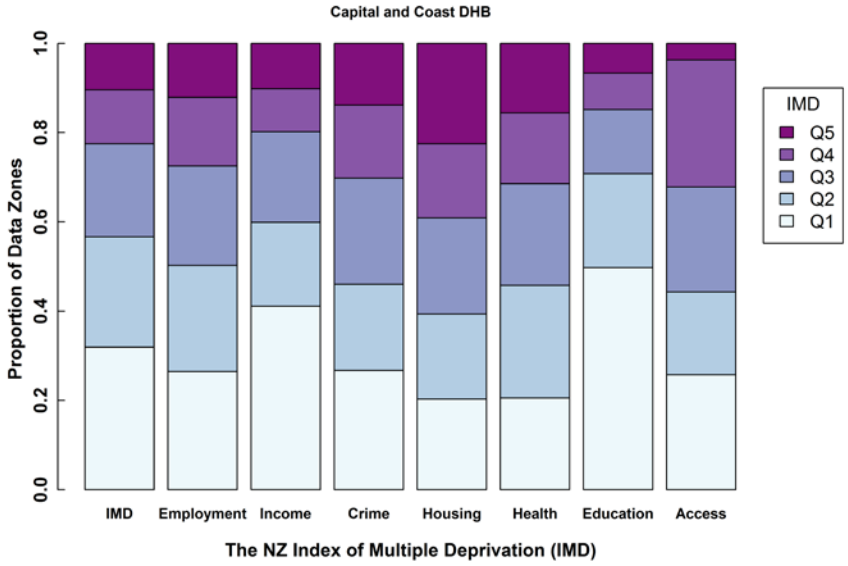

Figure 2. Stacked bar chart showing overall deprivation and seven domains in the CCDHB

Table 1 shows summary statistics by domain for the 42 CCDHB data zones that were among NZ's 20% most deprived for the overall IMD and reveals the contributions of different domains. In descending order, high (Q5) median deprivation ranks for Housing (5531), Health (5428), Income (5378), Employment (5349) and Education (4943) were all contributing to high overall deprivation in these 42 data zones in 2013, bearing in mind that these domains carry different weights in the IMD (see Figure 1).

Min, max and median[1] deprivation ranks by domain for 42 data zones with Q5 IMD								
	IMD	Employment	Income	Crime	Housing	Health	Education	Access
Min	4790	4210	4569	2411	3105	3750	1353	76
Max	5877	5873	5813	5948	5901	5936	5812	3688
Median	5399	5349	5378	4323	5531	5428	4943	1667

Table 1. Minimum, maximum and median deprivation ranks by domain for 42 data zones in the CCDHB 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).

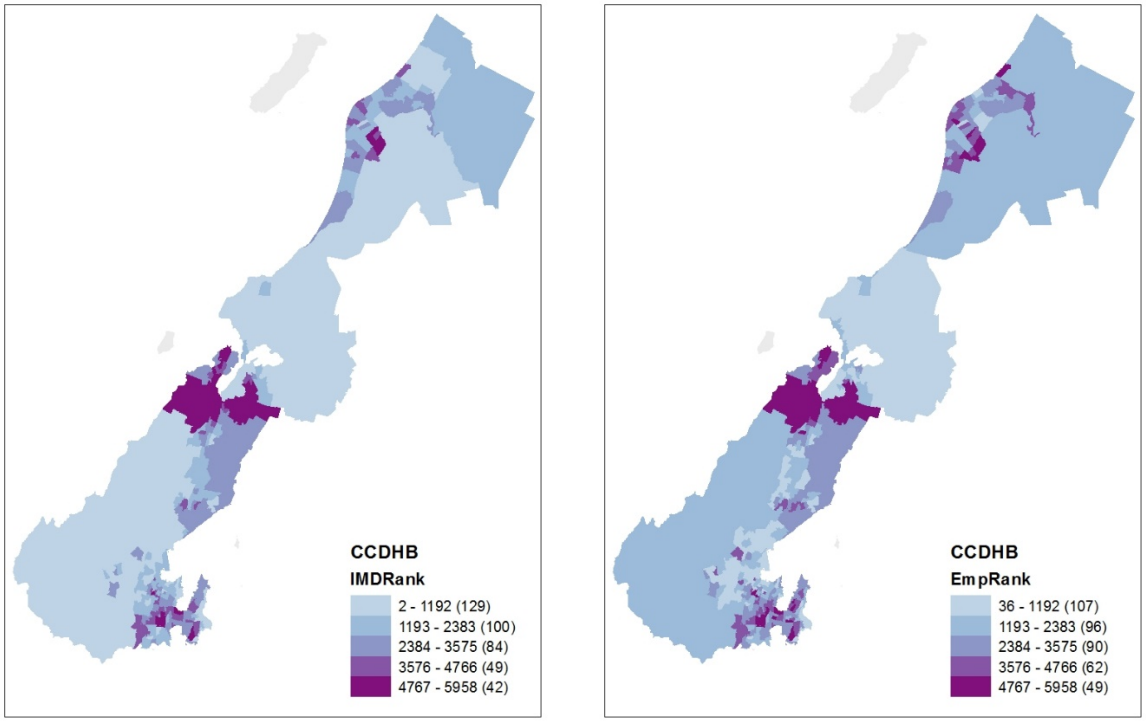

Figure 3. Distribution of overall IMD and employment deprivation in the CCDHB

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 disadvantage in the CCDHB in 2013. Only 10.4% (42/404) of data zones in the CCDHB were among the most deprived 20% in NZ (Q5), while 31.9% (129/404) were among the least deprived (Q1). The median IMD rank in the CCDHB was 2085, 15.0% (894 ranks) better than the NZ median of 2979. There were four Q5 data zones in Paraparaumu, 31 data zones stretching uninterrupted from Titahi Bay to Waitangirua and Ascot Park, and seven in Wellington City. 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 CCDHB further.

The map for 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 CCDHB, 12.1% (49/404) of data zones were among the 20% most deprived in NZ for the Employment Domain, while 26.5% (107/404) of data zones were in the least deprived 20%. The median employment deprivation rank in the CCDHB was 2358, 10.4% (621 ranks) better than the NZ median. The distribution of Q5 employment deprivation closely resembled the pattern for overall IMD deprivation, but with seven additional Q5 data zones. Most rural areas in the CCDHB had low levels of employment deprivation.

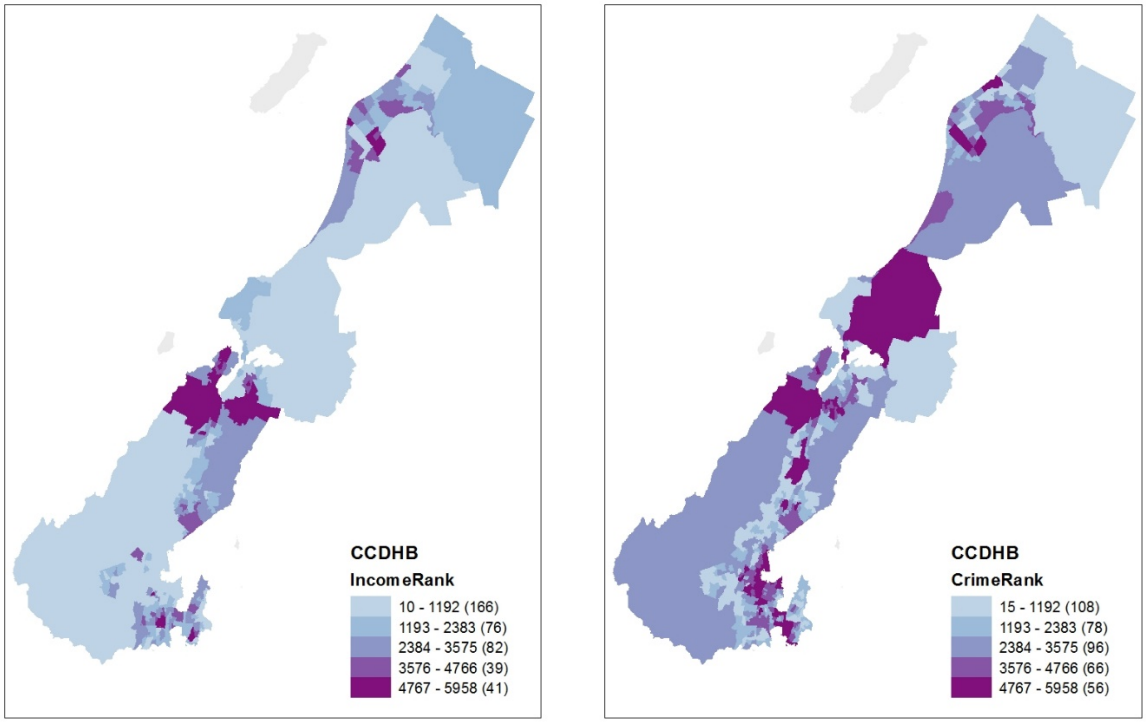

Figure 4. Distribution of income and crime deprivation in the CCDHB

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 CCDHB, only 10.1% (41/404) of data zones were in NZ's 20% most income deprived, while 41.1% (166/404) of data zones were in the 20% least income deprived. The median income deprivation rank in the CCDHB was 1722, 21.1% (1258 ranks) better than the NZ median. The distribution of Q5 income deprivation closely resembles the pattern for overall IMD deprivation. Most rural areas in the CCDHB had low levels of income deprivation.

The Crime Domain measures victimisations per 1000 people and is largely driven by thefts (55%), burglaries (24%) and assaults (18%). In the CCDHB, only 13.9% (56/404) of data zones were among NZ's 20% most deprived for the Crime Domain, while 26.7% (107/404) were among NZ's 20% least deprived. The median crime deprivation rank in the CCDHB was 2581, 6.7% (398 ranks) better than the NZ median. The 'footprint' of Q5 crime deprivation was more extensive than that of Q5 overall (IMD) deprivation, with 14 additional data zones. Unsurprisingly, most Q5 crime data zones occurred in urban areas. However, rural and semi-rural data zones with Q5 crime deprivation occur in the area around Plimmerton and the Paekakariki Hill; around the Kapiti Quarry and the Kapiti Coast Airport in Paraparaumu; and around the Waikanae Golf Club.

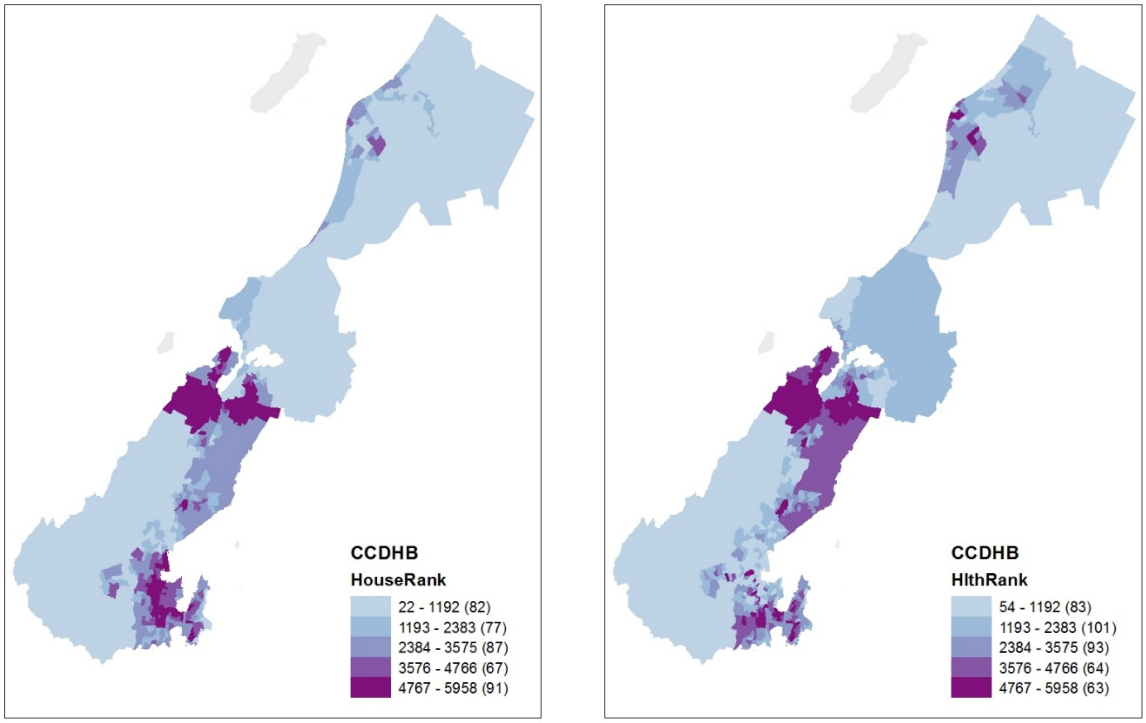

Figure 5. Distribution of housing and health deprivation in the CCDHB

The Housing Domain measures the proportion of people living in overcrowded households and rented dwellings. In the CCDHB, 22.5% (91/404) of data zones were among the 20% most deprived in NZ, and 20.3% (82/404) of data zones were in the 20% least deprived. The median housing deprivation rank in the CCDHB was 3002, only 0.4% (23 ranks) worse than the NZ median. There were 91 data zones in the CCDHB with Q5 housing deprivation, more than double the number for overall IMD deprivation (42). Q5 housing deprivation occurred in three parts of the CCDHB: the area from Titahi Bay to Porirua and Ascot Park, in the city area from Wellington International Airport to Pipitea, and in two data zones in Johnsonville.

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 CCDHB, 15.6% (63/404) of data zones were among the 20% most health deprived in NZ, and 20.5% (83/404) were among the least deprived 20%. The median health deprivation rank in the CCDHB was 2509, 7.9% (470 ranks) better than the NZ median. There were 63 data zones in the CCDHB with Q5 health deprivation, compared to only 42 for overall IMD deprivation. Q5 health deprivation occurred in three main parts of the CCDHB; in four data zones in Paraparaumu, in 31 data zones in the area from Titahi Bay to Porirua and Ascot Park, and in the city area from Wellington International Airport to Pipitea.

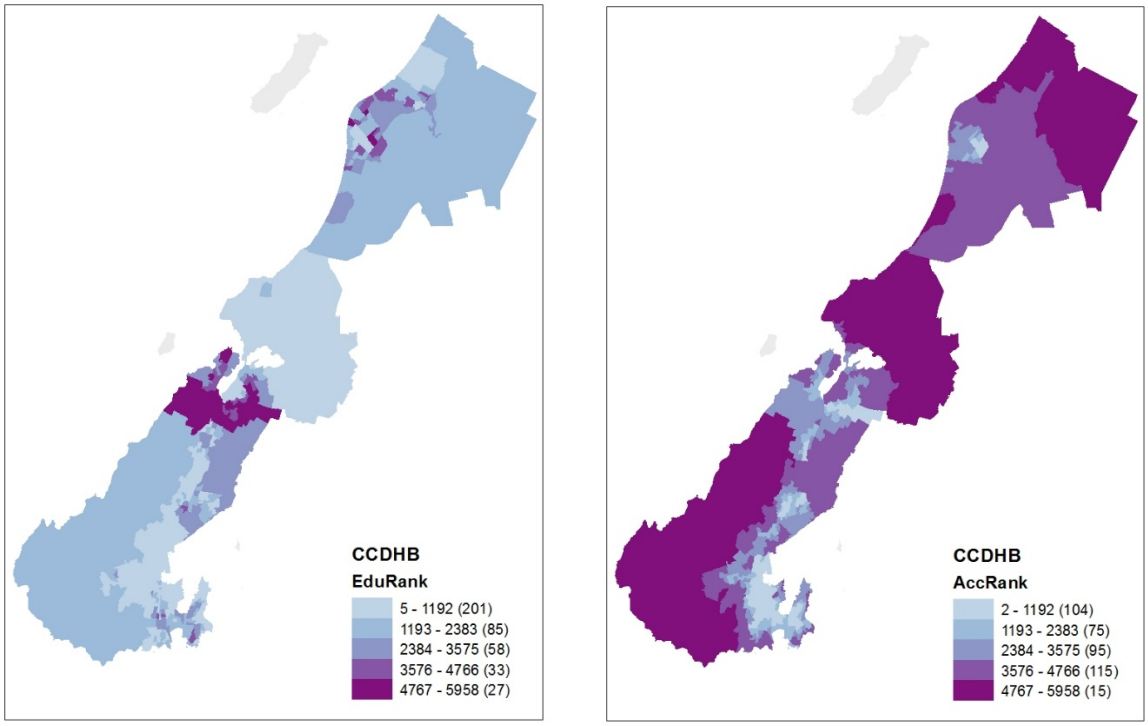

Figure 6. Distribution of education and access deprivation in the CCDHB

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 CCDHB, only 6.7% (27/404) of data zones were among NZ's 20% most education deprived, and 49.8% (201/404) were in the least deprived 20%. The median education deprivation rank in the CCDHB was 1222, 29.5% (1757 ranks) better than the NZ median. There were only 27 data zones in the CCDHB with Q5 education deprivation, compared to 42 for overall IMD deprivation. The 27 Q5 data zones were made up of four data zones in Paraparaumu and 23 data zones in the area from Titahi Bay to Porirua and Ascot Park. There were no data zones with Q5 health deprivation in the city area from Wellington International Airport to Pipitea.

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 CCDHB, only 3.7% (15/404) of data zones were among NZ's 20% most access deprived, and 25.7% (104/404) were in NZ's 20% least deprived. The median access deprivation rank in the CCDHB was 2673, 5.1% (306 ranks) better than the NZ median. Unsurprisingly, access was poorest (Q5) in rural areas, including Wellington's west and south coast, the Akatarawa Forest and the Tararua Forest Park. However, access to services was also poor (Q5) just north of Paekakariki, and from Peka Peka northwards to Otaki.

Age profile of the Capital and Coast DHB

According to the 2013 census, the CCDHB had a total population of 307,250 people living in 404 data zones, with a mean of 760 people (range: 501 to 972).

Mean data zone proportions for five age groups in the CCDHB					
Age group	0-14	15-24	25-44	45-64	65+
CCDHB	18.8%	15.9%	29.1%	24.3%	12.0%
New Zealand[2]	20.4%	13.4%	25.6%	25.9%	14.4%
Difference	-1.6%	2.5%	3.5%	-1.6%	2.4%

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

Table 2 shows that the age profile of the CMDHB differs most from the national age profile in that it has 2.5% more people aged 15-24 and 3.5% more people aged 25-44. Figure 7 shows the distribution of people in these two age groups.

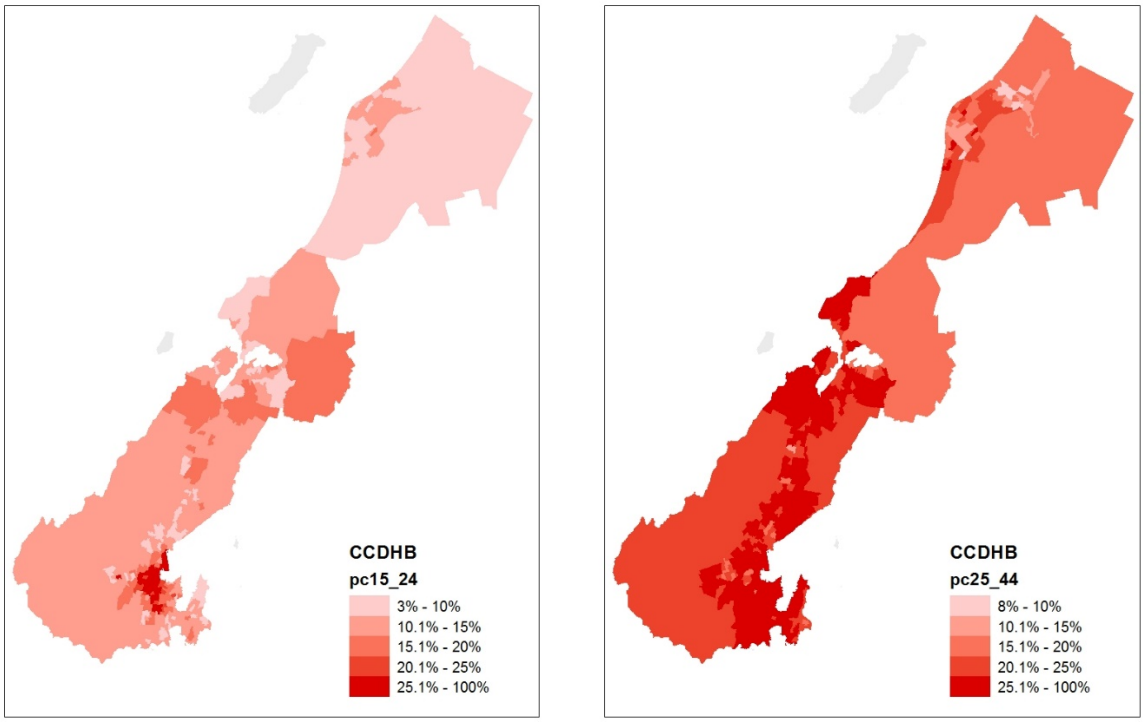

Figure 7. Distribution of people aged 15-24 and people aged 25-44 in the CCDHB

Ethnicity profile of the Capital and 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 CCDHB in 2013 ranged from 1.2% to 65.6%. The overall proportion of Māori was 10.8%, which is significantly lower than the national

[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.

proportion of 15.3%. The proportion of Māori was greatest in two data zones in Takapuwahia (65.6% and 52.6%), followed by three in Titahi Bay (43%, 42.2% and 41.8%).

The proportion of Pacific ethnicity in CCDHB data zones in 2013 ranged from 0.0% to 73.9%. The overall proportion of Pacific ethnicity was 8.5%, which is slightly higher than the national proportion of 7.3%. The proportion of Pacific ethnicity was greatest in a data zone located in Waitangirua (73.9%), followed by three data zones in Cannon's Creek (73.7%, 73.4% and 72.3%).

The proportion of New Zealand European and Other ethnicities (NZEO) living in data zones within the CCDHB in 2013 ranged from 21.6% to 100%. The overall proportion of NZEO was 90.2%, greater than the national proportion of 87.2%. The lowest proportion of NZEO residents (21.6%) occurred in the Waitangirua data zone — the same data zone that had the highest proportion of Pacific.

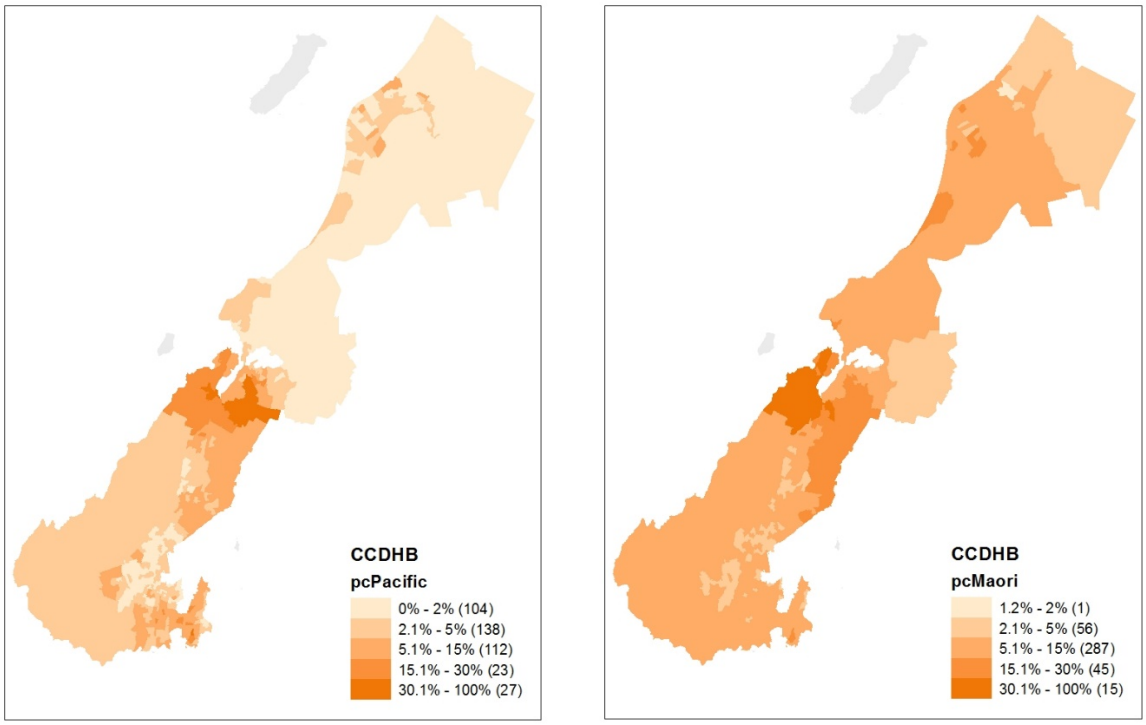

Figure 8. Distribution of Māori and Pacific people in the CMDHB

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.