CANTERBURY WELLBEING INDEX

Our Population

Demographics are quantifiable characteristics of a given population.

These characteristics provide a picture of the current population and of changes to the population over time (including future projections). The health and wellbeing status of the population is influenced by population structure and demographic change. Changes in the size and structure of the population can also have significant impacts on the natural, physical, economic, and social environments, including the demand for health and social services, cultural and recreational services, schools, transport, water, waste management, energy, and housing.

The New Zealand Census is a key source of demographic information for the population. The most recent Census was held on 6 March 2018 and initial results are scheduled to be available from 2019.

This section presents 2013 Census data, other Statistics New Zealand population measures (such as population estimates and projections), and additional demographic data (such as deprivation and disability data) to show population structure and changes over time. Relevant local versus national-level comparisons are also highlighted.

Key trends within demographics

The greater Christchurch area has experienced unprecedented population change following the Canterbury earthquakes in September 2010 and February 2011. The population of Christchurch City fell in 2011 and 2012 by 18,000 people, mainly due to people moving from Christchurch City to adjacent greater Christchurch areas (such as Selwyn and Waimakariri districts). This resulted in substantial population growth in the Selwyn and Waimakariri districts, while Christchurch City's population took several years to re-bound, only recently surpassing the 2010 population of 376,000.

In 2018, the greater Christchurch population was estimated to be 511,400, and by 2038 is projected to reach 621,600 (increasing by an average of 1.09% annually). A majority of the greater Christchurch population resides in Christchurch City, which had an estimated resident population of 388,500 in 2018, followed by Selwyn and Waimakariri districts (62,200 and 60,700, respectively). Over the next 20 years, Selwyn District is projected to experience the most growth; increasing by an average of 2.5 percent annually.

There are a number of important differences between population groups in greater Christchurch. For example, in 2013 Māori and Pacific ethnic groups had large younger populations, with just over half of Māori (52.9%) and Pacific peoples (50.8%) aged from 0 to 24 years. Conversely, Europeans had a much older population with just 29.5 percent aged 0 to 24 years and 17.5 percent aged 65 years and over.

Both the New Zealand Deprivation Index (NZDep2013) and the Index of Multiple Deprivation demonstrate that fewer residents of greater Christchurch live in high deprivation areas when compared with New Zealand overall. However, there are substantial differences in deprivation between the three territorial authorities, with the deprivation distributions for Selwyn and Waimakariri districts showing a skew towards lower deprivation, compared to a more even distribution of deprivation in Christchurch City.

USUALLY-RESIDENT POPULATION

The Census usually-resident population count includes residents who were present in New Zealand on Census night.

This indicator presents the Census usually-resident population change for greater Christchurch, the territorial authorities within greater Christchurch, and for New Zealand, using 2001, 2006 and 2013 Census data.

Table 1.1: Census usually resident population change for greater Christchurch, the Territorial Authorities within greater Christchurch, and New Zealand, 2001–2013

Area	Population			Change 2001-2006		Change 2006-2013	
	2001	2006	2013	Number	%	Number	%
Selwyn District	27,291	33,645	44,595	+6,354	+23.3	+10,950	+32.5
Christchurch City	324,081	348,459	341,469	+24,378	+7.5	-6,990	-2.0
Waimakariri District	36,900	42,834	49,989	+5,934	+16.1	+7,155	+16.7
Greater Christchurch	388,269	424,935	436,056	+36,666	+9.4	+11,121	+2.6
New Zealand	3,737,277	4,027,947	4,242,048	+290,670	+7.8	+214,101	+5.3

The table shows that the greater Christchurch population grew overall between 2001 and 2013. The greater Christchurch total population was 436,056 at the 2013 Census, having increased 2.6 percent since 2006. The New Zealand population increased by 5.3 percent in the same time period. The increase in greater Christchurch was driven by population growth in Selwyn and Waimakariri districts (16.7 and 32.5 percentage points, respectively) between 2006 and 2013. In 2013, Selwyn District was the fastest-growing territorial authority in New Zealand, while Waimakariri District had the third-fastest growth rate. In the same time period, Christchurch City experienced a decline in population size of 2 percent. The movement out of Christchurch City into the Selwyn and Waimakariri districts is likely due to the impacts of the 2010 and 2011 earthquakes [1].

Data Sources

Source: Statistics New Zealand.
Survey/data set: New Zealand Census. Access publicly available data from the Statistics New Zealand website www.archive.stats.govt.nz/browse_for_stats/population/census_counts/2013CensusUsuallyResidentPopulationCounts_HOTP2013Census.aspx
Source data frequency: Source data updated every 5 years. Next update due 2019 for selected 2018 Census data.

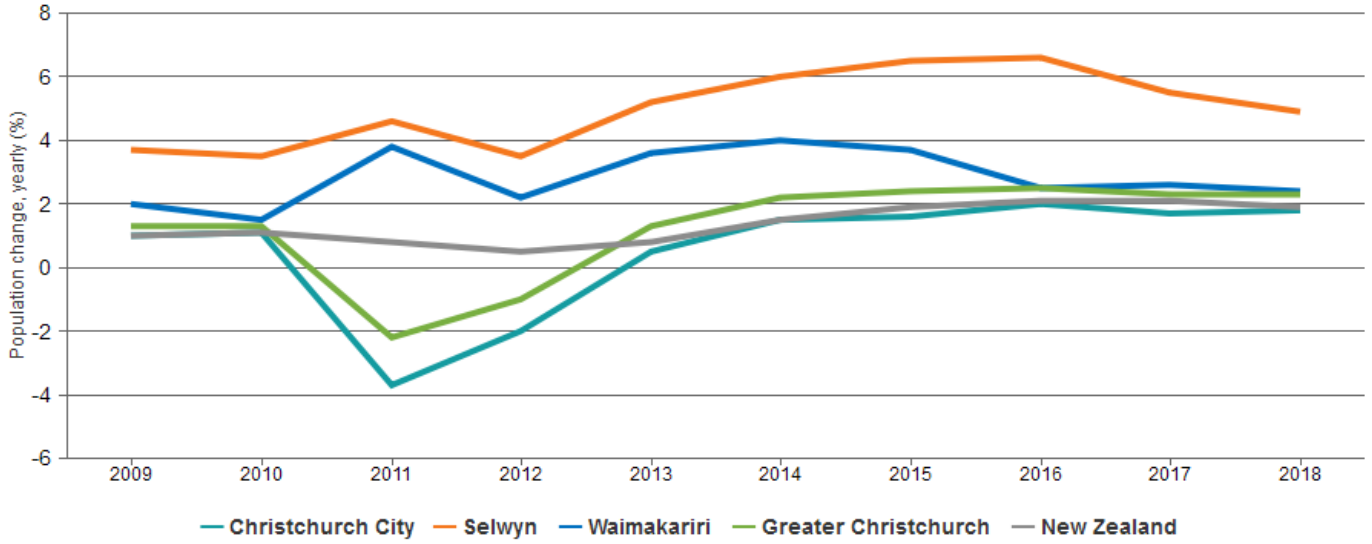
Metadata for this indicator is available at https://www.canterburywellbeing.org.nz/index-data

POPULATION CHANGE

Population estimates produced by Statistics New Zealand estimate the annual change in the resident population. Population estimates are calculated using Census data, net Census undercount, residents temporarily overseas, and births, deaths and net migrations since Census night [2]. Estimates are the best available measure of how many people usually live in an area each year and therefore are able to demonstrate annual fluctuations in the population, unlike the five-yearly Census. This is valuable in the case of greater Christchurch, as the region has experienced unprecedented population change following the Canterbury earthquakes in September 2010 and February 2011.

This indicator presents the annual proportional change in estimated resident population for greater Christchurch, the Territorial Authorities within greater Christchurch, and New Zealand, using Statistics New Zealand data, 2009-2018.

Figure 2.1: Annual proportional change in estimated resident population for greater Christchurch, the Territorial Authorities within greater Christchurch, and New Zealand, 2009–2018



The figure shows that greater Christchurch's population has been increasing each year, since the decline seen in 2010–2011. In the year to June 2018, greater Christchurch's estimated resident population was 511,400, which was an increase of 2.3 percent from the year to June 2017, similar to the national increase of 1.9 percent over the same time period. The greater Christchurch population is dominated by Christchurch City, which had an estimated resident population of 388,500 in the year to June 2018 and as a result the two areas show a similar trend. Up until 2017, Selwyn District was New Zealand's fastest growing territorial authority (in the year to June 2016 the population increased by 6.6%), however the rate of population growth has slowed in the past two years. In the year to June 2018, Selwyn District had an estimated resident population of 62,200 (an increase of 4.9%). This is the first point in this time series that Selwyn District has exceeded the population of Waimakariri District, which in the year to June 2018 was estimated to be 60,700.

Data Sources

Source: Statistics New Zealand.
Survey/data set: Subnational Population Estimates. Access publicly available data from the Statistics New Zealand website www.nzdotstat.stats.govt.nz/WBOS/Index.aspx?DataSetCode=TABLECODE7506
Source data frequency: Annually.

Metadata for this indicator is available at https://www.canterburywellbeing.org.nz/index-data

POPULATION PROJECTIONS

Population projections produced by Statistics New Zealand estimate the future number of people living in an area. Projections are derived from population estimates and assumptions about future fertility, life expectancy, and net migration [2]. Projections provide planners with information about the probable size and demographics of the population, helping to ensure that governments, local councils, and communities have infrastructure and facilities to meet the short- and long-term needs of future populations [2].

This indicator presents the population projections for greater Christchurch, and the Territorial Authorities within greater Christchurch, for 2018 and 2038, using Statistics New Zealand data.

Table 3.1: Population projections for greater Christchurch, and the Territorial Authorities within greater Christchurch, 2018 and 2038

Area	Year	Total
Greater Christchurch	2018	510,000
	2038	621,600
Christchurch City	2018	387,200
	2038	449,100
Waimakariri District	2018	60,900
	2038	79,600
Selwyn District	2018	61,900
	2038	92,900

The table shows that by 2038 the greater Christchurch population is projected to reach 621,600. A majority of those people (449,100) will reside in Christchurch City. In 2018, Selwyn and Waimakariri districts had similar sized projected populations, however it is projected that Selwyn District will experience relatively more growth and reach a population size of 92,900 in 2038, compared with 79,600 for Waimakariri District.

Data Sources

Source: Statistics New Zealand.
Survey/data set: Subnational Population Projections: 2013 (base)-(2043) update. Access publicly available data from the Statistics New Zealand website www.archive.stats.govt.nz/browse_for_stats/population/estimates_and_projections/SubnationalPopulationProjections_HOTP2013base-2043.aspx
Source data frequency: Source data updated 2 to 3 years.

Metadata for this indicator is available at https://www.canterburywellbeing.org.nz/index-data

POPULATION PYRAMIDS

Population pyramids illustrate the age distribution of a population. Pyramids can be tailored to compare the age structure of different population groups, for example regions, ethnicities, or in this case, genders.

This indicator presents the age and gender distribution of the population for greater Christchurch and New Zealand, using 2013 Census resident population count data.

Figure 4.1a: Population age and gender distribution for greater Christchurch, 2013

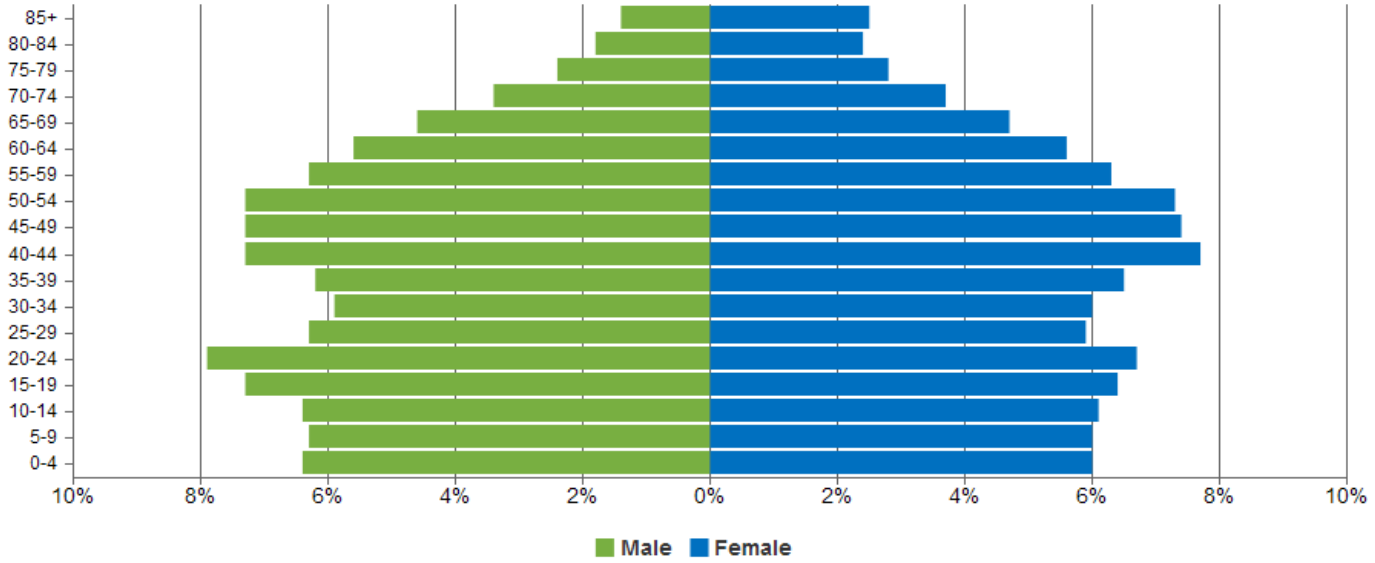
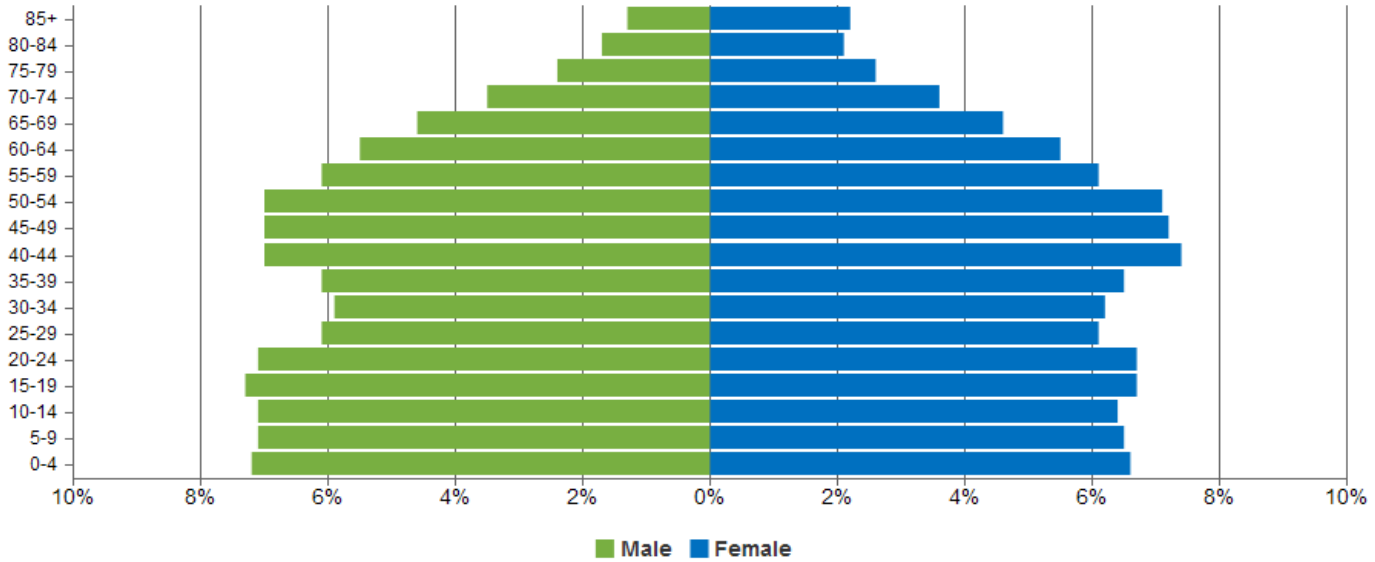


Figure 4.1b: Population age and gender distribution for New Zealand, 2013



Figures 4.1a and b show that the age and gender distribution of the greater Christchurch population was similar to that of New Zealand overall in 2013. Both areas had relatively high proportions in the 40 to 54 year age groups. However, greater Christchurch had a smaller youth population compared to New Zealand overall.

Figures 4.2 to 4.4 present the age and gender distribution of the Christchurch City, Selwyn District and Waimakariri District populations, using 2013 Census resident population count data.

Figure 4.2: Population age and gender distribution, for Christchurch City, 2013

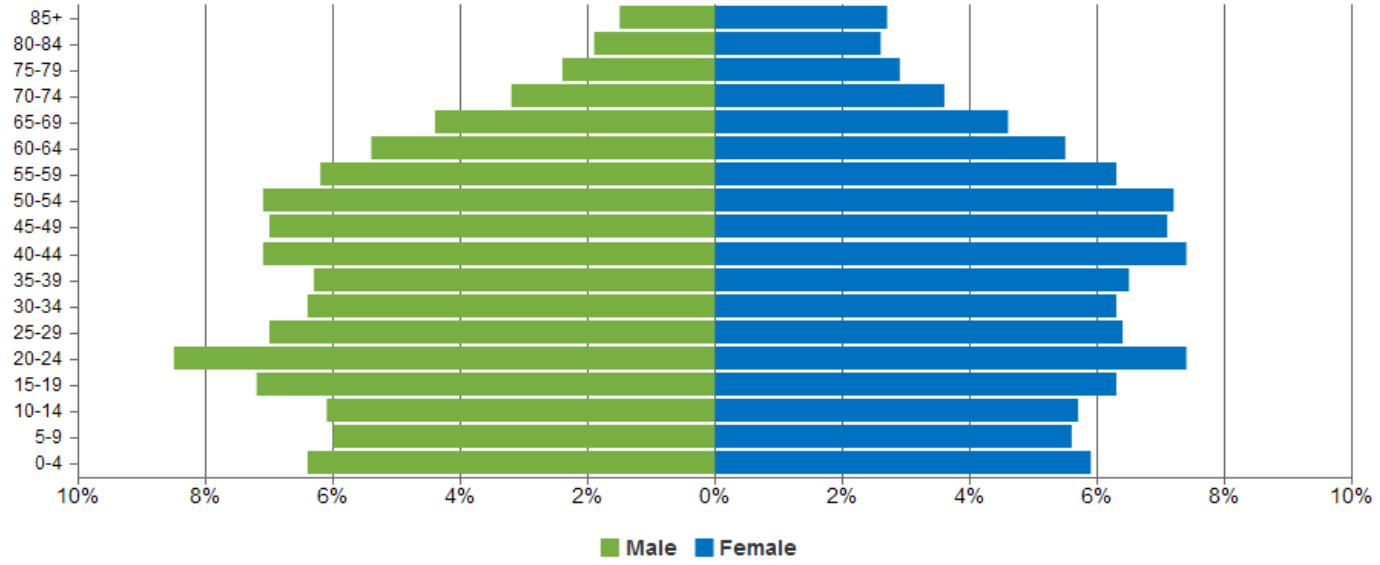
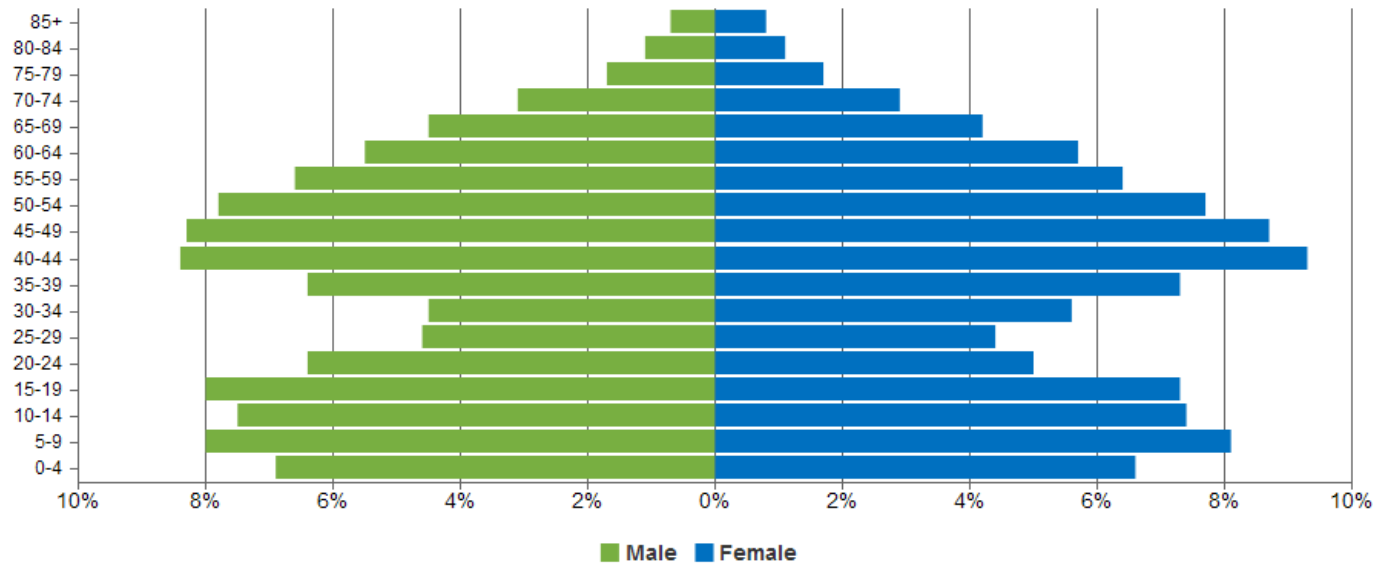
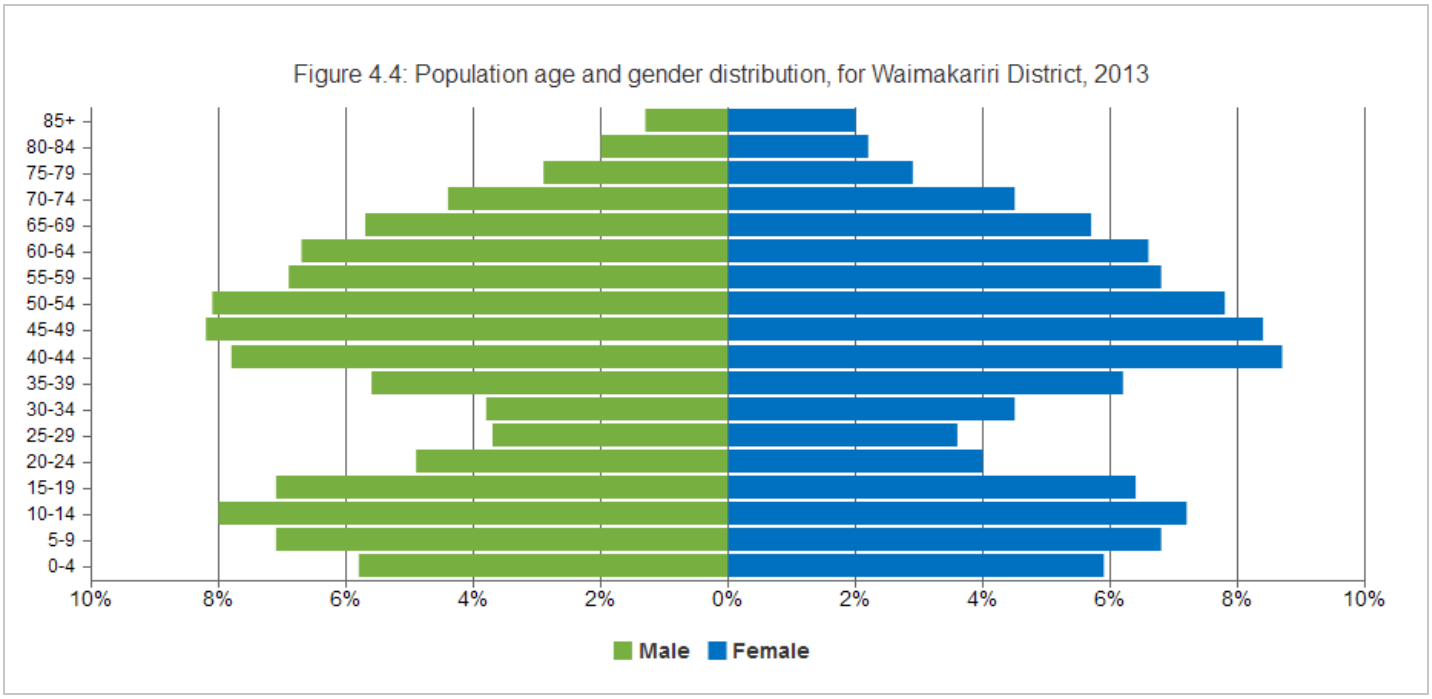


Figure 4.3: Population age and gender distribution, for Selwyn District, 2013





The figures show that in 2013 Christchurch City had relatively small younger age groups and large older age groups. Selwyn and Waimakariri districts had a smaller proportion of population aged between 20 to 39 years when compared with Christchurch City. This possibly reflects net out-migration of this age group to seek training and work opportunities. Waimakariri District had the largest proportion of people aged 65 years and over (16.3% male; 17.3% female), followed by Christchurch City (13.4% male; 16.4% female) and Selwyn District (11% male; 10.7% female).

Data Sources

Source: Statistics New Zealand.
Survey/data set: New Zealand Census to 2013. Access publicly available data from the Statistics New Zealand website www.archive.stats.govt.nz/browse_for_stats/population/census_counts/2013CensusUsuallyResidentPopulationCounts_HOTP2013Census.aspx
Source data frequency: Updated 5 yearly.

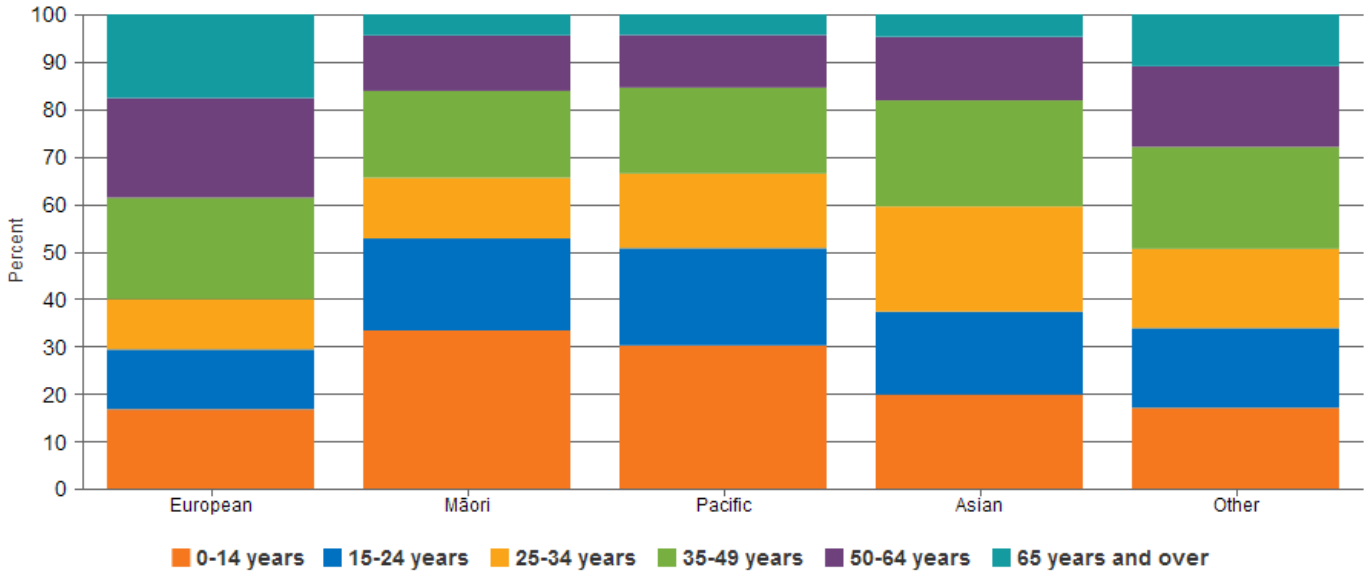
Metadata for this indicator is available at https://www.canterburywellbeing.org.nz/index-data

AGE DISTRIBUTION BY ETHNICITY

Age distributions by ethnicity are useful to identify the age differences between ethnic groups.

This indicator presents the age distribution by prioritised ethnicity for the Canterbury DHB region, using Census usually-resident population count data, 2013. 'Other' includes unknown ethnicity.

Figure 5.1: Age distribution by prioritised ethnicity for Canterbury DHB region, 2013



The figure shows that in 2013 the Māori, Pacific and, to a lesser extent, Asian ethnic groups had a markedly different age structure from the European and Other ethnic groups in the Canterbury DHB region. In 2013, the Māori and Pacific ethnic groups had a substantially younger population, with just over half of Māori (52.9%) and Pacific peoples (50.8%) aged from 0 to 24 years. In contrast, under a third (29.5%) of the European ethnic group fell into this age bracket. Similarly, less than five percent of the Māori, Pacific and Asian ethnic groups were aged 65 years and over. Substantially higher proportions of the European and Other ethnic groups fell into this age group (17.5% and 10.8% aged 65 years and over, respectively). The younger age structure of the Māori and Pacific ethnic groups reflects both higher birth rates and lower life expectancy [3].

Data Sources

Source: Statistics New Zealand.
Survey/data set: New Zealand Census to 2013. Custom data request for prioritised ethnicity for Canterbury region.
Source data frequency: Updated 5 yearly.

Metadata for this indicator is available at https://www.canterburywellbeing.org.nz/index-data

IWI AFFILIATION

The number of greater Christchurch residents belonging to the Māori ethnic group increased by 12.4 percent between 2006 and 2013, from 30,591 to 34,371 [4]. The 2013 Census asked those who identified as being of Māori descent if they knew the name(s) of their iwi [5]. As Māori often affiliate with more than one iwi, people are included in each iwi they identify with.

This indicator presents the ten most prevalent iwi affiliations among Māori descendants living in the greater Christchurch area, using Census iwi (total response) data, 2013.

Table 6.1: Ten most prevalent iwi affiliations among Māori descendants living in the greater Christchurch area, 2013

Iwi	Greater Christchurch
Ngāi Tahu / Kāi Tahu	12,246
Ngāpuhi	4,689
Ngāti Porou	3,582
Ngāti Tūwharetoa	1,593
Waikato	1,452
Tūhoe	1,278
Ngāti Maniapoto	1,128
Ngāti Kahungunu ki Te Wairoa	1,065
Te Arawa	987
Te Atiawa (Taranaki)	771

The table shows that Ngāi Tahu/Kāi Tahu was the most common iwi affiliation in greater Christchurch with 12,246 people indicating an affiliation in the 2013 Census. Ngāpuhi and Ngāti Porou were the next most common iwi affiliations with 4,689 and 3,582 people respectively.

Data Sources

Source: Statistics New Zealand.
Survey/data set: New Zealand Census 2013. Access publicly available data from the Statistics New Zealand website www.nzdotstat.stats.govt.nz/wbos/Index.aspx?DataSetCode=TABLECODE248
Source data frequency: Updated 5 yearly.

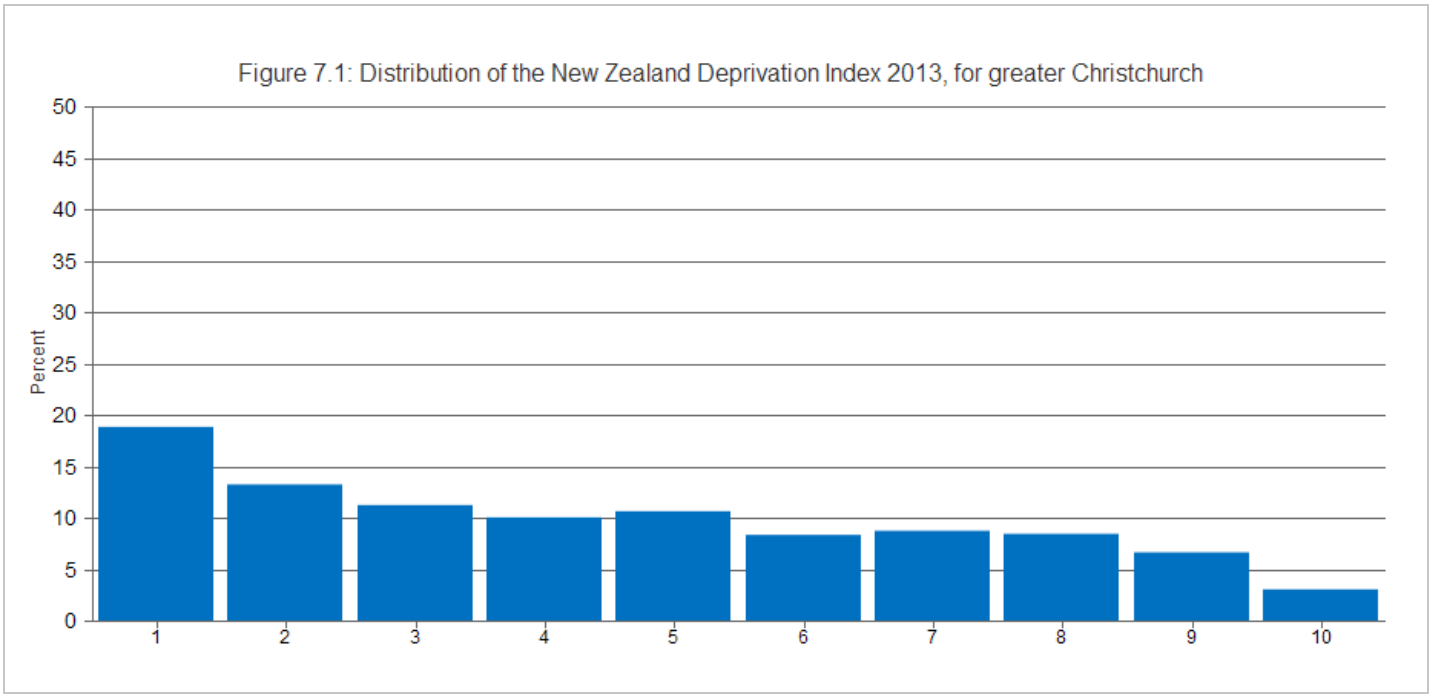
Metadata for this indicator is available at https://www.canterburywellbeing.org.nz/index-data

DEPRIVATION — NZDEP2013

The New Zealand Deprivation Index 2013 (NZDep2013) is a small-area measure of deprivation used to describe the deprivation experienced by groups of people [6]. NZDep2013 combines nine socio-economic variables from the 2013 Census, which represent eight deprivation factors: income, employment, communication, transport, support, qualifications, living space, and home ownership [7]. A weighted sum of these variables is calculated for the whole of New Zealand and to consider the deprivation distribution of different populations (such as ethnic groups and geographical populations). The NZDep2013 assigns each small-area in New Zealand a deprivation score. Based on these scores, areas are distributed into ten deciles, decile 1 indicates that an area is in the least deprived 10% of areas in New Zealand and decile 10 indicates that an area is in the most deprived 10% of areas in New Zealand. As an area measure of deprivation, NZDep2013 does not measure deprivation at an individual level.

Following the Canterbury earthquakes in 2010–2011, there was unprecedented population movement out of residential red zone areas in Christchurch City, particularly from more deprived areas of the city into less deprived areas. This redistribution may have caused an underrepresentation of deprivation as measured by NZDep2013 for Christchurch/Canterbury. Generally, increasing levels of deprivation are associated with higher mortality rates, and higher rates of many diseases [7], however some health outcomes (for example diabetes) are no longer demonstrating this association in Canterbury.

This indicator presents the New Zealand Deprivation Index (NZDep2013) profile for greater Christchurch and the territorial authorities within greater Christchurch.



The figure shows that the deprivation profile for greater Christchurch is skewed towards lower deprivation, with 53.6 percent of the population living in areas that have the four least deprived NZDep scores (deciles 1-4) and 27.1 percent living in areas that have the four most deprived NZDep scores (deciles 6-10). Greater Christchurch has a relatively less deprived NZDep13 profile compared to New Zealand overall (for which, all deciles, by design, equal approximately 10%).

Figure 7.2: Distribution of the New Zealand Deprivation Index 2013, for Christchurch City

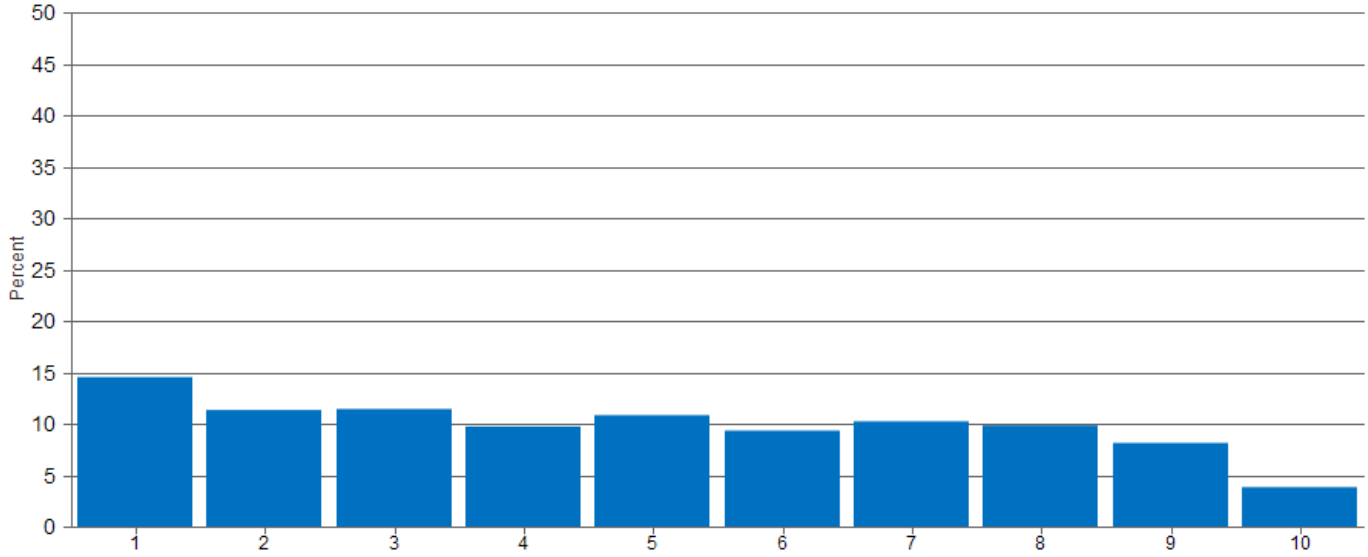
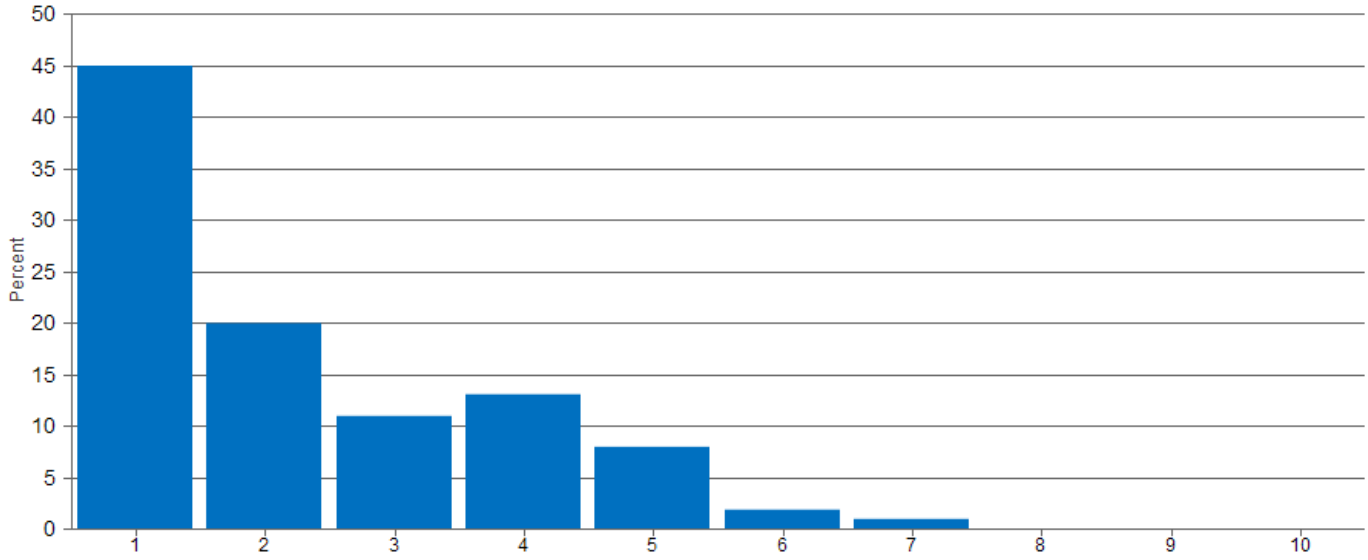
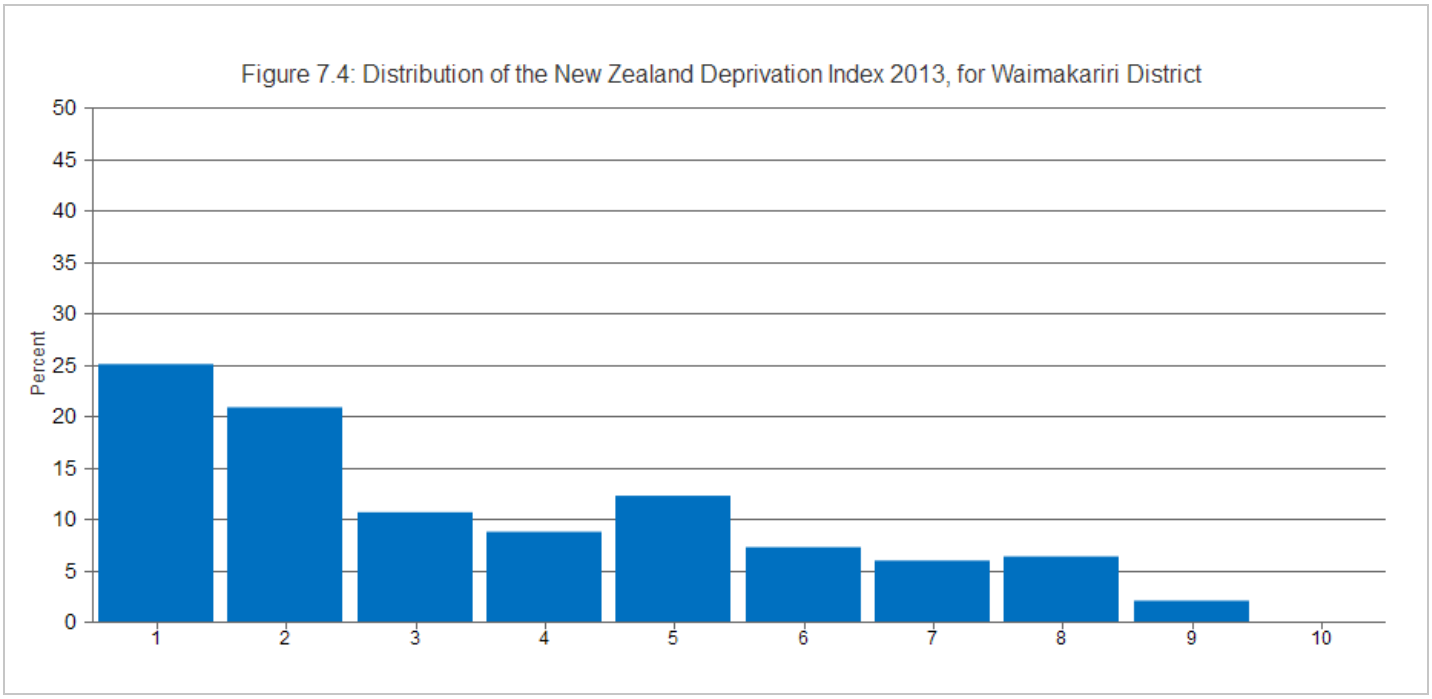


Figure 7.3: Distribution of the New Zealand Deprivation Index 2013, for Selwyn District





Figures 7.2 to 7.4 show that in 2013, a large proportion of residents from Selwyn District (89.1%) and Waimakariri District (65.4%) were living in areas with the four least deprived NZDep scores (deciles 1-4), along with much lower proportions living in areas with the four most deprived NZDep scores (deciles 7-10), at 1 percent and 14.5 percent, respectively. Christchurch City had a more even distribution across the deciles, with under half (47.3%) of the population living in areas falling into the four most deprived deciles and just under a third (32.4%) living in areas falling into the four least deprived deciles.

Data Sources

Source: University of Otago.
Survey/data set: NZDep2013 Index of Deprivation, developed by Atkinson J., Salmond C. and Crampton P. 2014. . Access publicly available data from the University of Otago website www.otago.ac.nz/wellington/departments/publichealth/research/hirp/otago020194.html
Source data frequency: Updated 5 yearly.

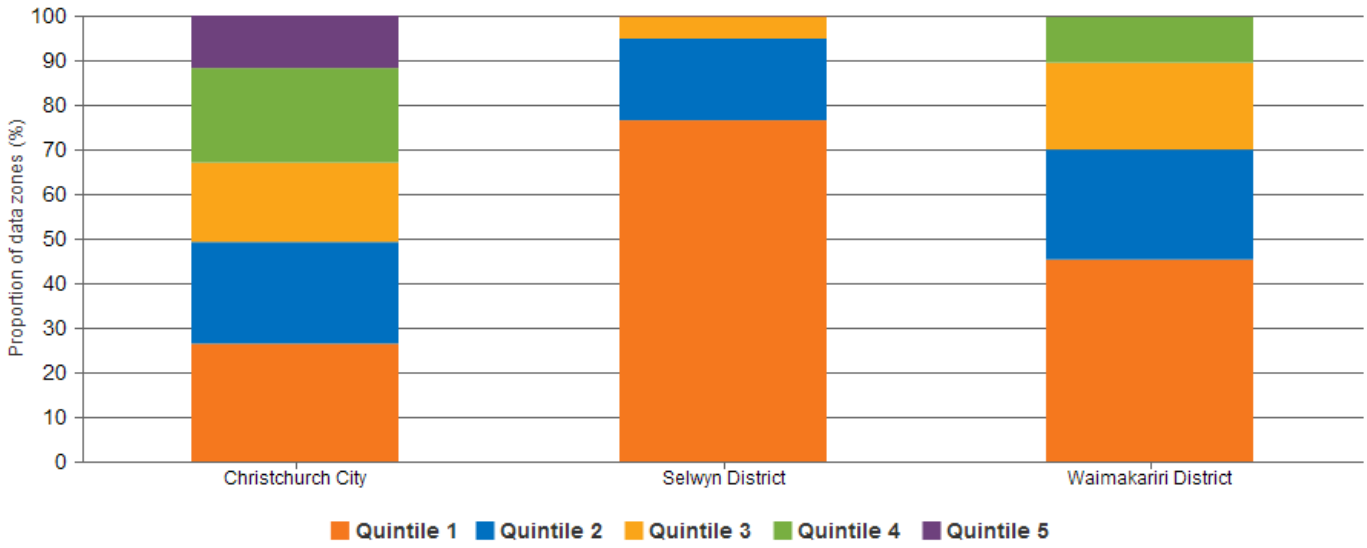
Metadata for this indicator is available at https://www.canterburywellbeing.org.nz/index-data

DEPRIVATION — IMD

The New Zealand Index of Multiple Deprivation (IMD) measures deprivation at the neighbourhood-level using custom-designed data zones (on average a data zone has a population of 712 people). The IMD consists of seven domains of deprivation (income, employment, crime, housing, health, education, and access to services) and includes 28 indicators which have been created using routinely collected data from government agencies, as well as Census data [8]. The seven domains are weighted based on their relative importance to socioeconomic deprivation, adequacy of their indicators, and robustness of the data they use [8]. Data zones are ranked from 1 (least deprived) to 5,958 (most deprived) and grouped in five quintiles (quintile 1 represents the 20% least deprived data zones in New Zealand; while quintile 5 represents the 20% most deprived data zones in New Zealand). A strength of the IMD is that domains can be used in combination or individually, therefore users are able to see what health or social outcomes are driving deprivation within a given geographical area [8]. Like the New Zealand Deprivation Index (NZDep), the IMD is a small-area measure of deprivation: it does not measure the deprivation circumstances of individuals, and therefore not everyone living in a deprived area is deprived [8]. However, a particular strength of the IMD is that users can compare areas that share the same level of overall deprivation (for example Quintile 5) in a geographical area and explore whether the drivers of deprivation (such as the domains) are the same or different.

This indicator presents the proportion of data zones in each quintile of deprivation by overall IMD rank for Christchurch City, Selwyn District, and Waimakariri District.

Figure 8.1: Proportion of data zones in each quintile of deprivation by overall IMD rank for Christchurch City, Selwyn District, and Waimakariri District, 2013



The figure shows that Selwyn and Waimakariri districts had low levels of overall IMD deprivation with zero percent and 10.4 percent of data zones in those districts falling into the two most deprived quintiles (quintiles 4 and 5), respectively. Almost a third (32.8%) of data zones in Christchurch City fell into quintiles 4 and 5, which was less than the national proportion (40%). Selwyn District had the highest proportion of data zones in the least deprived quintiles (quintiles 1 and 2) at 95 percent, followed by Waimakariri District (70.1%) and Christchurch City (49.4%).

Data Sources

Source: The University of Auckland.
Survey/data set: Index of Multiple Deprivation developed by Exeter et al 2017 and licensed by The University of Auckland for re-use under the Creative Commons Attribution 3.0 New Zealand licence. Access publicly available data from the University of Auckland website www.fmhs.auckland.ac.nz/imd
Source data frequency: The 2013 IMD will be updated in 2019/20.

Metadata for this indicator is available at https://www.canterburywellbeing.org.nz/index-data

LONG-TERM HEALTH CONDITION OR DISABILITY

Long-term health condition or disability status has been measured in the Canterbury Wellbeing Survey since baseline (2012) [9]. The survey asks respondents whether they have a long-term health condition or disability (lasting 6 months or more) that stops them from doing everyday things that other people can do [10]. Over the time-series of the survey, respondents who have indicated having a long-term health condition or disability have also had poorer outcomes across a number of other survey measures, relating to both wellbeing status and access to the determinants of wellbeing (for example overall quality of life, emotional wellbeing, loneliness or isolation, self-rated health, stress, ease of access to suitable transport for daily activities, ease of access to the natural environment, and household income meeting everyday needs) [10].

This indicator presents the proportion of those 18 years and over who responded to the 2018 Canterbury Wellbeing Survey indicating that they have a long-term health condition or disability.

Figure 9.1: Proportion of those 18 years and over with a long-term health condition or disability, for greater Christchurch and by Territorial Authority, 2018

The figure shows that, in greater Christchurch, the proportion of respondents living with a long-term health condition or disability was 18 percent. Waimakariri District had the highest proportion (18.4 %) of respondents with a long-term health condition or disability, followed by Christchurch City (18.2%) and Selwyn District (15.7%). There were no statistically significant differences between the four areas.

Data Sources

Source: Canterbury District Health Board.
Survey/data set: Canterbury Wellbeing Survey to 2018. Access publicly available data from the Community and Public Health (Canterbury DHB) website www.cph.co.nz/your-health/wellbeing-survey/
Source data frequency: Annually.

Metadata for this indicator is available at https://www.canterburywellbeing.org.nz/index-data

DISABILITY

The New Zealand Disability Survey (2013) provides information about the number of disabled children and adults living in New Zealand. Disability was defined in the survey as “long-term limitation (resulting from impairment) in a person’s ability to carry out daily activities” [11]. A person (adult or child) may appear in more than one disability type.

This indicator presents the proportion of the Canterbury region and New Zealand population living in private households with a disability, by type, using New Zealand Disability Survey data, 2013.

Table 10.1: Proportion of the Canterbury region population living in private households with a disability, by type, 2013

Type of disability	Canterbury	New Zealand
Hearing	10%	8%
Seeing	4%	4%
Mobility	12%	12%
Agility	7%	7%
Intellectual	2%	2%
Psychiatric/ psychological	7%	5%
Speaking	3%	3%
Learning	4%	4%
Memory	4%	3%
Total with impairment	25%	23%

The table shows that the proportion of the Canterbury region population living with a disability was similar to the national proportion, both overall and by disability type. In Canterbury, mobility (12%) and hearing (10%) impairments were the most common disabilities, followed by agility (7%) and psychiatric/psychological (7%) disabilities.

Data Sources

Source: Statistics New Zealand.
Survey/data set: New Zealand Disability Survey 2013. Access publicly available data from the Statistics New Zealand website www.archive.stats.govt.nz/browse_for_stats/health/disabilities/DisabilitySurvey_HOTP2013/Commentary.aspx
Source data frequency: Previously 5 yearly, now 10 yearly.

Metadata for this indicator is available at https://www.canterburywellbeing.org.nz/index-data

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2 Statistics New Zealand (2018) Frequently asked questions - population statistics updated 25 September 2018. Retrieved 15 November 2018 from www.stats.govt.nz

3 Ministry of Health (2016) *Health and independence report 2016: The Director-General of Health's annual report on the state of public health*. Wellington: Ministry of Health.

4 Statistics New Zealand (2014) *2013 Census QuickStats about greater Christchurch*. Wellington: Statistics New Zealand.

5 Statistics New Zealand (2013) *New Zealand Census of population and dwellings*. Wellington: Statistics New Zealand.

6 Salmond CE, Crampton P (2002) *NZDep2001 index of deprivation*. Wellington: Department of Public Health, Wellington School of Medicine and Health Science.

7 Atkinson J, Salmond, C., & Crampton, P. (2014) *NZDep2013 index of deprivation.* Wellington: Department of Public Health, University of Otago

8 Exeter DJ, Zhao J, Crengle S, Lee A, Browne M (2017) The New Zealand Indices of Multiple Deprivation (IMD): A new suite of indicators for social and health research in Aotearoa, New Zealand. *PLoS One* 12.

9 CERA (2012) *CERA Wellbeing Survey 2012 Report, prepared by AC Nielsen for the Canterbury Earthquake Recovery Authority.* AC Nielsen and the Canterbury Earthquake Recovery Authority.

10 Canterbury DHB (2018) *Canterbury Wellbeing Survey, June 2018: Report prepared by Nielsen for the Canterbury District Health Board and partnering agencies*. Christchurch: Canterbury District Health Board.

11 Statistics New Zealand (2014) Disability Survey: 2013. Wellington: Statistics New Zealand.

FIND OUT MORE

> **Christchurch City Council community profiles**
This webpage provides demographic information about the Christchurch City population, including information by ward.