Canterbury District Health Board
Te Poari Hauora ō Waitaha

Canterbury Wellbeing Index

Keeping well and having access to health services

2016

The Canterbury Wellbeing Index tracks the progress of social recovery in greater Christchurch following the earthquakes using indicators to identify emerging social trends and issues.

Why are keeping well and having access to services important?

Good health is crucial to the wellbeing of individuals, their families, and their communities. The health system aims to maximise both the length and quality of life. Health care services manage disease and trauma and are an important determinant of health outcomes. However health creation and wellbeing (overall quality of life) are influenced by a wide range of factors beyond the health sector.

By keeping healthy, people are more able to lead rich and rewarding lives within their families and their communities. People who are less healthy may find it more difficult to participate in sports and recreation, or arts and cultural activities, or simply to complete the tasks of daily living. They may also struggle to socialise with their family, friends and community.

Health is determined by a number of environmental and social factors. For example, living in poor-quality housing, having a low income, being unemployed, and having few educational qualifications significantly lessen people's health and wellbeing.[1-4] Poor-quality housing that is cold, damp and mouldy significantly worsens the health of older people, young children, and people who already have health problems.[5]

Our health system aims to maintain the health of the population, identify any disease or health condition as soon as possible, and provide timely access to health care services. Early access helps to restore health (for example, through surgery) or helps people with a long-term condition to continue to function as well as possible. Reducing geographical, cultural and other barriers to care helps people access services in a timely manner.

Acute medical admissions

In an acute medical admission, a person is admitted to a hospital because they require urgent specialist attention, which may be for any of a wide range of medical conditions. If the rate of acute medical admissions increases, it could indicate the underlying health status of the population is declining. Alternatively it could mean that people are not accessing or engaging with community services early enough, especially their general practice (GP) team, which is the point of first contact with the health system for most people.[6]

Influenza-like illness

Influenza (flu) is a significant public health issue. Ten to 20 per cent of New Zealanders are infected every year.[7] While most recover at home, some are admitted to hospital because their condition becomes serious. In 2009, hospital admissions for H1N1 Influenza were three times higher for Māori and 6.7 times higher for Pacific people than for the 'European and Other' ethnic group.[8] Influenza can be fatal for a small number of people, most of whom already have health problems. Death rates for the 2009 H1N1 influenza pandemic were also higher for people living in the most deprived neighbourhoods compared to the least deprived neighbourhoods in New Zealand.[9] As well as affecting wellbeing, influenza has a financial impact on workplaces, and can place a heavy load on primary care and hospital services during winter epidemics.[10,11]

Access to primary health care

Primary health care services, such as general practices and medical centres, are the main means by which New Zealanders take care of their health needs. People need to be able to access primary health services on time to get treatment for a health condition before it becomes more severe. In the 2014/15 New Zealand Health Survey, 81.3 per cent of Canterbury respondents had visited a GP in the past 12 months compared with 80.0 per cent nationally.[a] There was no statistically significant difference between these results.

Childhood immunisation rates

Childhood immunisation provides protection from a range of serious illnesses, including rotavirus, measles, mumps, rubella, tetanus, diphtheria, polio, hepatitis B, haemophilus influenza type b, pneumococcal disease and whooping cough.

Childhood immunisation rates are a good indicator of access to primary care, as these immunisations are undertaken by GP teams. If there are barriers to seeing GP teams, such as cost or transportation, then it is possible that immunisations rates will decrease.

The Government targets for immunisation required that 85 per cent of two-year-olds were immunised by July 2010, 90 per cent by July 2011 and 95 per cent by July 2012.[12] This has been a successful approach, with two-year-olds' immunisation coverage rates across New Zealand rising from 67 per cent in 2007 to 88 per cent in December 2010.[12]

In 2012 the Government's target changed to focus on eight-month-olds, requiring district health boards to ensure that 85 per cent were immunised by July 2013, 90 per cent by July 2014 and 95 per cent by December 2014.[13]

How were keeping well and having access to health services impacted by the earthquakes?

In the first two weeks following the September 2010 earthquake, there was a significant increase in overall cardiology admissions, admissions for heart attack, and admissions for non-cardiac chest pain.[14] The February 2011 earthquake did not lead to a significant increase in heart attack admissions, which might, in part, be due to the different times of the day that the earthquakes struck; 4:35am for the September 2010 earthquake and 12:51pm for the February 2011 earthquake. The risk of heart attacks is known to increase during the morning after waking and arising.[14] It might have also been partly due to the 'harvesting effect', which is when a major disaster causes an initial surge in heart attacks in vulnerable people, slightly earlier than when they would have had one if there was no earthquake.[15] This surge is then followed by a corresponding fall in heart attacks, since a proportion were triggered already by the September 2010 earthquake.

In the four days following the February earthquake, there were, however, 21 admissions for stress cardiomyopathy,[16,17, b] which is extremely high, given the annual average of approximately six admissions.[14, 18, c]

The February earthquake had a major impact on hospital services, with a loss of 106 acute beds in general medicine and 635 beds in aged residential care.[i] Over 250 elderly rest home residents were evacuated to other regions because their facilities were no longer habitable. This group was repatriated by December 2011, although approximately 60 residents chose to continue to live outside Canterbury.

The February earthquake also had a profound impact on the primary care and community provider infrastructure and its capacity to provide health care. However, most services were soon back up and running again. Within 24 hours of the February earthquake, 96% of pharmacies were open, often in makeshift conditions, and 95% of general practices were operational over a similar time period.[19]

The Institute of Environmental Science & Research (ESR) investigated whether liquefaction silt deposits posed any health risks. Two issues were considered; the effect of the silt particles on respiratory conditions, and the risk from microorganisms from sewage contaminated silt.

[a] Figures reported are unadjusted rates from the New Zealand Health Survey (customised data request).
[b] Stress cardiomyopathy is a potentially fatal condition in which intense emotional or physical stress can cause rapid and severe heart muscle weakness.
[c] All 21 admissions for stress cardiomyopathy were women aged between 52 and 85 years and all had good outcomes at 12 months follow-up.

In an ESR report written after the September 2010 earthquake, it was noted that while it was likely that most silt dust particles were large enough not to cause health problems, some fine dust particles could cause nuisance and people with respiratory disorders could have experienced additional irritation of their symptoms.[20]

Another ESR report written after the February earthquake that broke many sewerage pipes concluded that since there were no outbreaks of gastrointestinal illness reported in Canterbury during the time of liquefaction clean-up, this suggested that most silt was not heavily contaminated with sewage.[21] The report noted that "if sewage contamination has occurred, then liquefaction silt represents a potential exposure route to pathogenic microorganisms for more than five months" (p. V). The report also noted that the risks are independent of silt depth, since microorganisms were found in piles of silt only 5 cm high. ESR recommended that if silt deposits from liquefaction occur again, people should avoid contact with the silt, and if contact happens, people should avoid touching their face and should wash their hands with soap and clean water before eating and drinking, food handling or smoking.[21]

What is happening now?

The Canterbury District Health Board (Canterbury DHB) leads agencies across the Canterbury health system to deliver services that support people to stay well and healthy in their own homes. In this way, the health system's ability to manage demand for health services and keep people well is being enhanced.

Immediately after the February 2011 earthquake, support was provided to vulnerable populations and providers. Acute demand services to support people at risk of acute admission to hospitals were extended and new programmes were developed to support people in their own homes following discharge from hospital. These programmes have been enhanced and further developed over time to ensure the health system is able to cope with the reduction in acute hospital beds caused by the earthquakes, until 2019 when more capacity becomes available with construction of the new Acute Services Building. The Government's influenza immunisation programme targets people aged 65 years and over, pregnant women, and people under 65 years with a long-term health condition. Canterbury DHB extended free influenza vaccinations for children under 18 years until 2014 to keep young people well and because of the housing situation and pressure on hospital beds. Over the last two years the focus has been on the older population where Canterbury has achieved among the highest vaccination rates in the country.

The proportion of Canterbury respondents reporting excellent, very good, or good self-rated health in the New Zealand Health Survey has not changed statistically significantly since 2006/07. In 2014/15, the proportion was 87.5 per cent compared to 89.9 per cent in 2006/07 and 90.8 per cent in 2013/14.[d] There was also no statistically significant difference in rates between Canterbury respondents and all of New Zealand respondents reporting excellent, very good, or good self-rated health in 2014/15.

What are the indicators telling us?

Acute medical admissions have been increasing over time and have a strong seasonal pattern of increases in the winter months. Acute medical admissions peaked in July 2015 with 1,588 admissions.

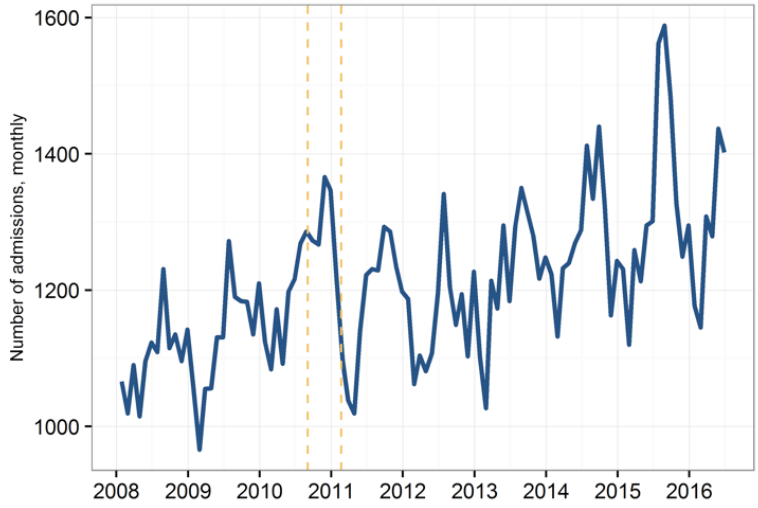
Acute medical admissions

The measure used in this report is the number of acute general medical admissions.[e]

Figure 1 shows that acute medical admissions have been increasing over time and have a strong seasonal pattern of increases in the winter months.[f] Acute medical admissions peaked in July 2015 with 1,588 admissions. The data for 2016 is current up until June 2016, and at this point, there were fewer acute medical admissions than in June 2015 (1,402 compared to 1,562). Previous research has found that there was a statistically significant fall in the seasonally adjusted admission rate after the February 2011 earthquake from 6.59/1000 people to 5.83/1000 people.[22] During the period from 2006/07 to at least 2013/14, Canterbury had a lower age-standardised acute medical admission rate than the national rate and the Canterbury rate increased more slowly than nationally.[23]

[d] Figures reported are unadjusted rates from the New Zealand Health Survey (customised data request).
[e] Congestive heart failure and respiratory admissions for children had been monitored in the 2013 and 2014 versions of the Canterbury Wellbeing Index; however there was no discernible change.
[f] Figure 1 represents count data rather than rates, so does not account for changes over time in the age make up of greater Christchurch, such as an increasing total population or an increasing elderly population.

Figure 1: Number of Canterbury District Health Board acute general medical admissions

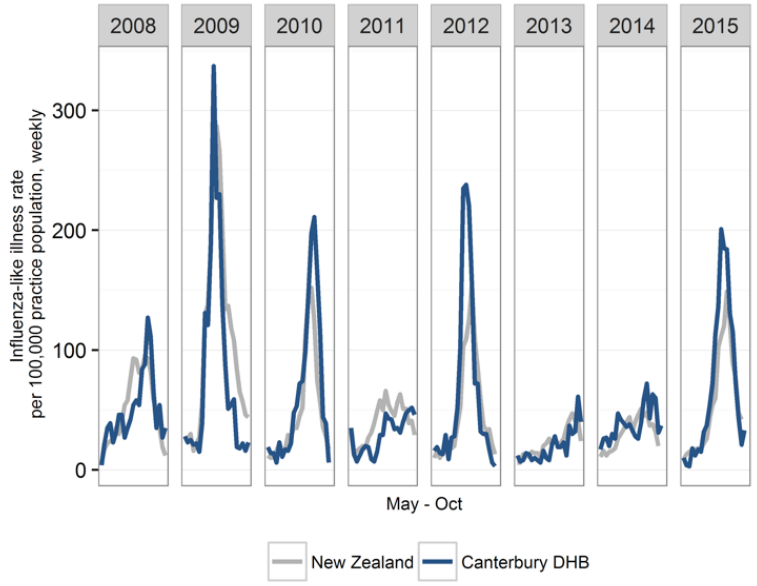


Influenza-like illness (rates)

Influenza-like illness rates (per 100,000 people enrolled in general practices) are determined by a number of factors including the type and virulence of the influenza viruses that are circulating in any given year, previous exposure, and the proportion of the population that has received the influenza vaccination. Differences between regions in the coverage of the surveillance system can also influence the reported rates.

In 2011 New Zealand experienced a low incidence of influenza compared with previous years. During that year (May to October), Canterbury had even lower rates than New Zealand overall. However, as shown in Figure 2, the 2012 season had a higher rate. The rates in Canterbury were more than double those of New Zealand during the July peak and were the highest reported by any region. In 2013 and 2014, rates dropped notably in both Canterbury and nationally before increasing again in 2015, when Canterbury had a higher rate than nationally. Influenza incidence is unpredictable; vaccination and good personal hygiene are the best things that individuals can do to avoid contracting influenza.

Figure 2: Weekly influenza-like illness rate



Influenza (vaccinations)

In this report, influenza vaccinations are measured as the proportion of the population enrolled in general practices aged 65 years and over who receive an influenza vaccine each year.

Vaccination is the most effective means of protecting against influenza at the population level. The yearly 65+ vaccination rate for influenza in the Canterbury area has remained relatively stable over time, ranging from 71 to 75 per cent between 2008 and 2014. In 2011, when the rate dropped to 71 per cent, it was still higher than the national rate of 66 per cent. By 2013 the rate had returned to pre-earthquake levels, increasing to 75 per cent. In 2015, the vaccination rate for the 65+ age group was 74 per cent compared to the national rate of 67 per cent.[g]

Access to general practice services

The two measures used in this report are:

- self-reported barriers to health care
- childhood immunisation rates.

Table 1 summarises self-reported barriers to health care in the Canterbury DHB region over time. It shows that for survey respondents, there has been no statistically significant change in experiencing unmet need for primary health care from 2011/12 to 2014/15.[h] In 2012/13 there was a significant decrease in the proportion of respondents reporting being unable to get an appointment at their usual medical centre within 24 hours, however there were no significant differences between all other years. Although these were small changes over time, the table shows that there are no other significant differences in the other indicators of barriers to health care.

For the 2014/15 year, the proportion of respondents from Canterbury who reported that they were unable to get an appointment at their usual medical centre within 24 hours (12.8 per cent) was statistically significantly lower than the national proportion of 16.8 per cent.

For the 2014/15 year, the proportion of respondents from Canterbury who reported that they were unable to get an appointment at their usual medical centre within 24 hours (12.8 per cent) was statistically significantly lower than the national proportion of 16.8 per cent.[i] There were no other statistically significant differences between Canterbury and national data in any of the indicators in Table 1 for 2014/15.[j]

Table 1: Summary of barriers to health care for adults in the past 12 months from the New Zealand Health Survey

Indicator	CDHB area % (95% C.I.)			
	2011/12	2012/13	2013/14	2014/15
Experienced unmet need for primary health care	27.6 (23.0-32.8)	22.3 (18.1-27.1)	29.9 (25.2-35.0)	23.1 (19.7-26.7)
Unable to get appointment at usual medical centre within 24 hours	14.9 (12.2-18.1)	7.8 (5.6-10.9)	16.1 (11.7-21.8)	12.8 (10.3-15.9)
Unmet need for GP services due to cost	15.0 (12.0-18.4)	14.6 (11.9-17.7)	17.8 (14.5-21.6)	14.3 (12.1-16.9)
Unmet need for after-hours service due to cost	8.7 (6.8-11.0)	6.6 (4.4-9.9)	5.8 (4.4-7.6)	5.5 (3.7-7.9)
Unfilled prescriptions due to cost	5.9 (4.5-7.7)	5.1 (3.8-6.7)	8.2 (6.6-10.3)	5.1 (3.9-6.6)

Note: Results reported are unadjusted prevalence (%) data for adults 15 years and over.

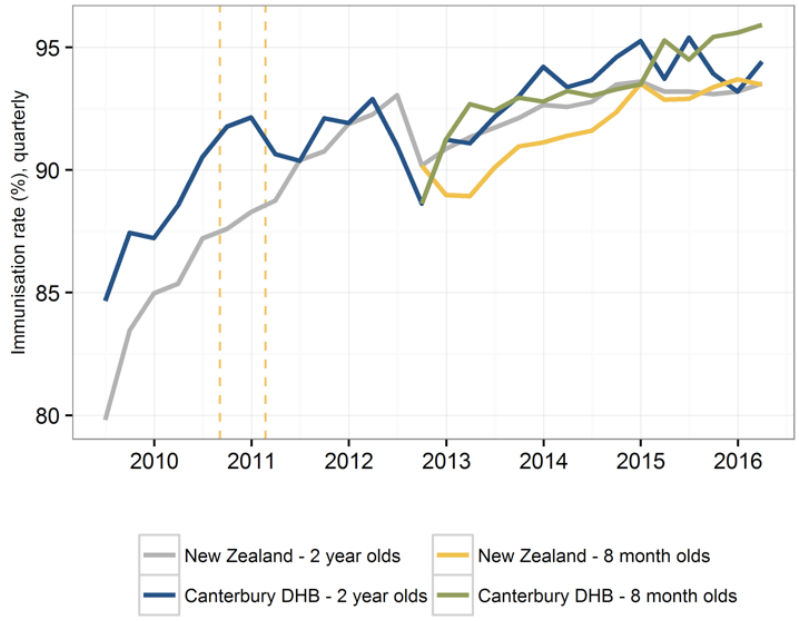
[g] *2015 data is supplied by the Ministry of Health, from DHB Shared Services. No confidence intervals were supplied.*
[h] *Figures reported are unadjusted rates from the New Zealand Health Survey (customised data request).*

Childhood immunisation rates are measured in two ways in this report:

- two-year-old immunisation rates (Government target July 2010 – July 2012)
- eight-month-old immunisation rates (Government target July 2013 – current).

Figure 3 shows that the immunisation rates for two-year-olds dipped in the two quarters after the February 2011 earthquake in Canterbury. A dip in the two-year-old immunisation rate was also seen nationally during this time period, although it was smaller. Since September 2012 the national and Canterbury immunisation rates for both eight-month-olds and two-year-olds have generally tracked upwards. Since 2013, the Canterbury eight-month-old and two-year-old immunisation rates have generally been higher than the national rates and since 2015, have generally been close to or above 95 per cent.

Figure 3: Immunisation rates for two-year-olds and eight-month-olds



Find out more

Find out more about the Canterbury Wellbeing Index:
www.cph.co.nz/your-health/canterbury-wellbeing-index/

Find out more about the links between health and housing in New Zealand:
www.healthyhousing.org.nz

Find out more about how to keep healthy:
www.cdhb.health.nz/Your-Health/Healthy-Well/Pages/default.aspx

Find out more about accessing health services in Canterbury:
www.cdhb.health.nz/Your-Health/Pages/default.aspx

Find out more about the Canterbury District Health Board Transition Programme:
www.cdhb.health.nz/About-CDHB/corporate-publications/Documents/transition_2012_plan.pdf

Technical notes

Acute medical admissions

Data source: Canterbury District Health Board

Data frequency: Monthly

Data complete until: June 2016

Notes: Acute medical admissions are defined as acute general inpatient admissions where the health specialty is general medicine. The Canterbury District Health Board geographical region covers Christchurch City, Kaikoura District, Hurunui District, Waimakariri District, Selwyn District, Ashburton District, and the Chatham Islands.

Influenza-like illness (rates)

Data source: Canterbury District Health Board

Data frequency: Weekly

Data complete until: October 2015

Notes: The rate presented is the influenza-like illness (ILI) rate per 100,000 practice population. ILI is measured weekly starting in week 18 (approximately the first week of May) through to week 40 (approximately the first week of October).

ILI surveillance is a voluntary national surveillance programme conducted in every district health board annually by sentinel medical practices. General practitioners identify all ILI patients who attend their practices from weeks 18–40 inclusive during the influenza season.

Influenza (vaccinations)

Data source: Canterbury District Health Board and Ministry of Health

Data frequency: Yearly

Data complete until: 2015

Notes: The vaccination rate is the number of people over 65 years who are vaccinated each year divided by the enrolled population for the target group. The Primary Health Organisations' Performance Programme has been the source of national data up until 2014. Data are quarterly and the fourth (December) quarter has been used in reporting to align with CDHB data. National data for 2014 aligns with the June quarter as the programme finished on 30 June 2014. In 2015, the data is from DHB Shared Services, supplied by the Ministry of Health, and is from the September 2015 quarter.

New Zealand Health Survey: Access to general practice services and self-rated health

Data source: Ministry of Health

Data frequency: Data collected 2006/07, 2011/12, 2012/13, 2013/14, and 2014/15

Data complete until: 2014/15

Notes: The New Zealand Health Survey has a multi-stage, stratified, probability-proportional-to-size sampling design. The survey is designed to yield an annual sample size of approximately 13,000 adults and 4,500 children.

A dual frame approach has been used where participants are selected from an area-based sample and a list-based Electoral Roll sample. The aim of this approach is to increase the sample sizes for Māori, Pacific and Asian ethnic groups.

Interviews are conducted in participants' homes, with the interviewer typing responses directly into a laptop computer using computer-assisted personal interview software. Showcards with predetermined response categories are used to assist respondents, where appropriate.

The New Zealand Health Survey respondents were asked if "In the past 12 months, has there been a time when you wanted to see a GP, nurse or other health care worker at your usual medical centre within the next 24 hours, but they were unable to see you?"

The Canterbury region was defined as the Canterbury District Health Board area.

The results reported are unadjusted prevalence (%) data for adults aged 15 years and over.

Immunisations

Data source: Canterbury District Health Board and Ministry of Health

Data frequency: Quarterly

Data complete until: December 2015

Notes: Immunisation data come from the National Immunisation Register from the Ministry of Health. The data represent the proportion of children who have completed their age-appropriate immunisations by the time they turned the milestone age (eight months or two years). Data are reported quarterly.

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