South Canterbury Child and Youth Health and Wellbeing Indicators

Canterbury District Health Board
Te Poari Hauora ō Waitaha

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March 2015

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This report presents indicators of child and youth health and wellbeing in South Canterbury. These indicators will aid in setting the context in which the South Canterbury Wellbeing and Vitality in Education (WAVE) project is working and help to identify and monitor health and wellbeing issues for children and youth in the region. The results of the indicators may not be directly attributable to the WAVE project due to many different factors possibly influencing an indicator.

The New Zealand Child and Youth Epidemiology Service (NZCYES) indicator framework was used to inform indicator selection (Craig, Jackson, & Han, 2007). The main categories of indicators were determined as being:

1. Risk and protective factors
2. Individual health and wellbeing
3. Health service utilisation
4. Education.

A comprehensive guide to indicator development and interpretation can be found in the Background to the South Canterbury Child and Youth Health and Wellbeing Indicators (Bartholomew, 2012). A few important points on interpretation should be made here.

For many indicators the data is based on small numbers, so rates may fluctuate from year to year. This can make it difficult to identify trends occurring over a number of years or differences between ethnic groups with any certainty.

NZCYES has calculated rate ratios between South Canterbury and New Zealand for some data to allow readers to infer wider relationships between the variables under study (Craig et al., 2011). For some of the other indicators, smoking prevalence in year 10 students, B4 School checks completed, percentage of 5 year olds caries free, mean DMFT in year 8 children, youth suicide rate, utilisation of DHB funded dental services by adolescents, and school leavers with a university entrance standard, statistical significance testing was able to be performed as described in the Background document. For the remaining indicators no significance testing was able to be performed. Therefore, it is not possible to identify whether the results for South Canterbury are significantly different from those for New Zealand overall. Any statistically significant differences are noted in the comments.

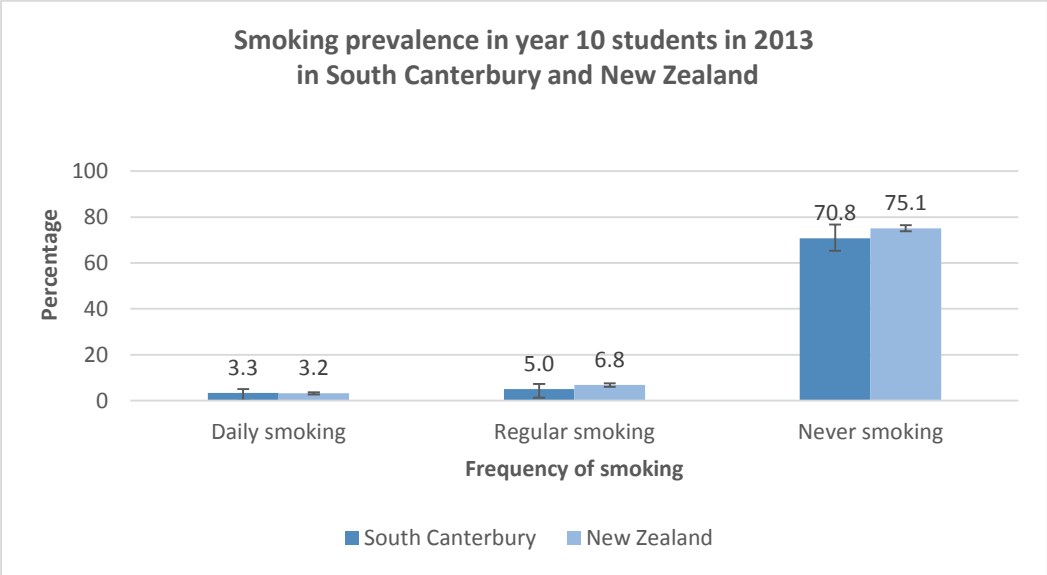
Both deprivation and ethnicity are important drivers of many of the rates presented in the indicators. Only 9% of the South Canterbury population are in the most socioeconomically deprived group (NZDep quintile 5) compared with 19.1% in New Zealand overall (Atkinson, 2014). The proportion of Māori in South Canterbury (7.4%) is the lowest in any DHB in New Zealand (the overall New Zealand proportion of Māori is 15.4%) (MoH, 2014). The

proportion of Pacific people is only 0.9%, the second lowest of any DHB in New Zealand (overall New Zealand proportion 6.7%) (MoH, 2014). Although the rates presented for South Canterbury will reflect the burden in South Canterbury, caution should be applied when comparisons are made to New Zealand overall. Whilst some of the education indicators have been adjusted for age, no other potential confounders have been adjusted for.

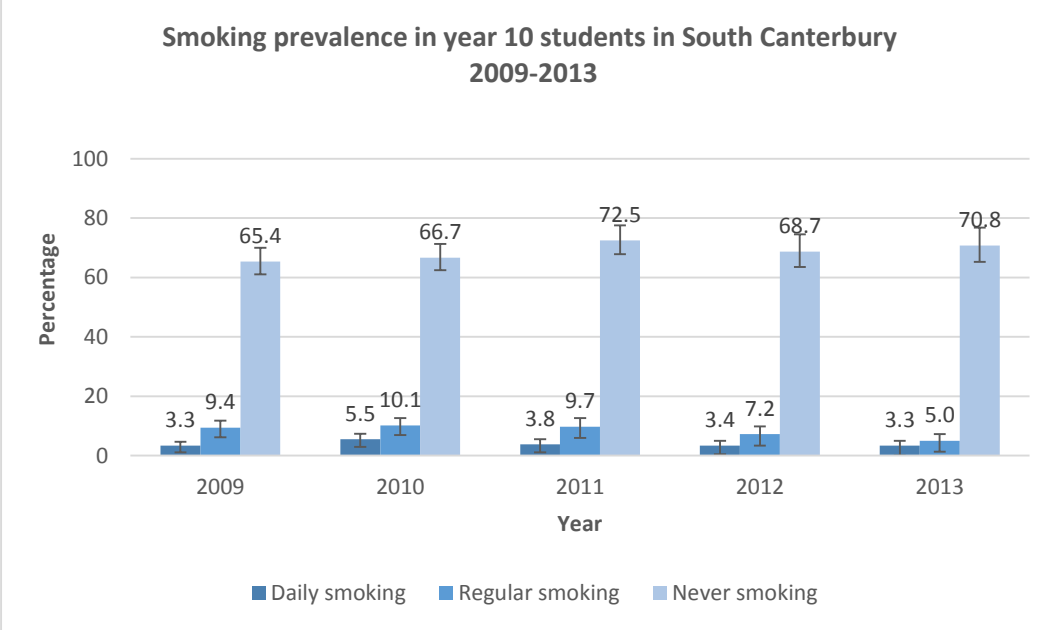
Twenty indicators have been identified describing the health and wellbeing of children and youth in South Canterbury. Some important potential indicators have not been presented, e.g. physical activity and nutrition. Although the New Zealand Health Survey does collect data on these indicators, the small numbers sampled from South Canterbury mean that local data is not available. Locally-collected data may be an important method for obtaining information on indicators such as physical activity and nutrition, which would add to this picture of health and wellbeing for South Canterbury children and youth.

Risk and Protective Factor Indicators

Indicator: Smoking prevalence in Year 10 students (14/15 year olds)



Source: ASH year 10 Snapshot Survey 2013

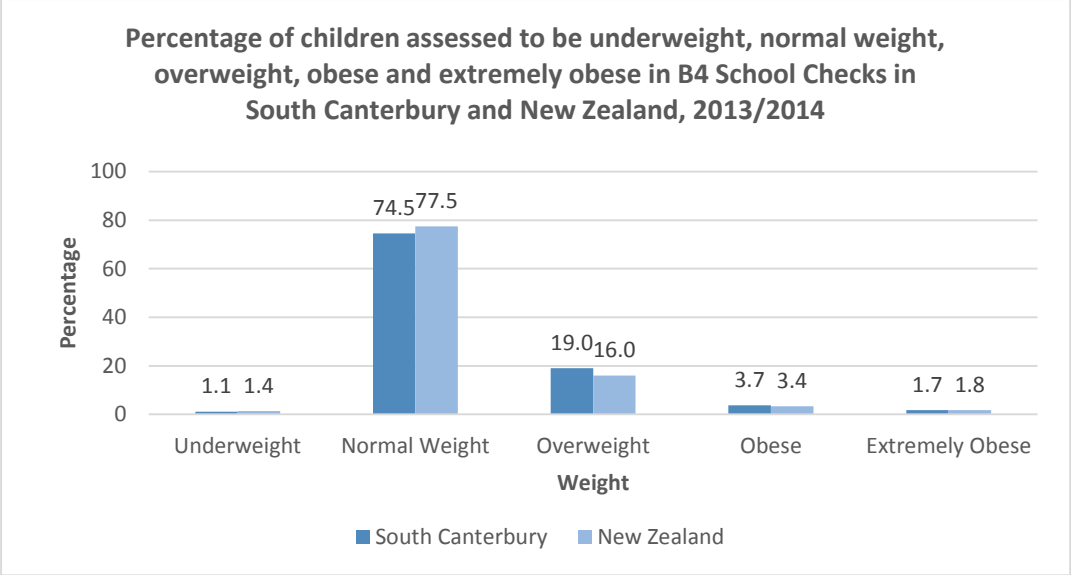


Source: ASH Year 10 Snapshot Survey 2013

Daily smokers are students who report that they smoke at least once a day. Regular smokers are students who report that they smoke daily, weekly or monthly. Never smokers are students who have answered 'no' when asked if they have ever smoked, even a puff. Other possible responses not reflected in this data include students reporting to smoke 'less often than once a month' and students who have experimented with smoking, i.e. students who have tried smoking, but do not currently smoke (ASH New Zealand, 2013).

Comment: Prevalence of daily smoking and regular smoking in 14/15 year olds in South Canterbury was similar to that in New Zealand overall in 2013. Even though not statistically significant, South Canterbury had a lower prevalence of never smoking than New Zealand. The prevalence of daily and regular smoking in 14/15 year olds has been steadily declining in the last decade in both South Canterbury and New Zealand, whilst in general the prevalence of those never smoking has increased.

Indicator: BMI

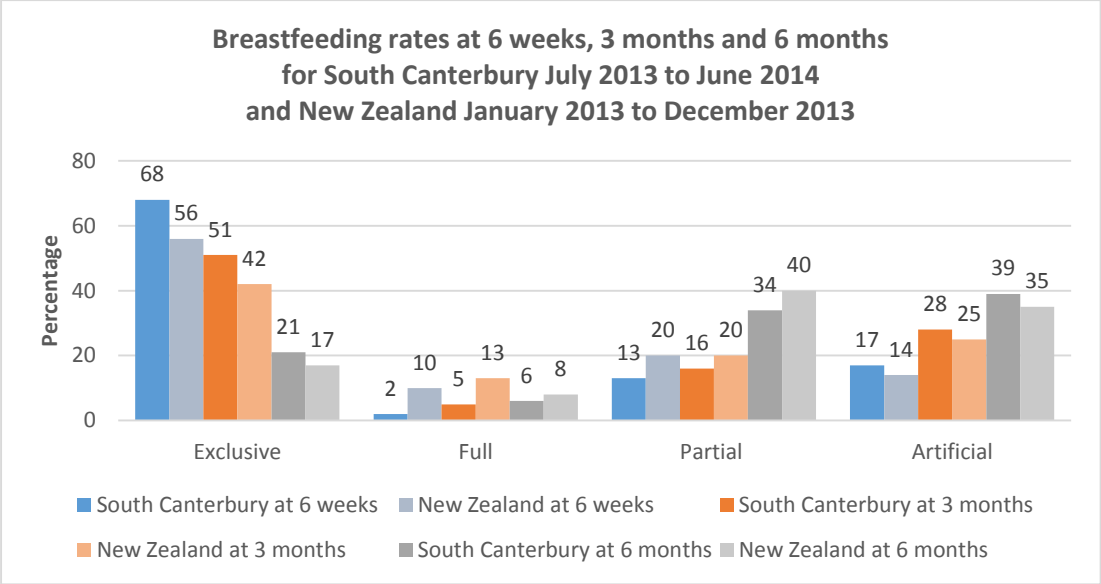


Source: B4 School Checks Programme South Canterbury

Note: Based on data July 2013-June 2014. For BMI range cut-offs see background document.

Comment: Similar percentages of children were obese and extremely obese at the B4 School Check in South Canterbury and New Zealand overall in the 2013/14 financial year. South Canterbury had slightly lower percentages of normal weight children and higher percentages of overweight children compared to New Zealand overall. It was not possible to determine statistical significance for this result, as the individual data values were not available (hence not possible to calculate standard errors).

Indicator: Breastfeeding rates



Source: Plunket Client Information System

Exclusive: The infant has never, to the mother's knowledge, had any water, formula or other liquid or solid food. Only breastmilk from the breast or expressed breastmilk and prescribed medicines have been given from birth.

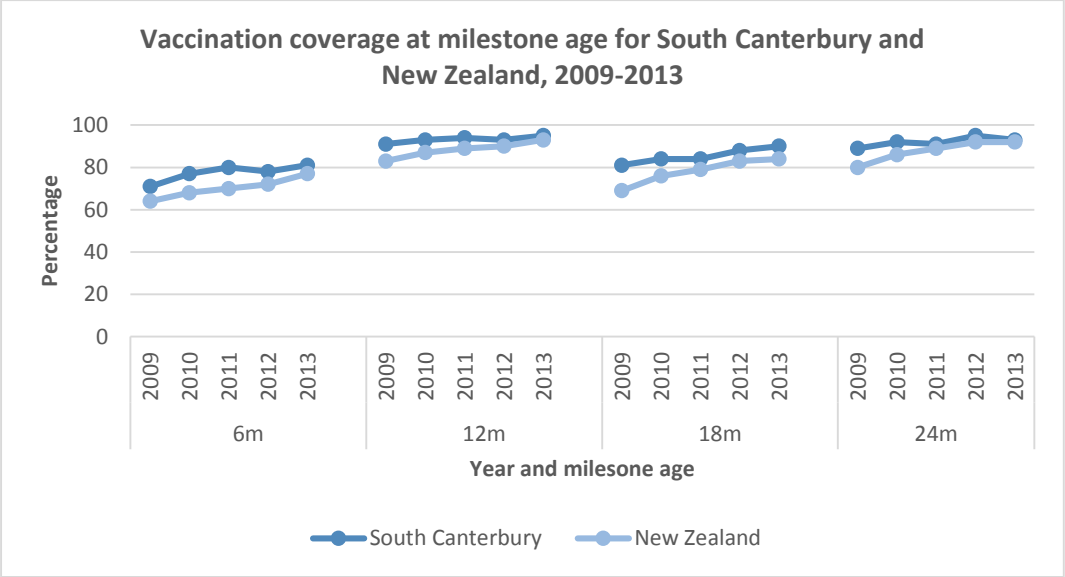
Full: The infant has taken breastmilk only. No other liquids or solids except a minimal amount of water or prescribed medicines in the past 48 hours.

Partial: The infant/child has taken some breastmilk, but has had some infant formula or other solid food in the past 48 hours.

Artificial: The infant/child has had no breastmilk, but has had alternative liquid such as infant formula, with or without solid food, in the past 48 hours.

Comment: The World Health Organisation recommends that babies are exclusively breastfed until at least 6 months of age. In South Canterbury in 2013/14, the percentage of infants exclusively or fully breastfed was 70% at 6 weeks, 66% at 3 months and 27% at 6 months. These percentages were very similar to the previous financial year and to the national percentages.

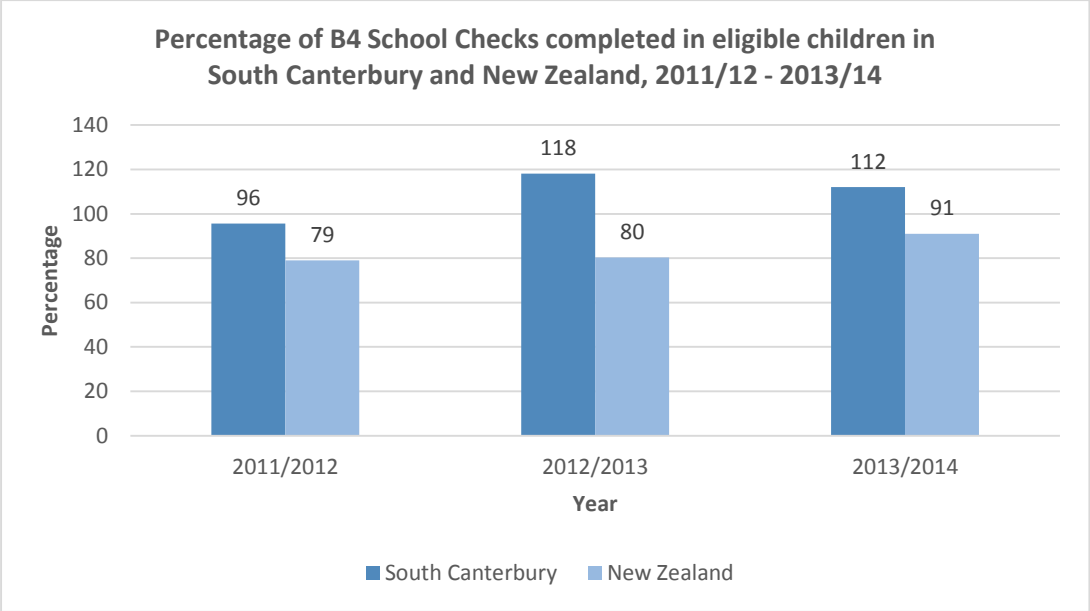
Indicator: Immunisation coverage at milestone age



Source: National Immunisation Register

Comment: Immunisation coverage has increased steadily in both South Canterbury and New Zealand for all milestone ages. New Zealand's target for immunisation coverage is that 95% of children are fully immunised by eight months and then two years of age. Immunisation coverage for two year olds as at December 2013 was 94% in South Canterbury and 93% in New Zealand overall.

Indicator: B4 School Checks completed



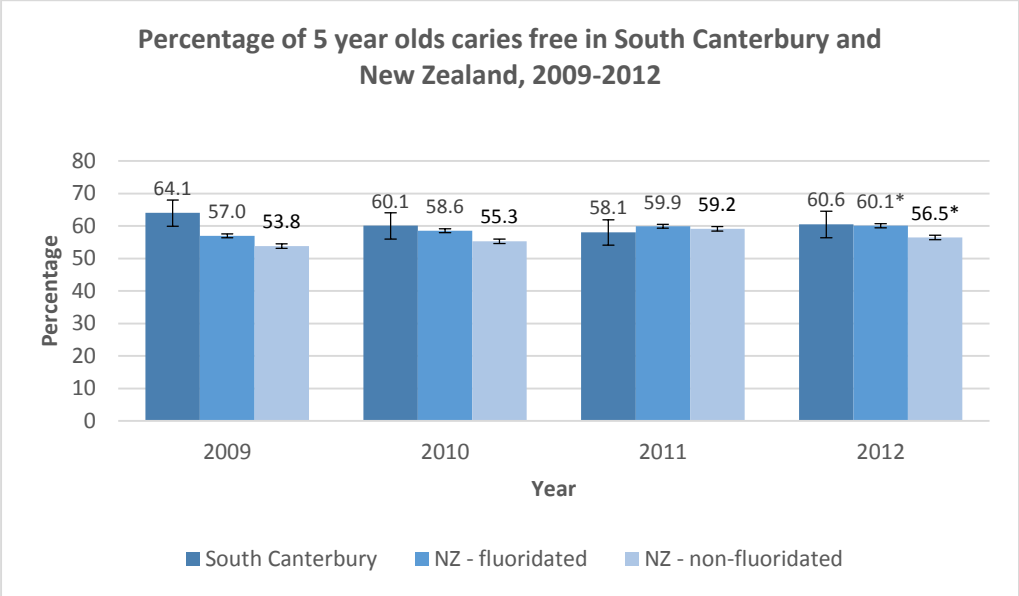
Source: B4 School Checks Programme South Canterbury

Note: The eligible population is calculated each year from the Ministry of Health's Capitation Based Funding System (PHO database). Eligible population is calculated prior to the beginning of each financial year. This is the target number of checks which DHBs expect to deliver in a year. The number of checks provided by each DHB may exceed their target number of checks. Therefore, the completion percentage may be higher than 100%.

Comment: The percentage of B4 School checks completed in South Canterbury was statistically significantly higher than in New Zealand overall in the past three financial years. Both South Canterbury (112%) and New Zealand overall (91%) were well above the target of 80% of completed checks for the year ending June 2014.

Individual Health and Wellbeing Indicators

Indicator: Percentage of 5 year olds caries free



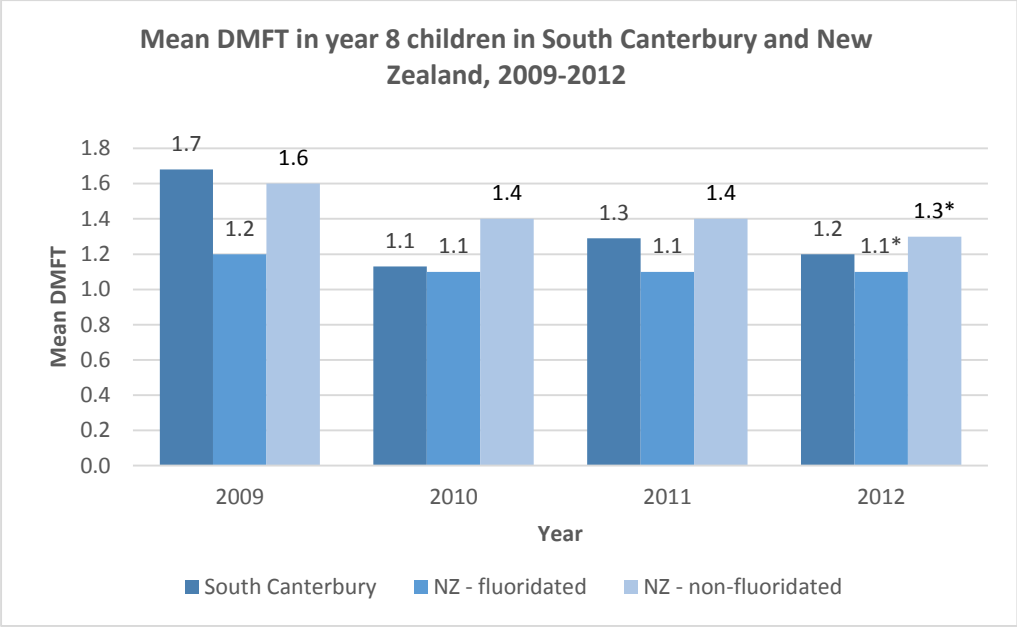
Source: Community Oral Health Service

* Excludes Southern DHB because fluoridation status was not captured for most children throughout 2012, due to transition to a new data system.

Caries free: Examination revealed no untreated decay or fillings in any primary teeth, and no primary teeth missing due to pathology.

Comment: The percentage of caries free 5 year olds has been stable in South Canterbury, as has that in New Zealand overall. The percentage of caries free 5 year olds in South Canterbury from 2009 to 2012 was generally higher than that for New Zealand overall, although the difference was statistically significant only in 2009. In New Zealand, areas with access to fluoridated water have higher levels of caries free 5 year olds than those without fluoridated water. Water supplies in South Canterbury are non-fluoridated.

Indicator: Mean DMFT in year 8 children (12/13 year olds)



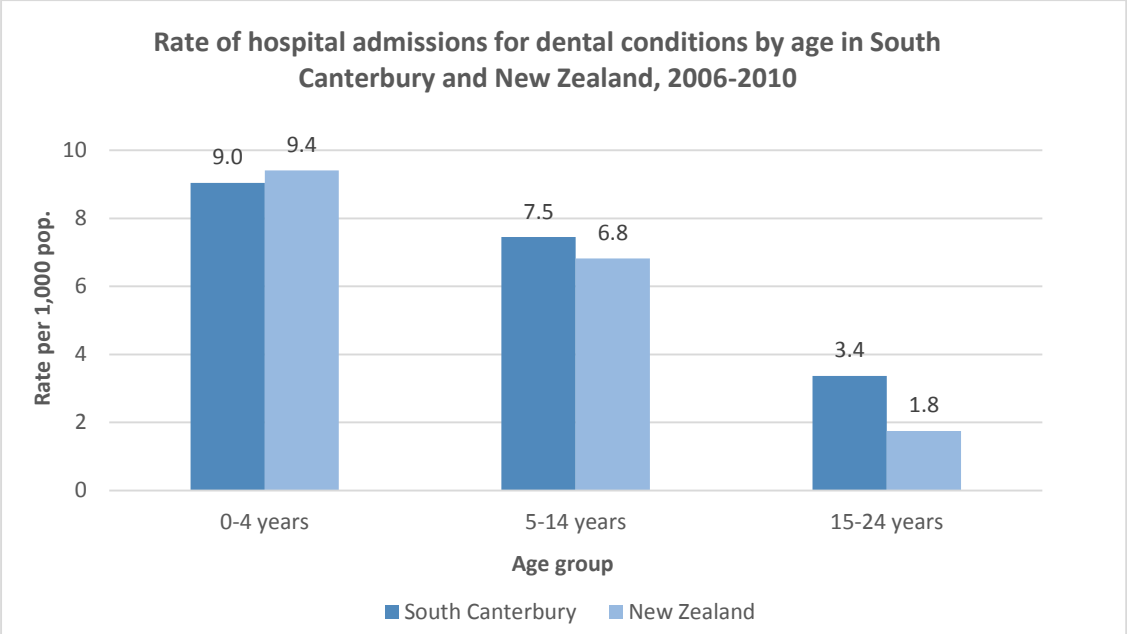
Source: Community Oral Health Service

* Excludes Southern DHB because fluoridation status was not captured for most children throughout 2012, due to transition to a new data system.

Mean DMFT Score: The sum of three components; decayed; missing and filled teeth. Patterns in severity of dental decay experienced in permanent teeth must be interpreted in light of the gaining of permanent teeth with age.

Comment: The mean DMFT score of year 8 children (12/13 year olds) in South Canterbury has decreased in the last 4 years. Prior to 2009 the mean DMFT score for year 8 children in South Canterbury was higher than in New Zealand overall. From 2010, this gap was no longer apparent. In New Zealand, areas with access to fluoridated water have lower mean DMFT in year 8 children than those without fluoridated water. No significant difference in average mean DMFT was found between South Canterbury and areas in New Zealand without fluoridated water over the years 2009-2012.

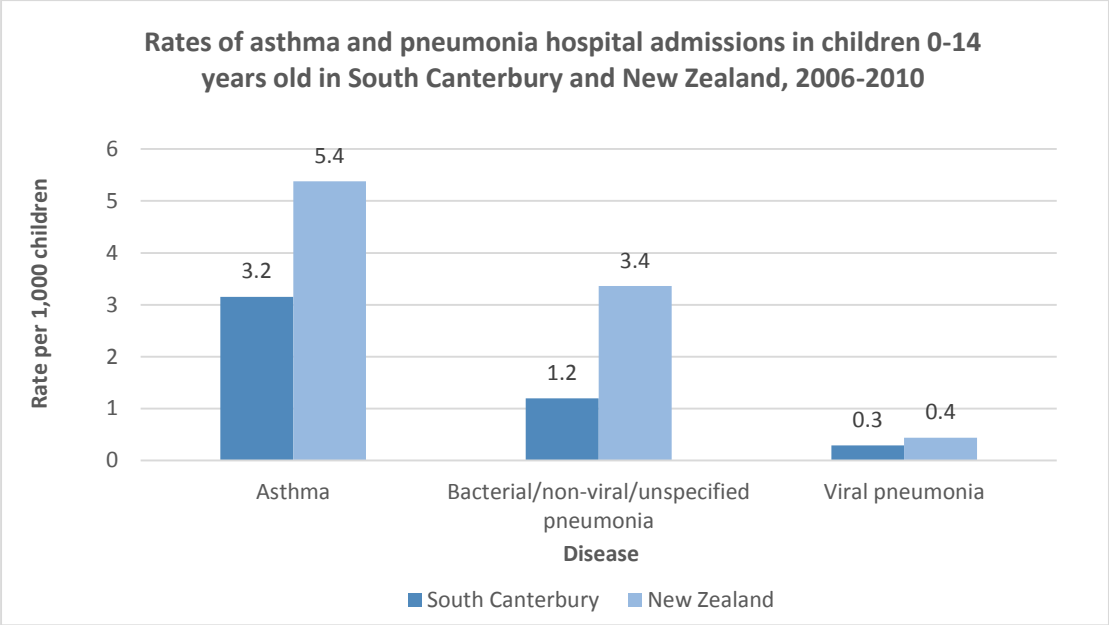
Indicator: Hospital admissions for dental conditions



Source: NZCYES

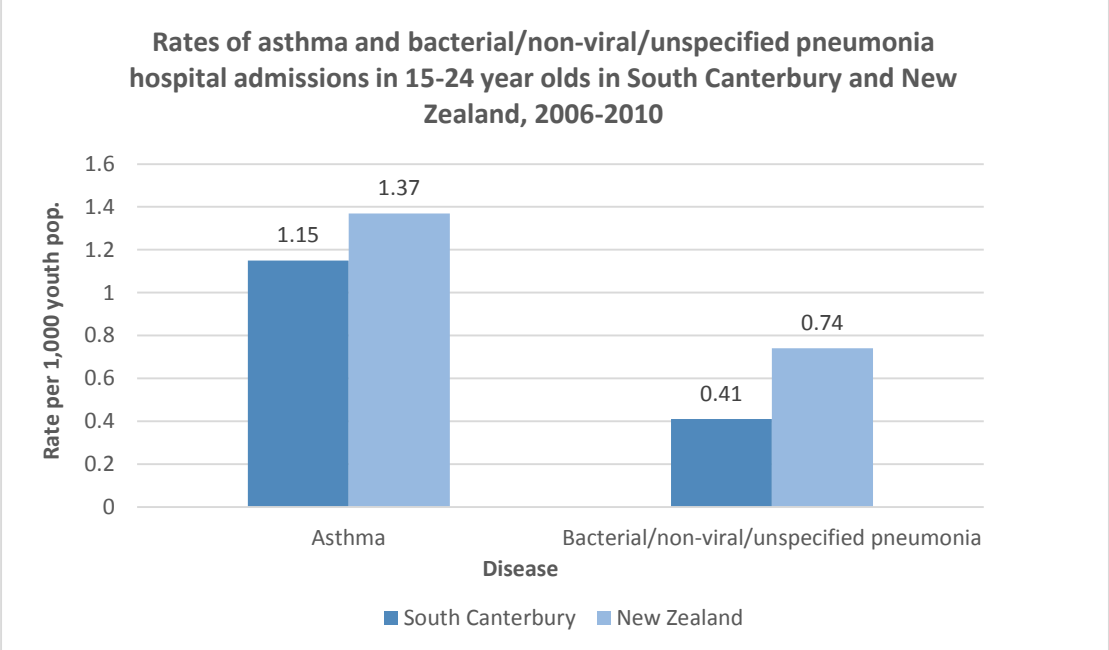
Comment: South Canterbury had similar rates of hospital admissions for dental conditions in the 0-4 and 5-14 year old groups, but higher rates in the 15-24 year old group, compared with New Zealand overall. Similarly, rate ratios presented in the New Zealand Child and Youth Epidemiology Service Report (Craig et al., 2011) indicate that hospital admissions for dental caries, one of a number of dental conditions, were significantly lower for South Canterbury in the 0-4 and 5-14 year old groups, but significantly higher in the 15-24 year old group.

Indicator: Hospital admissions for lower respiratory tract conditions



Source: NZCYES

Note: Bronchiectasis numbers were too small to allow a valid analysis.

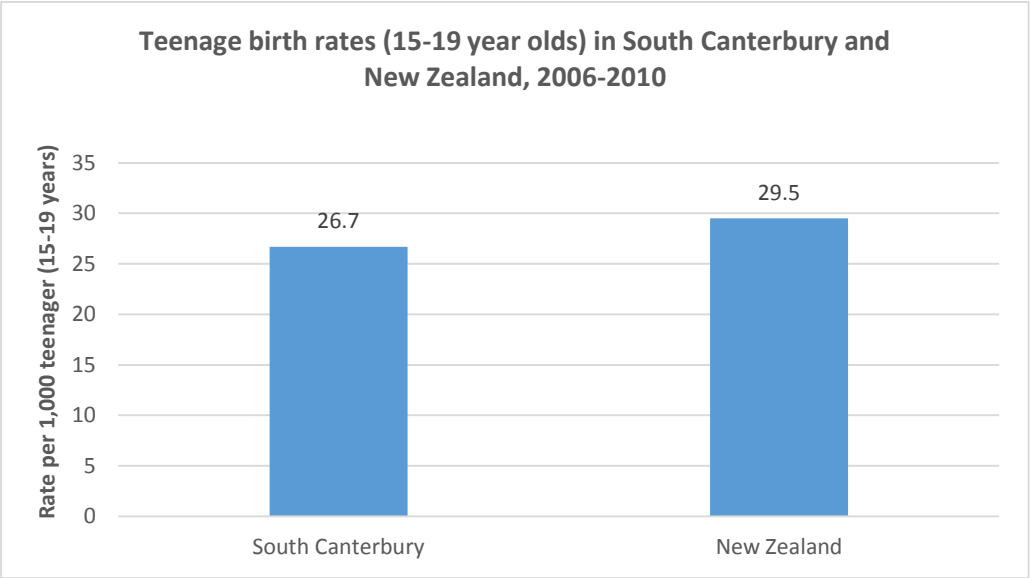


Source: NZCYES

Note Bronchiectasis and viral pneumonia numbers were too small to allow a valid analysis.

Comment: In South Canterbury, 0-14 year olds had statistically significantly lower rates of hospital admission for asthma and bacterial/non-viral/unspecified pneumonia compared to New Zealand overall over the years 2006-2010. However, the lower rate of admission for viral pneumonia compared to New Zealand overall was not statistically significant. In 15-24 year olds the lower rate of hospital admission for asthma in South Canterbury compared to New Zealand overall was not statistically significant, whereas it was for bacterial/non-viral/unspecified pneumonia.

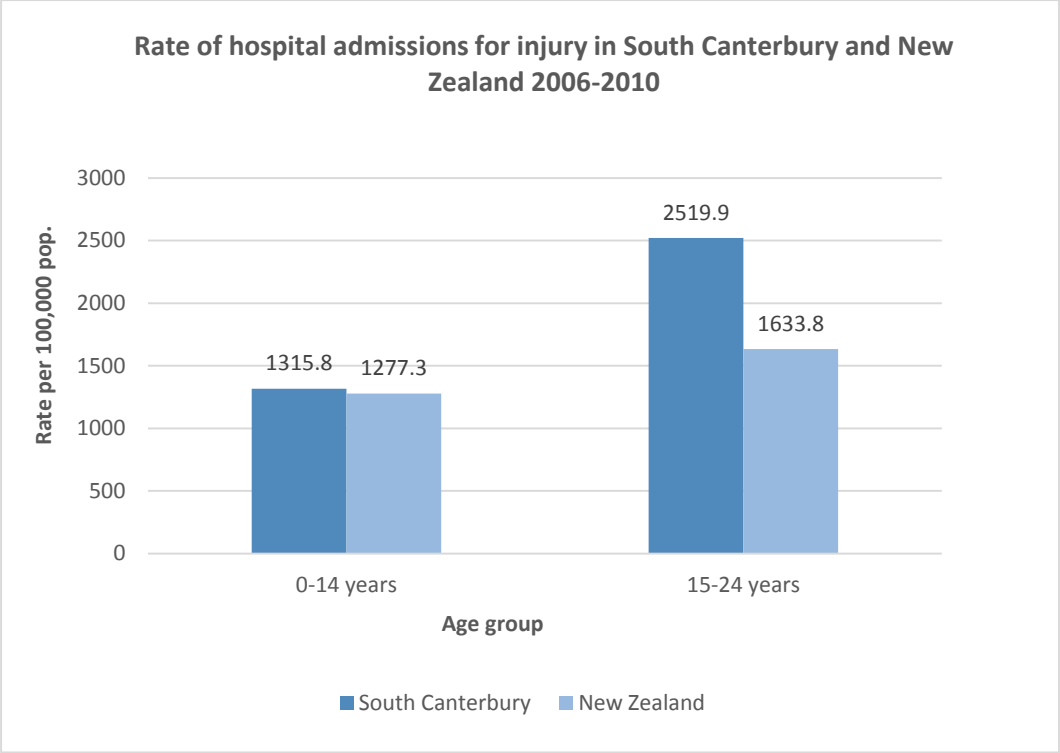
Indicator: Teenage births



Source: NZCYES

Comment: The teenage birth rate was not significantly different in South Canterbury from that in New Zealand overall over 2006-2010. Māori have statistically significantly higher rates of teenage births than the European ethnic group in New Zealand overall. Ethnicity data are not available for South Canterbury.

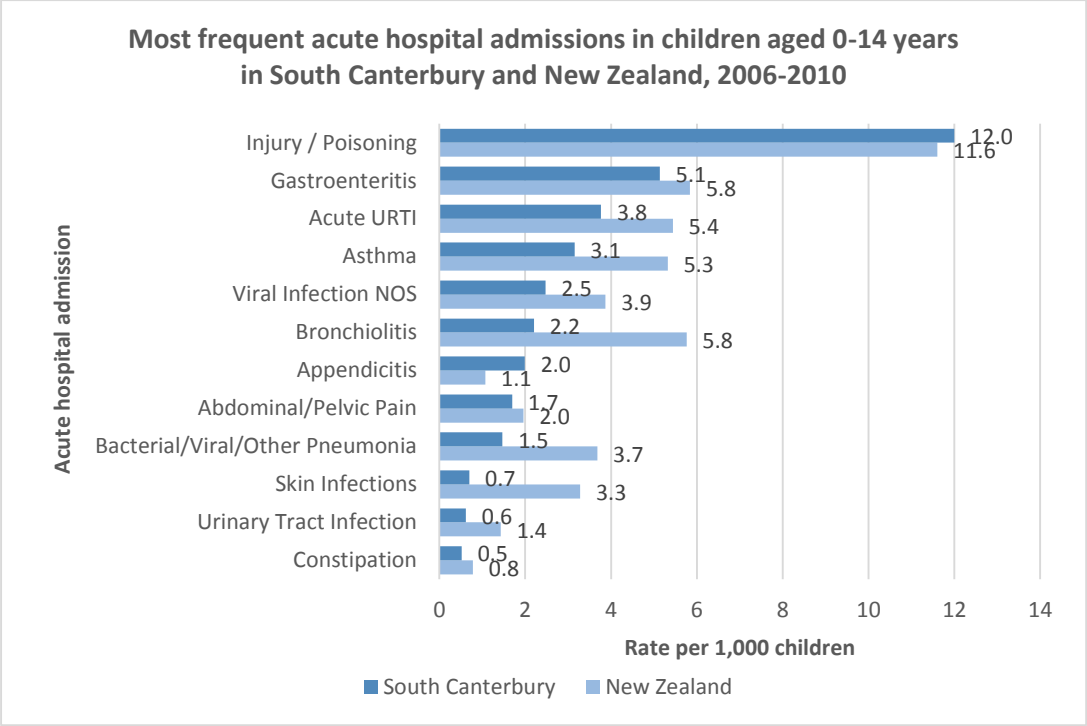
Indicator: Hospital admissions for total injury



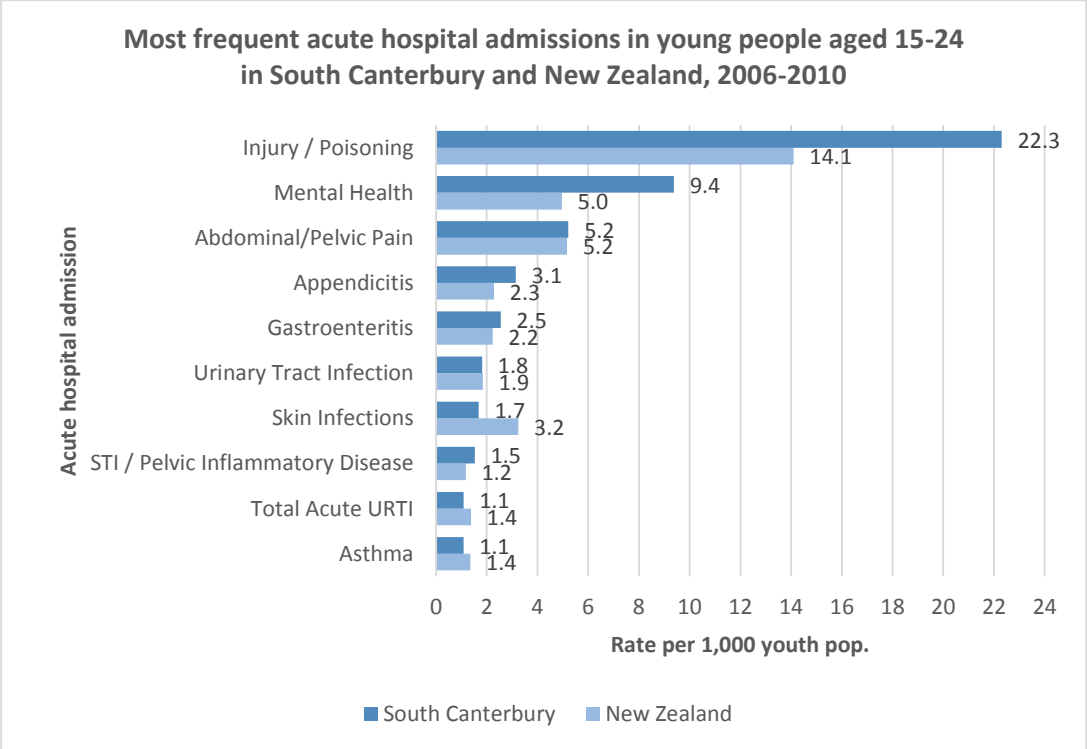
Source: NZCYES

Comment: The hospital admission rate for injuries in 0-14 year olds was not statistically different between South Canterbury and New Zealand overall over 2006-2010. However, for 15-24 year olds South Canterbury had statistically significantly higher rates of hospital admission for injury compared to New Zealand overall. South Canterbury had significantly higher rates of land transport injuries and unintentional non-transport injuries.

Indicator: Most frequent acute hospital admissions



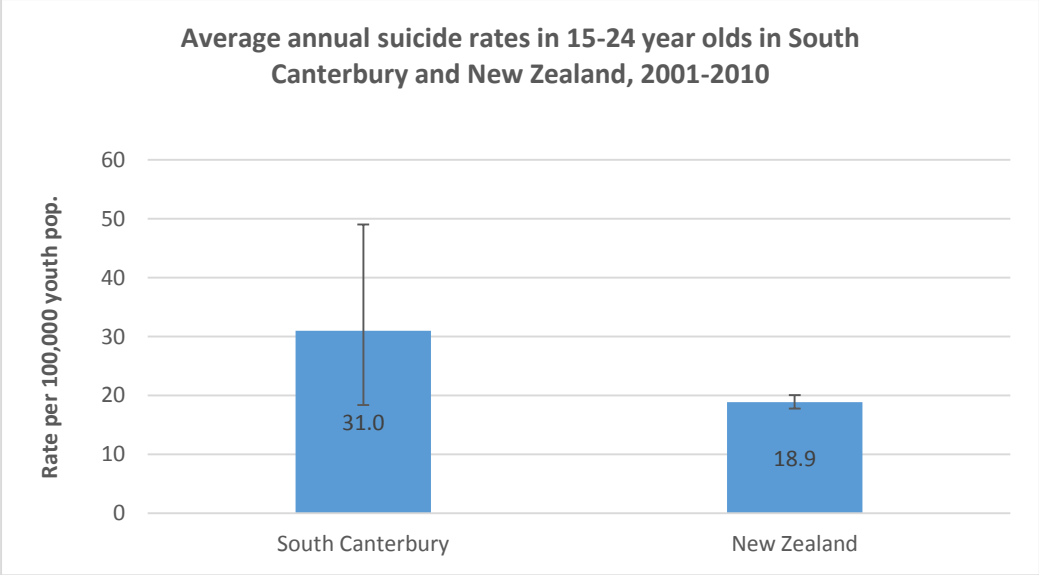
Source: NZCYES



Source: NZCYES

Comment: In South Canterbury the rate for total acute hospital admissions in 0-14 year olds was significantly lower than that for New Zealand overall. However, for 15-24 year olds the rate for total acute hospital admissions was significantly higher in South Canterbury than that for New Zealand overall. The most common cause of acute hospital admissions from 2006-2010 in both South Canterbury and New Zealand overall was injuries/poisonings for both children and young people. For 15-24 year olds acute mental health admissions were the second most common cause of admission in South Canterbury.

Indicator: Youth suicide rate

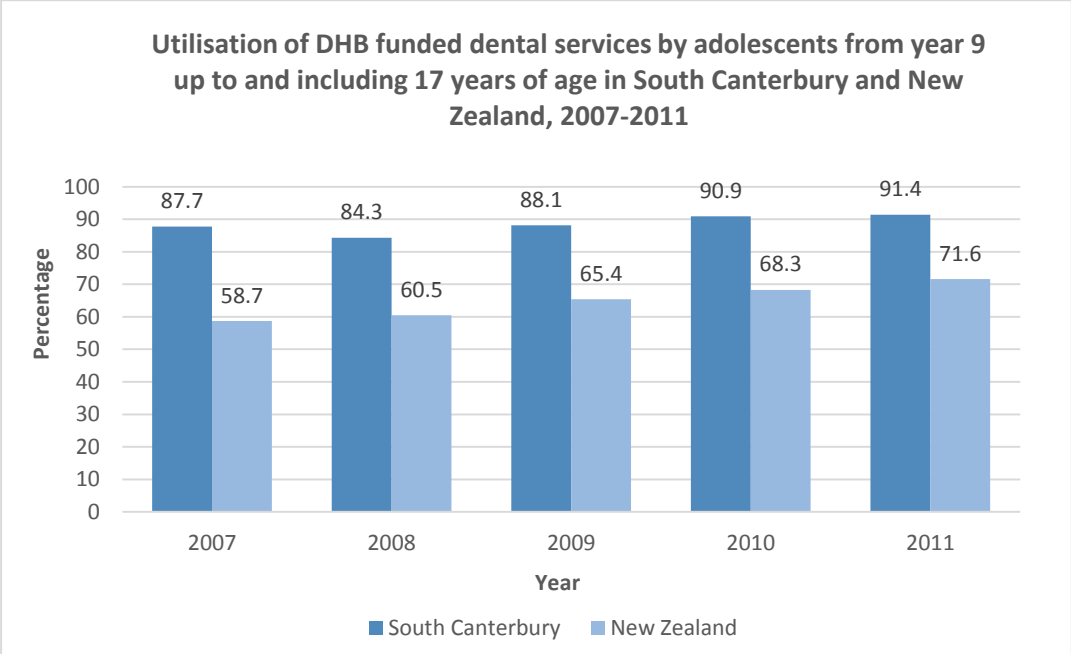


Source: Ministry of Health

Comment: The ten-year average annual suicide rate in South Canterbury for 15-24 year olds was significantly higher than in New Zealand overall (p=0.049). In New Zealand the youth suicide rate has declined by 32.8% since its peak of 28.7 per 100,000 in 1995. Male youth have higher rates of suicide than female youth in New Zealand overall.

Health Service Utilisation Indicators

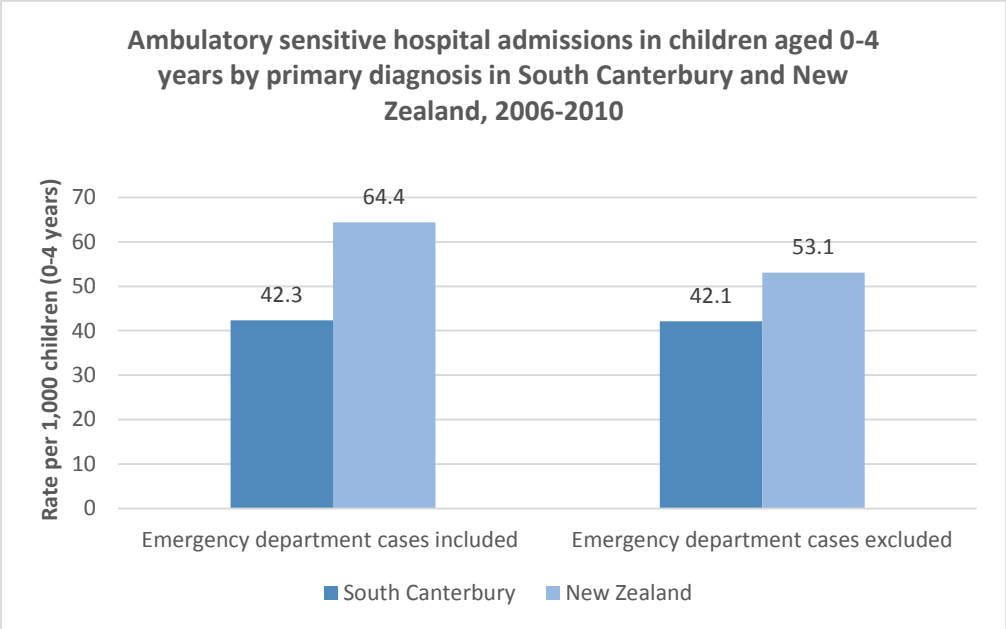
Indicator: Utilisation of DHB funded dental services by adolescents



Source: School Dental Service

Comment: The utilisation of DHB funded dental services by adolescents in South Canterbury has varied little over time, but is statistically significantly higher than in New Zealand overall. In 2011 South Canterbury exceeded the District Annual Plan target of 88% of eligible adolescents utilising the service.

Indicator: Ambulatory sensitive hospitalisations (ASH) in children aged 0-4 years by primary diagnosis

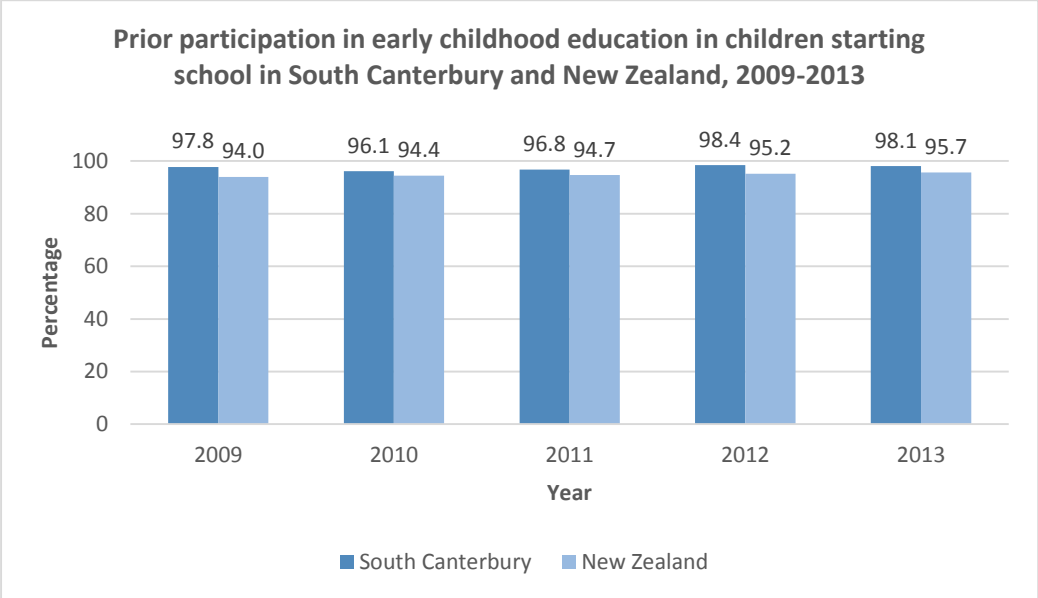


Source: NZCYES

Comment: The ASH rate was significantly lower in South Canterbury than in New Zealand overall over the years 2006-2010. In both South Canterbury and New Zealand overall the most frequent causes of ASH are gastroenteritis, dental conditions, acute upper respiratory tract infections and asthma. Some ASH algorithms exclude some emergency department cases to deal with inconsistent uploading of emergency department cases to the National Minimum Dataset. There was little difference in the ASH rate whether emergency department cases were included or excluded in South Canterbury, unlike in New Zealand overall where the rate dropped when these cases were excluded.

Education Indicators

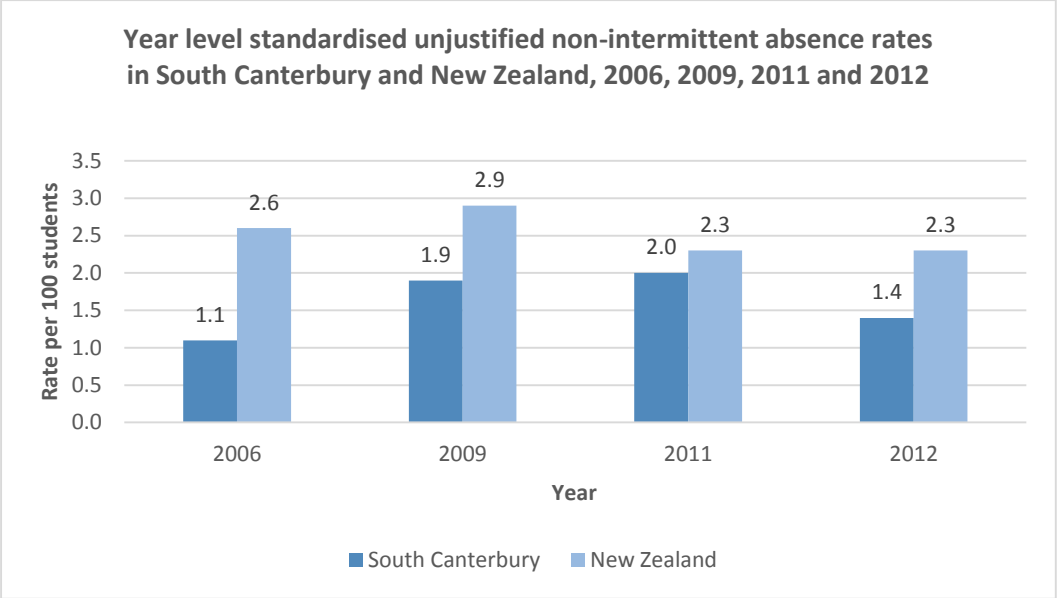
Indicator: Prior participation in early childhood education in children starting school



Source: Ministry of Education

Comment: Prior participation in early childhood education in children starting school in South Canterbury appeared slightly higher than in New Zealand overall from 2009 to 2013. Whilst for the whole of New Zealand prior participation in early childhood education has been slowly increasing, for South Canterbury it has fluctuated over time, most likely due to the relatively small numbers.

Indicator: Truancy from school



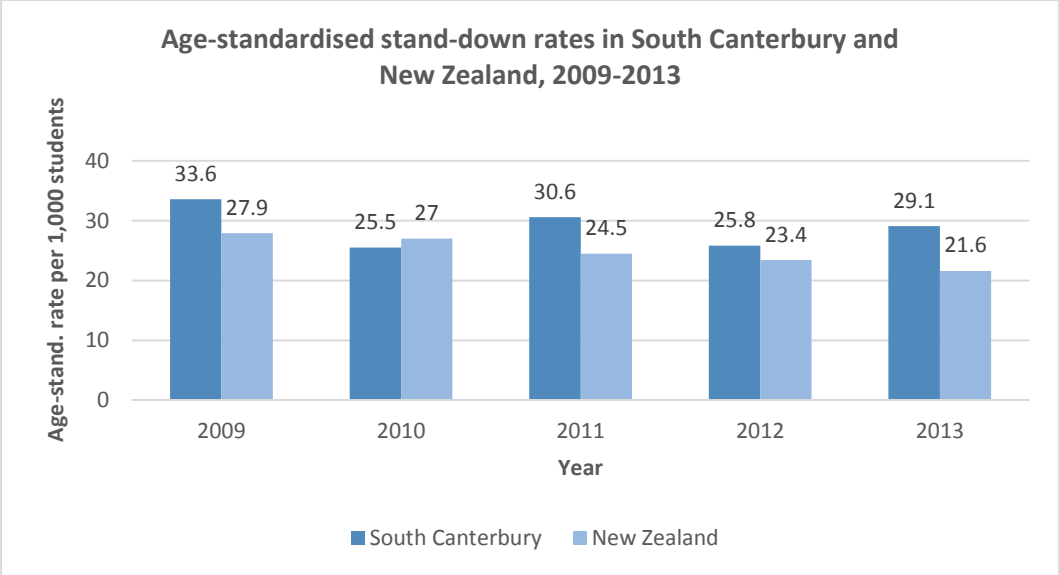
Source: Ministry of Education

Note: Data has only been produced for limited years due to the Attendance in New Zealand Schools Survey not being performed annually.

Unjustified absences: Absences which are not explained, or not explained to the satisfaction of the school.

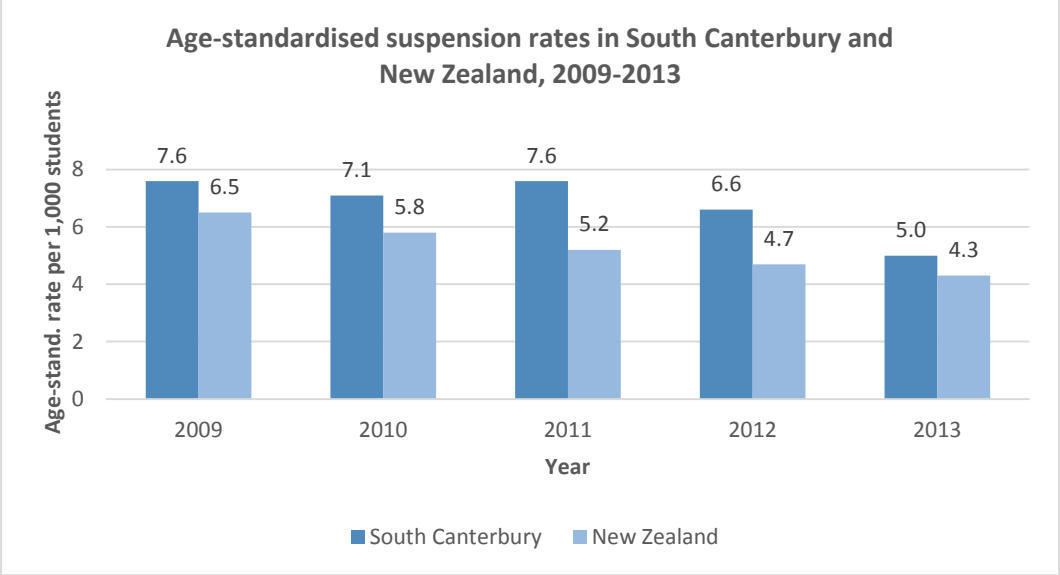
Comment: Unjustified non-intermittent absence rates in South Canterbury were lower than those in New Zealand overall. Unjustified non-intermittent absence rates for primary and intermediate school-aged students (Year 1 to Year 8) are substantially lower than for secondary school-aged students in New Zealand overall. New Zealand level data indicate that ethnicity is a significant factor influencing unjustified absence rates with Māori having unjustified absence rates twice as high as NZ European students. Schools in the lowest quintile (deciles 1 and 2) also have unjustified absence rates four times higher than those in the highest quintile (deciles 9 and 10). The lower unjustified absence rates in South Canterbury may partly reflect the lower proportion of Māori and lower deprivation levels in South Canterbury schools.

Indicator: Stand-downs, suspensions, exclusions and expulsions from school



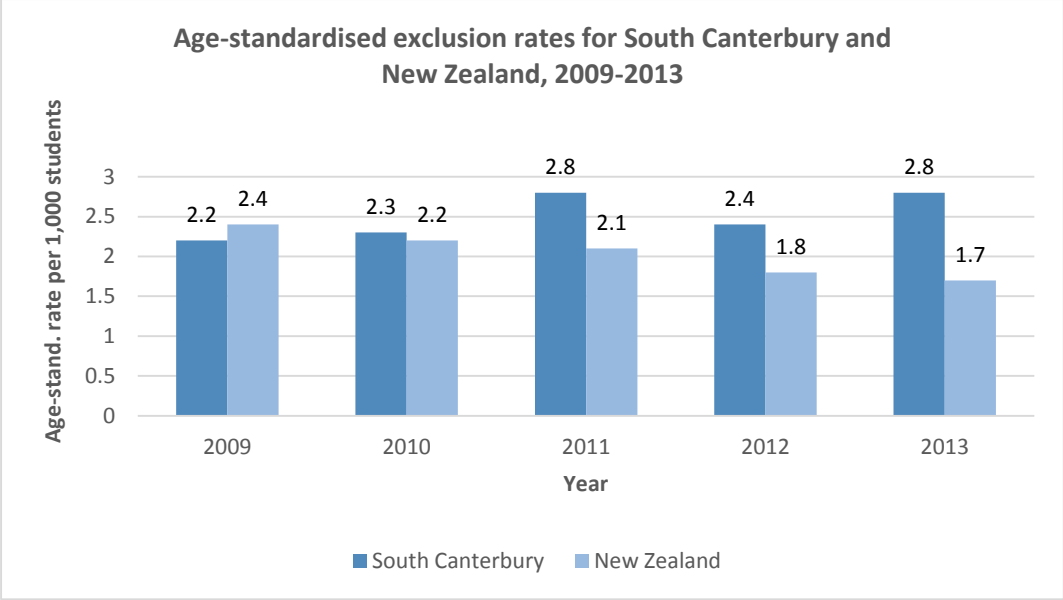
Source: Ministry of Education

Stand-down: A state or state integrated school principal may consider the formal removal of a student through a stand-down from school for a period of up to five school days. A stand-down, for any student, can total no more than five school days in a term, or 10 days in a school year.



Source: Ministry of Education

Suspension: The formal removal of a student from a school until the school Board of Trustees decides the outcome at a suspension meeting.

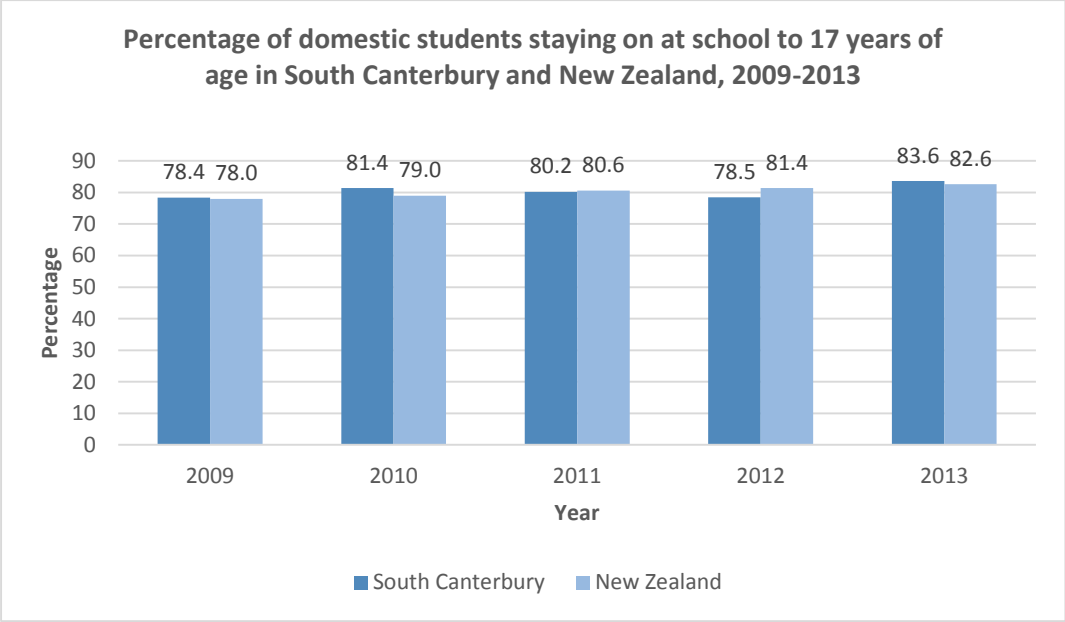


Source: Ministry of Education

Exclusion: If the student is aged under 16, the board may decide to exclude him or her from the school, with the requirement that the student enrols elsewhere.

Comment: Age-standardised stand-down, suspension and exclusion rates in South Canterbury have generally been higher than in New Zealand overall. It was not possible to determine statistical significance for this result, as the individual data values were not available (hence not possible to calculate standard errors). The rates in New Zealand have been decreasing over time, but the same trends cannot be seen in South Canterbury. In light of the small number of expulsions in South Canterbury this data has not been presented.

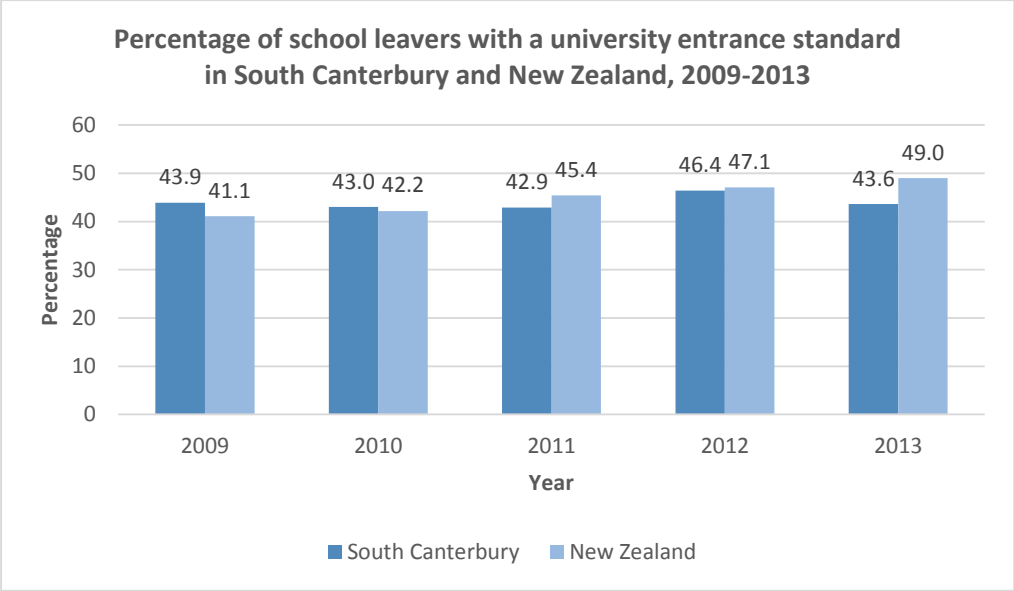
Indicator: Retention of students in senior secondary schools



Source: Ministry of Education

Comment: The percentage of students staying on at secondary school to 17 years of age in South Canterbury was similar to that in New Zealand overall during the years 2009-2013. The retention rate in South Canterbury fluctuated slightly over the past five years, while the retention rate in New Zealand overall increased during the same time period. Girls are more likely to stay on at secondary school in New Zealand overall than boys.

Indicator: School leavers with a university entrance standard



Source: Ministry of Education

University entrance standard: 42-59 credits level 3 or above for NCEA or other National Certificate at Level 3 with University Entrance requirements; or Accelerated Christian Education (ACE) or overseas award (including International Baccalaureate) at Year 13; or University Entrance; or National Certificate Level 3; or University Bursary (A or B); or NZ Scholarship or National Certificate Level 4.

Comments: The percentage of students leaving school with a university entrance standard has remained stable in South Canterbury over the years 2009-2013. In New Zealand overall there has been an increase in the proportion of those obtaining a university entrance standard since 2009. A significantly greater proportion of females (55.4%) achieved a university entrance standard than males (42.7%) in New Zealand in 2013. Students from schools in higher deciles are more likely to leave school having achieved a university entrance standard than students from schools in lower deciles.

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