

A Focus on the Health of Māori and Pacific Children

Key Findings of the 2006/07
New Zealand Health Survey

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MANATŪ HAUORA

Foreword

In June 2008 *A Portrait of Health: Key findings from the 2006/07 New Zealand Health Survey* was released. *A Focus on the Health of Māori and Pacific Children* presents further findings from the survey, focusing specifically on the health of Māori and Pacific children.

Māori and Pacific population groups have historically experienced poorer health outcomes than the general population. The 1998 New Zealand Child Health Strategy identified both Māori and Pacific children as priority groups that were more likely than the overall child population to experience poor health outcomes and to have specific health needs. This disadvantage takes on added significance in light of evidence that the disparity in health outcomes experienced in adulthood may be associated with health conditions and risk factors experienced in childhood.

Key findings presented in this report confirm that there are disparities both in health outcomes and in the exposure to risk and health behaviours between Māori and non-Māori children and between Pacific and non-Pacific children. There are also differences in the access to and use of oral health services. These findings support the ongoing prioritisation of these two groups of children in monitoring and policy development.

The Ministry of Health's *Statement of Intent 2009–12* aims to ensure every dollar is spent in the best way to improve health outcomes. One of the direct actions taken to transfer resources to higher-value activities is promoting evidence-based and cost-effective service models that emphasise early intervention. These models include initiatives that improve early intervention in childhood to reduce the likelihood of minor child health problems becoming major adult health problems. The findings presented in this report will underpin further work in this area, including the development, implementation and evaluation of the Ministry's strategic policies and programmes.

I invite readers to comment on the content of this report and how its findings could be translated into policy and improved health for New Zealanders.

Dr Pat Tuohy
Chief Advisor, Child & Youth
Ministry of Health

Authors

This report was written by Dr Janine Mardani, Dr Niki Stefanogiannis and Erin Holmes, with the statistical analyses conducted by Miranda Devlin and Li-Chia Yeh. The authors contributed to this report during their employment with Health and Disability Intelligence in the Health and Disability Systems Strategy Directorate of the Ministry of Health.

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Executive Summary

This report presents key findings from the 2006/07 New Zealand Health Survey for Māori and Pacific children. The following tables summarise these key findings.

Māori children	
Family Support	<ul style="list-style-type: none"> The majority of parents of both Māori (71.3%) and non-Māori (79.8%) children rated their family's ability to get along with one another as 'excellent' or 'very good'. Parents of Māori children were significantly less likely to report their family's ability to get along with one another as 'excellent' or 'very good' than parents of non-Māori children. The most common types of discipline used by primary caregivers of both Māori and non-Māori children were 'telling them off' and 'explaining why they should not do something'. Although physical punishment was the least-used form of discipline for both Māori and non-Māori children, Māori children were more likely to experience physical punishment by their primary caregiver than non-Māori children (14.0% versus 9.3%).
Second-hand smoke exposure	<ul style="list-style-type: none"> Māori children were more likely to be exposed to second-hand smoke in the home than non-Māori children (18.9% versus 6.7%).
Nutrition	<ul style="list-style-type: none"> The majority (approximately 85%) of Māori and non-Māori children had either been exclusively or partially breastfed. Māori children were twice as likely as non-Māori children to be given solids before four months of age (16.3% versus 8.7%). Māori children of school age, particularly those aged 10–14 years, were less likely than non-Māori children of the same age to eat breakfast at home every day. Māori children were more likely than non-Māori children to consume fizzy drinks (51.7% versus 43.7%) and fast food (74.5% versus 60.1%) in a typical week.
Physical activity	<ul style="list-style-type: none"> There was no significant difference between Māori and non-Māori children in the use of active transport to and from school. Among children aged 5–14 years, Māori (76.1%) were more likely than non-Māori (60.6%) to watch two or more hours of television a day.
Health outcomes Any health condition Asthma Oral health	<ul style="list-style-type: none"> Māori children were more likely than non-Māori children to have been diagnosed by a doctor with any chronic health condition. Māori children were more likely than non-Māori children to have medicated asthma. Māori children were also more likely to have more severe (speech-limiting) episodes of asthma than non-Māori children. Overall, Māori children were less likely to have never had a filling and more likely to have had one or more teeth removed due to decay, abscess or infection compared with non-Māori children.

Māori children	
Obesity	<ul style="list-style-type: none"> • Most Māori and non-Māori children aged 2–14 years had a BMI in the normal range. • Māori children were less likely to have a body size in the normal range and more likely to be overweight (25.8%), or obese (11.9%), than non-Māori children (19.5% and 7.3%, respectively).
Health service access and utilisation Primary health care Oral health care	<ul style="list-style-type: none"> • Although access to and use of primary health care was similar among Māori and non-Māori children, Māori children were twice as likely to experience unmet need for GP services than non-Māori children. • Māori children were more likely to receive their last visit free than non-Māori children. • Māori and non-Māori children were equally likely to have seen an oral health care worker in the previous year (79.3% and 80.4%, respectively). • Māori children were slightly more likely to experience unmet need for an oral health care worker than non-Māori children.

Pacific children	
Family support	<ul style="list-style-type: none"> • There was no significant difference between parents of Pacific and non-Pacific children in the reporting of their family's ability to get along as 'excellent' or 'very good'. • The most common types of discipline used by primary caregivers of both Pacific and non-Pacific children were 'telling them off' and 'explaining why they should not do something'. • Although physical punishment was the least-used form of discipline for both Pacific and non-Pacific children, Pacific children were more likely to experience physical punishment by their primary caregiver than non-Pacific children (16.9% versus 9.6%).
Second-hand smoke exposure	<ul style="list-style-type: none"> • There was no significant difference in the exposure to second-hand smoke in the home between Pacific and non-Pacific children.
Nutrition	<ul style="list-style-type: none"> • The majority of Pacific and non-Pacific children were breastfed. However, Pacific children living in the most deprived areas were significantly less likely to have ever been breastfed compared with non-Pacific children living in the same areas. • There were no significant differences in the prevalence of Pacific and non-Pacific children given solids before four months of age. • Pacific children were significantly less likely to eat breakfast at home every day compared with non-Pacific children. • Pacific children were more likely than non-Pacific children to consume fizzy drink (52.8% versus 44.6%) and fast food (73.5% versus 62.1%) in a typical week.
Physical activity	<ul style="list-style-type: none"> • Pacific children were more likely to use active transport to and from school than non-Pacific children (53.8% versus 46.0%). • There were no significant differences in the proportions of Pacific and non-Pacific children watching two or more hours of television a day.

Pacific children	
Obesity	<ul style="list-style-type: none"> • Pacific children aged 2–14 years were less likely to have a body size in the normal range and more likely to be overweight (31.4%) or obese (23.3%) than non-Pacific children (19.6% and 6.4%, respectively).
Health outcomes Any health condition Eczema Oral health	<ul style="list-style-type: none"> • There was no significant difference in the overall prevalence of any diagnosed chronic health condition between Pacific and non-Pacific children. • Pacific children were more likely to have medicated eczema than non-Pacific children (16.1% versus 10.1%). • Although there was no difference between Pacific and non-Pacific children in the prevalence of never having had a filling, Pacific children were more likely to have had one or more teeth removed due to decay, abscess or infection.
Health service access and utilisation Primary health care Oral health care	<ul style="list-style-type: none"> • Pacific children were more likely than non-Pacific children to have seen their GP in the past year, usually for a short-term illness. • There was no significant difference in the prevalence of unmet need for GP services between Pacific and non-Pacific children. • Pacific children were less likely than non-Pacific children to have seen an oral health care worker in the past year, and more likely to have never seen an oral health care worker than non-Pacific children.

1 Introduction

In 1989 the United Nations General Assembly adopted the United Nations Convention on the Rights of the Child (UNCROC), an international instrument that protects children's rights by setting standards in health care, education and legal, civil and social services (United Nations 1989). This convention outlines the basic human rights that all children have, including the right to survival and development; the right to health; the right to full participation in family, cultural and social life, and protection from harmful influences (United Nations 1989). The right to health is not the right to be healthy, but "the right to an effective and integrated health system, encompassing health care and the underlying determinants of health, which is responsive to national and local priorities, and accessible to all" (Hunt 2006 p5).

Recognising the challenges in attaining health for all children, the UNCROC requires each ratifying country to undertake measures for the implementation of the rights "to the maximum extent of their available resources" (United Nations 1989: Article 4, UNCROC). New Zealand, as a signatory to this agreement, has made a commitment to protect and ensure children's rights, and to accept accountability for this commitment before the international community.

As part of this commitment, in 1998 the Ministry of Health released the *Child Health Strategy*, which established a vision of healthy New Zealand children who were "seen, heard and getting what they need" (Ministry of Health 1998 p17). This vision empowers children to reach their highest attainable standard of health, development and wellbeing, which are all vital for becoming a healthy adult.

In 2006 there were 867,576 New Zealand children aged 0–14 years, who formed 21.5% of the total New Zealand population (Statistics New Zealand 2007). Of these children, 23.0% were identified as Māori and 11.6% as Pacific, while 81.3% identified as other ethnicities.¹ Most of these children enjoy good health. However, some groups experience a disproportionate burden of poorer health outcomes and poorer access to health services (Ministry of Health 1998).

The *Child Health Strategy* identified both Māori and Pacific children as priority groups that are more likely than the overall child population to experience poor health outcomes and to have specific health needs (Ministry of Health 1998). Furthermore, there is evidence that the disparity in health outcomes experienced in adulthood by these priority groups may be associated with health conditions and risk factors experienced in childhood (Bebbington et al 2009; Mercy and Saul 2009; Ministry of Health 2005).

This report provides information on the current health status, behaviours and barriers experienced by children with the most potential for health gain. The report presents key findings for Māori and Pacific children from 0 to 14 years of age from the 2006/07 New Zealand Health Survey.

¹ Total response ethnic groups were used in this calculation, enabling the selection of multiple ethnic groups by an individual. As a result of the ability of children's parents to identify children with multiple ethnicities, percentages will sum to more than 100.

The findings in this report have been presented for Māori and Pacific children and their relevant comparison group,² by age and neighbourhood deprivation for selected indicators. The analysis is used to identify and confirm areas in which health disparities are present and to contribute to the evidence base for the development and evaluation of policies and programmes.

It must be noted that this report does not cover all aspects of child development and health, as only selected indicators are included in this report. Due to resource and time constraints, only indicators included in *A Portrait of Health: Key results of the 2006/07 New Zealand Health Survey* are included in detail in this report. It is anticipated and hoped that other researchers will take the opportunity to explore the other child health data that were included in the survey.

Although only explanatory variables shown to be associated with health outcomes in the literature are included in this report, readers need to be aware that the associations may not be causal. For example, if the survey finds that a particular condition is more common in people living in deprived areas, an *association* has been identified. This does not mean the condition is *caused* by living in a deprived area. Associations between current health states and current behaviour or current socio-demographic characteristics, need to be interpreted with caution, as current health states may reflect past, rather than present, behaviour or childhood circumstances.

Findings for the 'overall' child population from the 2006/07 New Zealand Health Survey can be found in *A Portrait of Health: Key results of the 2006/07 New Zealand Health Survey* (Ministry of Health 2008a).

² Māori children are compared to non-Māori children, and Pacific children are compared to non-Pacific children. For the ethnic group analyses, the 'total response' method for analysing ethnicity was used. Total response ethnicity allows individuals to identify with multiple ethnic groups.

2 Methodology

This section provides a brief summary of the 2006/07 New Zealand Health Survey methods. Further survey methodology details can be found in *A Portrait of Health: Key results of the 2006/07 New Zealand Health Survey* and in *Methodology Report for the 2006/07 New Zealand Health Survey*. Both reports are available online at <http://www.moh.govt.nz/moh.nsf/indexmh/portrait-of-health>. The 2006/07 New Zealand Health Survey child and adult questionnaires are also available online.

Unlike previous health surveys, the 2006/07 New Zealand Health Survey is the first to ask comprehensive questions on child health (the 1992/93 survey only had a small number of questions regarding child health, and the 1996/97 survey only included questions on child health service utilisation).

Child questionnaire

The topic areas for the 2006/07 New Zealand Health Survey child module were selected based on their relevance to key Ministry of Health policies on child health, for example:

- *The Well Child Framework* (Ministry of Health 2002)
- *Child Health Strategy* (Ministry of Health 1998)
- *Child Health Information Strategy* (Ministry of Health 2003a)
- *Child and Youth Health Toolkit* (Ministry of Health 2004a).

The module was also informed by the *New Zealand Agenda for Children* in particular the 'whole child' approach to policy and service development for children (Ministry of Social Development 2004a). Taking a whole child approach means:

- focusing on the big picture – on the child's whole life and circumstances, and the links between individual issues and other aspects of their lives
- focusing from the outset on what children need for healthy development and wellbeing
- looking across the whole public service at what can be done to support children's healthy development
- considering multi-level interventions in the settings of family/whānau, friends and peers, school and the wider community
- viewing children as having valuable knowledge to contribute to the development and evaluation of policies and services that affect them
- considering ways in which children can be involved in decision-making on issues that affect them (Ministry of Social Development 2004a).

Topics for inclusion in the 2006/07 New Zealand Health Survey were based on gaps in current child health data, taking into account discussions with stakeholders. The questionnaire was constructed using validated questions from existing surveys, where possible, and new questions were cognitively tested prior to the survey roll-out.

The primary caregiver of each selected child participant was invited to answer the child questionnaire on behalf of the child. The primary caregiver is the person with day-to-day responsibility for the care of the child, and in over 90% of the interviews this was the biological parent³ (mostly the biological mother). For ease of reporting, primary caregivers are referred to as 'parents' throughout the report.

Table 1 contains a summary of the content of the 2006/07 New Zealand Health Survey child questionnaire. Future New Zealand Health Surveys will continue to include a comprehensive child health questionnaire, building on the 2006/07 content.

Table 1: Summarised content of the 2006/07 New Zealand Health Survey child questionnaire (answered by the primary caregiver)

Module	Topics
Health status and development	Chronic conditions, general health in past four weeks (physical and emotional/behavioural), family cohesion, discipline
Health service utilisation	Primary health care, general practitioners (GPs), nurses, oral health care providers, medical specialists, prescriptions, other health care professionals, telephone health advice, hospital use
Health risk and protective factors	Breastfeeding, eating breakfast at home, fizzy drink and fast food intake, active transport to school, TV watching, exposure to second-hand smoke
Sociodemographics	Gender, age, ethnicity, language, country of birth, early childhood care and education, shared parenting arrangements, primary caregiver's relationship to child, age, education, income support, labour status, and household characteristics
Anthropometry	Height and weight measurements (if two years and over) and waist circumference measurements (if five years and over)

Sample design

Like earlier New Zealand Health Surveys, the 2006/07 New Zealand Health Survey used a multi-stage, stratified, probability proportionate to size (PPS) sample design, with increased sampling of some ethnic groups, primarily through a 'screened' sample. The sample design was developed by the Centre for Statistical and Survey Methodology, University of Wollongong, New South Wales, Australia.

A total of 1385 small geographic areas (meshblocks) were randomly chosen throughout New Zealand, with larger meshblocks having a slightly increased chance of selection. These meshblocks were randomly allocated to the four seasons of the year to minimise seasonality bias. Interviewers began at a random point in each meshblock and selected every k th⁴ house as the 'core' sample household. In core households, one adult aged 15 years and over, and one child aged from birth to 14 years old (if any), were randomly selected for the survey. Interviewers then selected every j th⁴ house in each meshblock as the 'screened' sample households, to boost Māori, Pacific and Asian sample sizes.

³ See the following page for further details.

⁴ For further explanation of the calculation of the values 'k' and 'j', please consult page 9 of the *Methodology Report for the 2006/07 New Zealand Health Survey* (Ministry of Health 2008b).

In these screened households, adults and children were only eligible if the participants identified with a Māori, Pacific or Asian ethnicity (determined using the Census ethnicity question and Statistics New Zealand Ethnicity Classification Level 4). There was no substitution of households or participants if the selected household or participant refused, was not contactable or was unavailable.

Ethical approval

Ethical approval for the 2006/07 New Zealand Health Survey was obtained from the New Zealand Health and Disability Multi-Region Ethics Committee (MEC/06/02/004).

Data collection

Interviews were conducted between 1 October 2006 and 30 November 2007 throughout New Zealand. The child component of the survey was received well, with 71.2% of primary caregivers willing to participate. The survey involved face-to-face interviews with the primary caregiver of one randomly selected child in 4921 households. In most instances (95.2%) this was the biological parent of the child, although sometimes it was the grandparent (1.9%); foster/adoptive mother or father (1.0%); the mother or father's partner or spouse (0.8%); an aunt/uncle (0.4%); older sibling (0.5%); or someone else (0.2%).

Analysis

Age standardised rate

Age (even in childhood) is an important determinant of health. Because the priority groups have a different age structure to their comparison groups, age standardisation has been used to adjust for the effects of age in the comparative analyses.

An *age standardised rate* (ASR) is a rate that has been adjusted to take account of the difference in the age distribution of the population over time or between different groups (eg, different ethnic groups). The World Health Organization (WHO) world standard population under 15 years of age (Ahmad 2000) has been used to calculate age standardised rates in this report.

Unadjusted (crude) age-specific rates have also been presented in this report for estimates of prevalence within age groups and to illustrate the absolute burden.

'Statistically significant' results

When analysing data, not all observed trends and differences are statistically significant. The statistical significance of survey results is predominantly affected by sample size, and subsequently the potential for 'sampling error'. This subsection describes the occurrence of sampling error and details the statistical methods (confidence intervals and p-values) used to distinguish statistically significant results from those that could have occurred 'by chance'.

Sample error

Sample error results from selecting a small number of people (a sample) in the population to represent the entire population. Consequently, results presented in this report may differ from the 'true' value that would have been produced if the questionnaire had been given to everyone in the population. Ninety-five percent confidence intervals are used to represent the sample error for estimates. A 95% *confidence interval* means that there is a 95% chance that the true value of the estimate (if we were to ask the whole population) lies between the lower and upper confidence interval values. Ninety-five percent confidence intervals are presented in this report after estimates in the text, and as error bars in graphs.

Differences between estimates are said to be statistically significant when the confidence intervals for each rate do not overlap. Sometimes, even when there are overlapping confidence intervals the difference between the groups can be statistically significant. Therefore, in this report any differences between two variables where the confidence intervals overlap were tested using a t-test. The significance of a t-test is represented by the *p-value*. If a *p-value* is below 0.05, then we are 95% confident the difference between the two estimates is statistically significant. In this report, t-test results appear in brackets after the analyses, rounded to two decimal places (eg, *p-value* < 0.05).

Unless otherwise stated, all differences noted in the text in this report are statistically significant at the 95% level.

Non-sample error

Non-sample errors arise primarily from coverage problems, measurement inaccuracies, non-response or processing errors. Non-sample errors are extremely difficult to measure and their effect on the quality of survey data is uncertain. Consequently, non-sample errors are avoided in surveys, where possible.

The methodology report contains more information on the methods used to minimise non-sample error, including: questionnaire development, interviewer training and operational processes (<http://www.moh.govt.nz/moh.nsf/indexmh/portrait-of-health>).

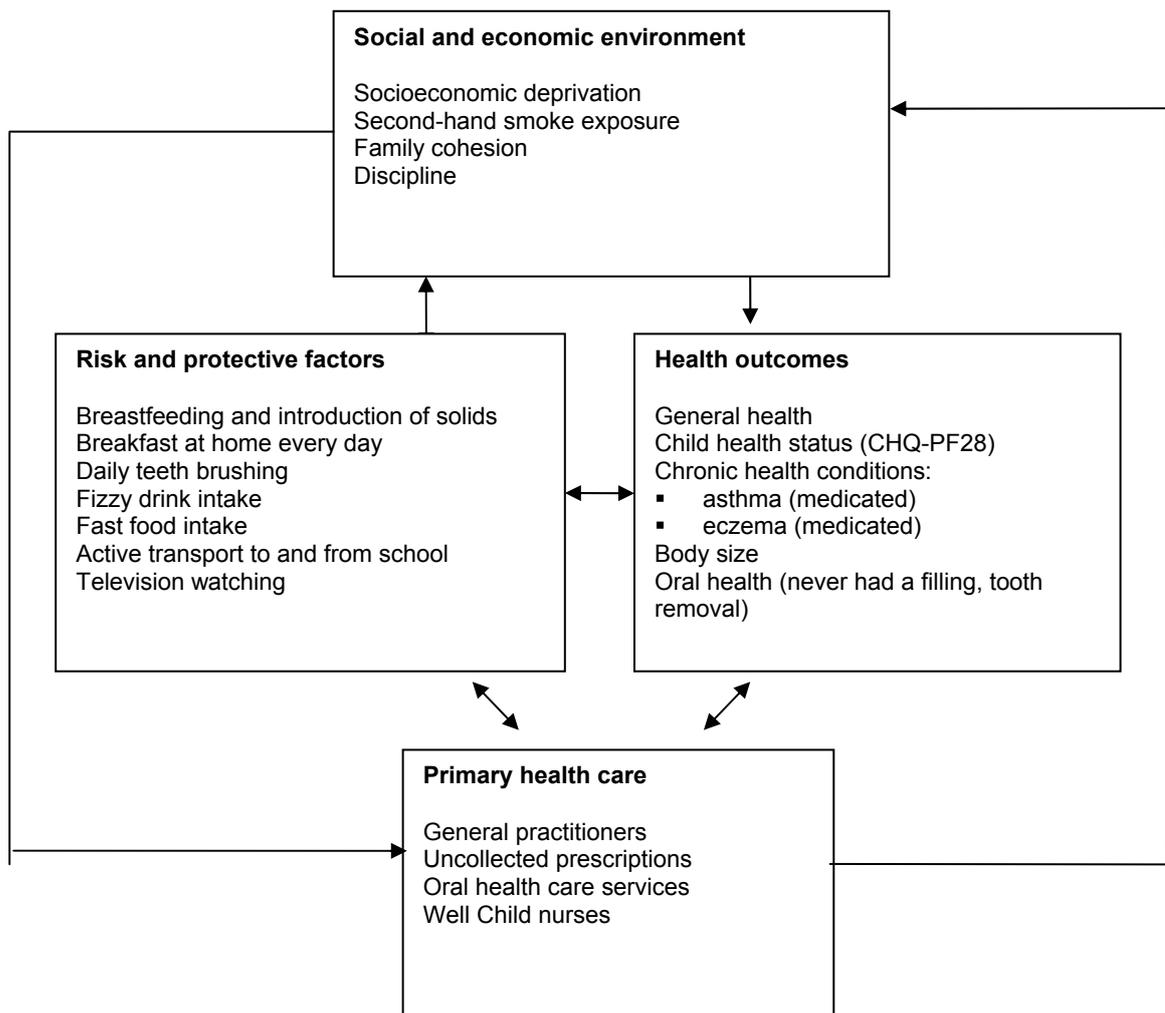
This report presents key descriptive findings for two of the priority groups identified in the *Child Health Strategy*. These two priority groups are Māori and Pacific children. For each priority group, indicators within four health domains are analysed. These health domains are: social environment, risk and protective factors, health outcomes, and primary health care use. Indicators selected for analysis within each domain are consistent with those used in *A Portrait of Health: Key results of the 2006/07 New Zealand Health Survey* (Ministry of Health 2008a). Figure 1 outlines the key indicators presented in this report as well as the relationships between the child health domains.

Presentation of findings

For each indicator the *unadjusted* rate is presented in the text to illustrate the absolute burden experienced by the population. However, 'statistically significant' findings are based on the *adjusted* (or age standardised) rate, and these are the rates presented in the graphs (unless otherwise specified). Therefore, in many instances, the unadjusted rates presented in the text will be different to the adjusted rates presented in the graphs.

All analyses presented in this report are for all children aged 0–14 years old unless otherwise specified.

Figure 1: Relationships between child health domains



Data in this report are presented for the total child priority group and their comparative group. Analyses by age group and neighbourhood deprivation are also provided where possible and appropriate. Analysis by gender was omitted because *A Portrait of Health: Key results of the 2006/07 New Zealand Health Survey* found few differences in the child population indicators by gender.

Priority group definitions: Māori and Pacific children

Ethnicity is a self-defined concept. Parents of child participants in the 2006/07 New Zealand Health Survey were able to report affiliation with multiple ethnicities for their children, using the Statistics New Zealand standard ethnicity question. This form of collection allows respondents to be counted in each of the ethnic groups they reported, and the resulting output is often referred to as 'total response'.⁵

For this report, all children who were identified as Māori were included in the Māori priority group. The comparison group for Māori (non-Māori children) was all other children. All children who were identified as Pacific were included in the Pacific priority group. The comparison group for Pacific children (non-Pacific children) was all other children.

The small number of participants who reported 'New Zealander' (0.7% of children) or refused the ethnicity question (0.02%) have been included in the European/Other group and are therefore included in the non-Māori and non-Pacific comparison groups.

Overall, in the survey 1983 children were identified as Māori and 798 as Pacific. Because each child could be affiliated with more than one ethnic group there is some overlap between the Māori and Pacific priority groups, with 242 children identifying as both Māori and Pacific. Among the Māori children, 12.2% also identified as Pacific, and among the Pacific children, 30.3% also identified as Māori. These children will be counted in both the Māori and Pacific priority population groups. Although this overlap means the Māori and Pacific ethnic groups can not be directly compared, they can be compared with their respective comparison groups. In addition, the comparison groups (non-Māori and non-Pacific) also overlap, and therefore should not be compared with each other.

Neighbourhood deprivation

To measure deprivation at the neighbourhood level, the 2006 version of the New Zealand Index of Deprivation (NZDep2006) has been used. NZDep2006 is an area-based index of deprivation that measures the level of socioeconomic deprivation for each neighbourhood (meshblock) according to a combination of the following 2006 Census variables: income, benefit receipt, transport (access to car), household crowding, home ownership, employment status, qualifications, support (sole-parent families), and access to a telephone (Salmond et al 2007). In this report, NZDep2006 is presented as quintiles in most cases, with quintile 1 representing the least deprived areas and quintile 5 representing the most deprived areas.

⁵ For more information on 'total response' ethnicity, please refer to the Ministry of Health's *Ethnicity Data Protocols for the Health and Disability Sector* (Ministry of Health 2004b) and *Presenting Ethnicity: Comparing prioritised and total response ethnicity in descriptive analyses of New Zealand Health Monitor surveys* (Ministry of Health 2008c).

The predecessors of NZDep2006 (NZDep91, NZDep96 and NZDep2001) have been validated (Crampton et al 2004). This means that the index accurately describes levels of deprivation in small areas and is highly correlated with key health outcomes and behaviours, such as mortality and smoking (Crampton et al 2004). Because it is an area-based tool, NZDep2006 was able to be measured directly for each child participant.

Data quality

Response rates

Table 2 presents the weighted response rates by ethnic group. These rates are comparable to other face-to-face household-based population surveys conducted in New Zealand, and are similar to earlier New Zealand Health Surveys.

Table 2: Final weighted response rates for children in the 2006/07 New Zealand Health Survey

Ethnic group	Child response rate (0–14 years)
European/Other	75.0%
Māori	74.9%
Pacific	74.9%
Asian	74.0%
New Zealand total	71.2%

Note: The total response rate for children is lower than the ethnic group response rates due to there being a large number of screened households in the survey for which the ethnicity of children was not recorded. The eligibility of some children was therefore unknown and these cases could not be directly used in the ethnic group response rate calculations, whereas they were able to be used in the overall response rate calculation. However, this does not affect the validity of the results observed. See the methodology report for more information.

The *Methodology Report for the 2006/07 New Zealand Health Survey* contains a detailed explanation of the response rate calculations (see <http://www.moh.govt.nz/moh.nsf/indexmh/portrait-of-health>).

Calibrated weighting

To ensure that no group is under- or over-represented in calculated estimates, weighting was applied to the calculations for the variables of age, sex, total ethnic group and District Health Board area to reflect the composition of the overall population. Even though the NZDep2006 index was not used in the weighting, the distribution of children by NZDep2006 quintile was similar to the distribution of children in the 2006 Census once the sample was weighted.

How to access more survey results and additional information

The Ministry of Health hopes this report stimulates interest in the health of New Zealand children, particularly in the health of the child priority populations. The analyses presented here are only a small proportion of those that could be undertaken, and in many ways pose more questions than they answer. It is hoped that the findings will generate more research, both through additional use of Health Survey data and by informing future research direction and priorities.

A copy of *A Portrait of Health: Key results of the 2006/07 New Zealand Health Survey* (Ministry of Health 2008a), as well as data web tables, related documents and previous surveys, can be accessed via: <http://www.moh.govt.nz/moh.nsf/indexmh/portrait-of-health>.

Related documents

Following is a list of related documents all published by the Ministry of Health unless otherwise indicated:

- *New Zealand Health Survey Content Guide*
- *2006/07 New Zealand Health Survey Adult Questionnaire*
- *2006/07 New Zealand Health Survey Child Questionnaire*
- *Methodology Report for the 2006/07 New Zealand Health Survey*
- *Sampling the Māori Population in the 2006/07 New Zealand Health Survey* (<http://www.statcan.ca>)
- *Development and Testing of a Caregiver-proxy Child Health Questionnaire for the New Zealand Health Survey* (<http://www.statcan.ca>)
- *Protocols for Collecting Height, Weight and Waist Measurements in New Zealand Health Monitor (NZHM) Surveys*
- *Body Size Technical Report: Measurements and classifications in the 2006/07 New Zealand Health Survey*
- *Presenting Ethnicity: Comparing prioritised and total response ethnicity in descriptive analyses of New Zealand Health Monitor surveys*
- *Monitoring Tobacco Use in New Zealand: A technical report on defining smoking status and estimates of smoking prevalence*
- *The New Zealand Health Monitor: Updated strategic plan.*

Previous New Zealand Health Surveys

Reports presenting the findings of previous New Zealand Health Surveys include:

- *Taking the Pulse: The 1996/97 New Zealand Health Survey*
- *A Portrait of Health: Key results of the 2002/03 New Zealand Health Survey.*

3 Māori Children

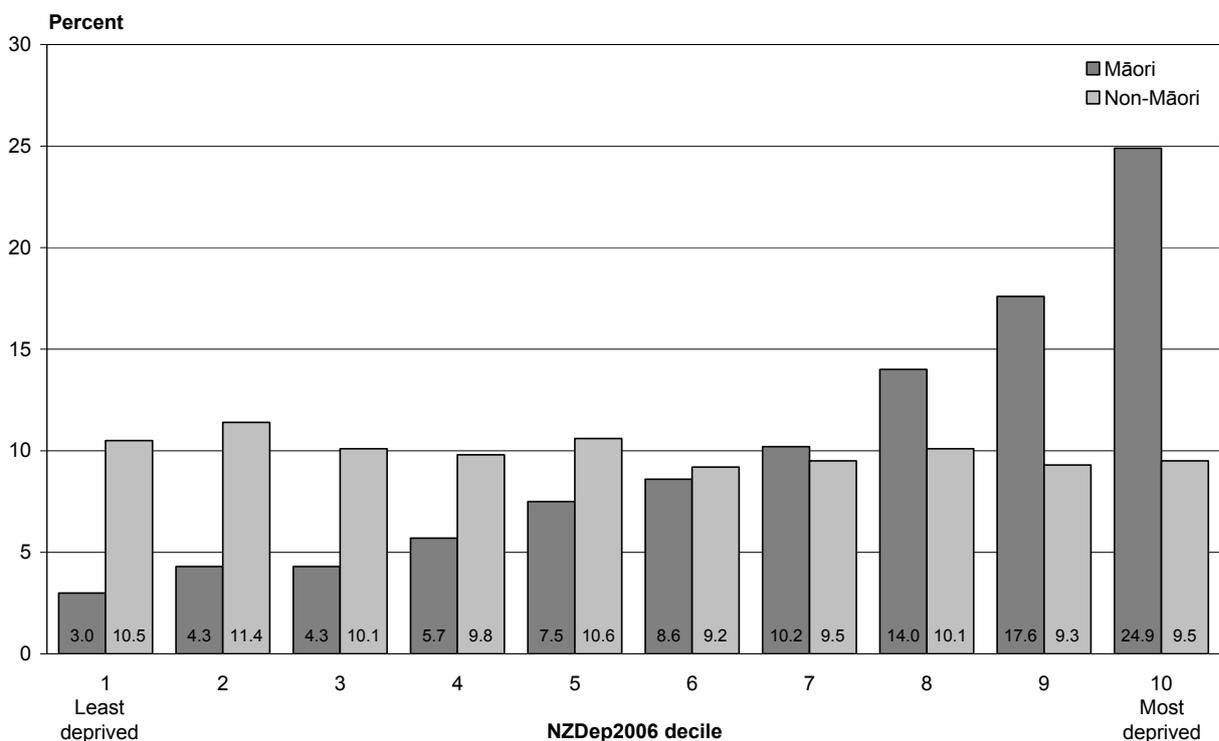
Introduction

In the 2006 Census 199,923 children aged 0–14 years were identified as Māori, making up 23% of the total child population in New Zealand. In comparison with non-Māori, Māori are a very youthful population. In 2006 Māori children formed 35% of the Māori population, compared with non-Māori children, who formed only 19% of the non-Māori population (Statistics New Zealand 2007).

Current health statistics indicate that Māori have a shorter life expectancy than non-Māori. Māori males born between 2005 and 2007 are expected to live 70.4 years, 8.6 years less than non-Māori males born at the same time (Statistics New Zealand 2007). Māori females born over the same period have a life expectancy of 75.1 years, 7.9 years less than non-Māori females born at the same time (Statistics New Zealand 2007).

Māori children are also significantly more likely to live in areas of higher neighbourhood deprivation (NZDep2006 deciles 9 and 10) compared with non-Māori children (Figure 2).

Figure 2: Distribution of Māori and non-Māori children aged 0–14 years, by NZDep2006 decile



Source: Statistics New Zealand

Māori have poorer health across a wide range of health status indicators compared with the overall population (Blakely et al 2007; Ministry of Health 1998, 2008a; Robson and Harris 2007). Consequently, Māori are a key priority group to target for the reduction of health disparities. The improvement in the health of Māori is central to the *He Korowai Oranga: Māori Health Strategy* goal of whānau ora (Minister of Health and Associate Minister of Health 2002).

In order to address overall disparities for Māori, it is essential to understand the health experience of Māori in childhood, because the health of adolescents and adults is determined in these early years (Mercy and Saul 2009). This section presents the results of the 2006/07 New Zealand Health Survey for Māori children for the following health domains: social environment, risk and protective factors, health outcomes, and primary health care use.

Social environment

In this subsection, the indicators presented relating to the social environment are exposure to second-hand smoke, family cohesion and discipline.

Second-hand smoke exposure

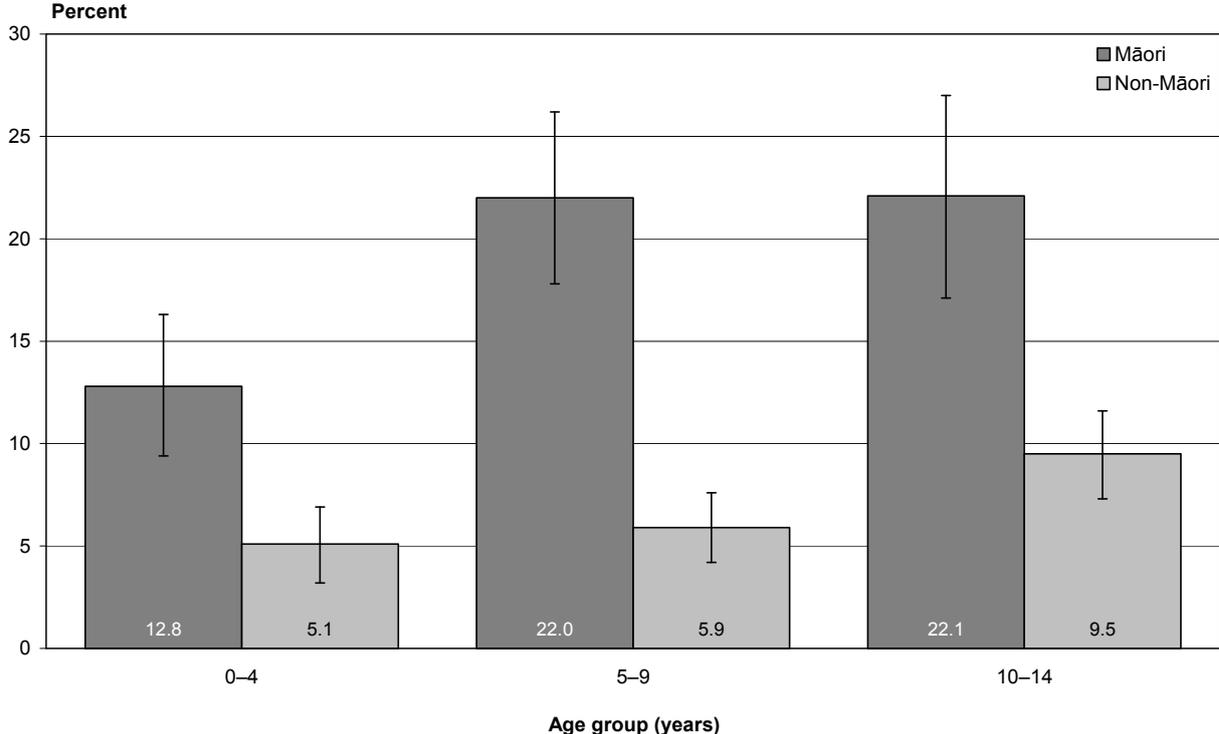
Second-hand smoke comes from two places: smoke breathed out by the person who smokes and smoke from the end of a burning cigarette. Second-hand smoke causes premature death and disease in both children and adults. There is evidence that children who are exposed to second-hand smoke are at an increased risk for sudden unexpected death in infancy (SUDI), chest infections, ear problems and more severe asthma (US Department of Health and Human Services 2006; Best et al 2009).

Overall, 18.9% (16.4–21.4) of Māori children and 6.9% (5.8–7.9) of non-Māori children were exposed to second-hand smoke in the home. After adjusting for age, Māori children were more likely to be exposed to second-hand smoke than non-Māori children.

Exposure to second-hand smoke, by age group

For both Māori and non-Māori children, exposure to second-hand smoke increased with age. Among Māori children this increase occurred in the younger age groups (between 0–4 and 5–9 years), whereas for non-Māori it occurred in the older age groups (between 5–9 and 10–14 years). In all age groups, Māori children were more likely to be exposed to second-hand smoke in the home than non-Māori children (Figure 3).

Figure 3: Exposure to second-hand smoke in the home, Māori and non-Māori children, by age group (unadjusted)

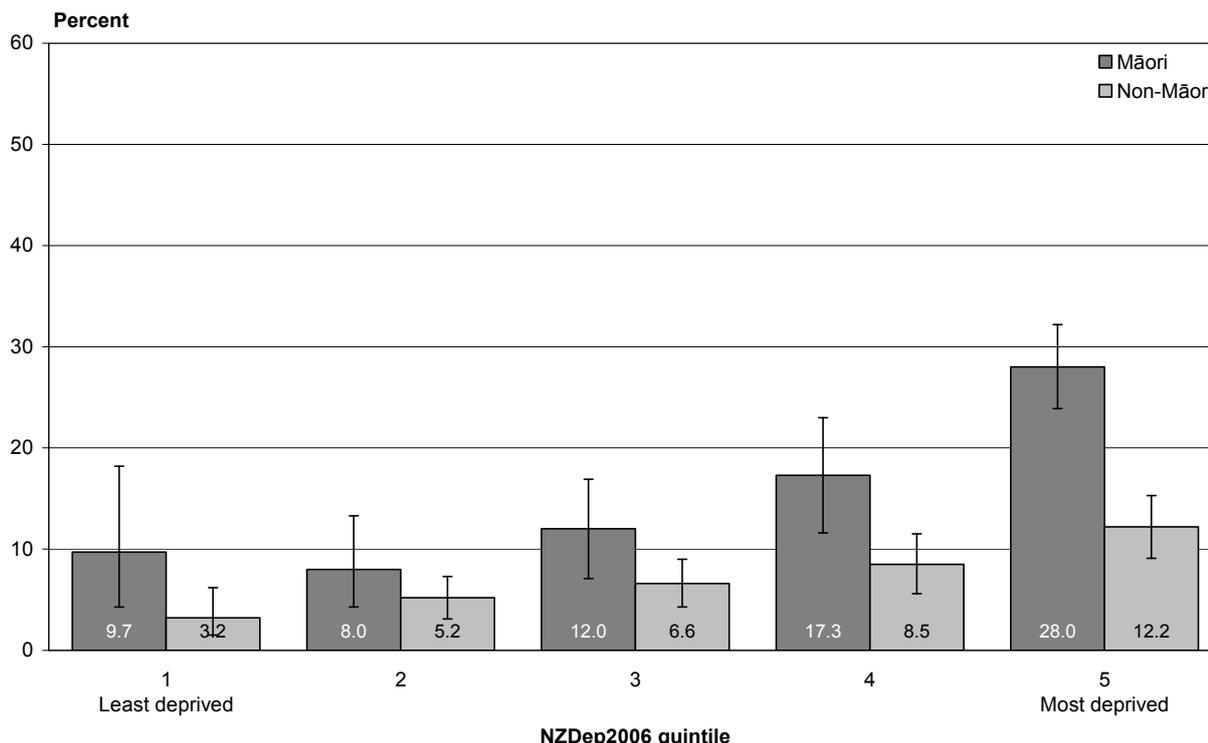


Source: 2006/07 New Zealand Health Survey

Exposure to second-hand smoke, by neighbourhood deprivation

Exposure to second-hand smoke was significantly higher in the most deprived areas than in the least deprived areas for both Māori and non-Māori children (Figure 4). Māori were only significantly more likely to be exposed to second-hand smoke than non-Māori children in NZDep2006 quintiles 4 and 5 (p-values ≤ 0.01).

Figure 4: Exposure to second-hand smoke in the home, Māori and non-Māori children, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Family cohesion

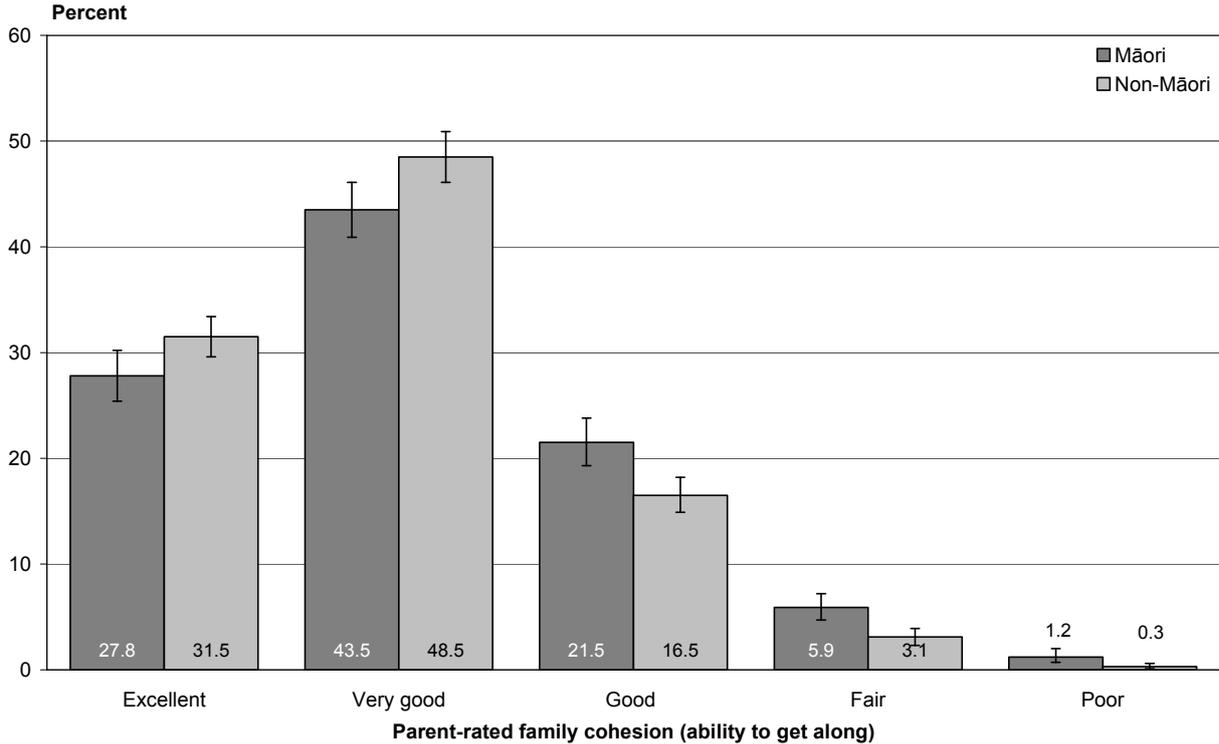
Family is an important social structure, critical to the health and wellbeing of individuals, especially children, who depend on their family for most of their needs for physical and emotional development (Ministry of Social Development 2004b). In the 2006/07 New Zealand Health Survey the primary caregiver of each child participant aged from birth to 14 years was asked to rate their family’s ability to get along with one another. A definition of family as ‘the immediate family members that live in the same household’ was given to all participants.

The 2006/07 New Zealand Health Survey used an internationally validated question from the Child Health Questionnaire Parent Form (CHQ-PF28) as a proxy for family wellbeing, which captured one parent’s opinion of how well their family members interact. This is often called ‘family cohesion’, and is both a critical element in the daily functioning of a family and an important asset for families to have in order to ‘rebound’ from stresses and in times of crisis (Kalil 2003). Family cohesion is not the sole determinant of family wellbeing, but simply one dimension of many that has an impact on the way a family functions (Olson 1993).

It is important to note that although in this subsection we look at family cohesion by ethnic group, the ethnic group analyses do not represent the family unit; that is, these analyses do not describe, for example, ‘Māori families’.

The majority of parents of both Māori (71.3 %, 68.8–73.8) and non-Māori (79.8%, 78.0–81.6) children rated their family’s ability to get along with one another as ‘excellent’ or ‘very good’. After adjusting for age, parents of Māori children were less likely to rate their family’s ability to get along as ‘excellent’ or ‘very good’ than parents of non-Māori children (p-values < 0.02). Māori children were significantly more likely to have parents who rated their family’s ability to get along as ‘good’, ‘fair’ or ‘poor’ compared with the parents of non-Māori children (Figure 5).

Figure 5: Parent rating of family’s ability to get along, Māori and non-Māori children (age standardised)

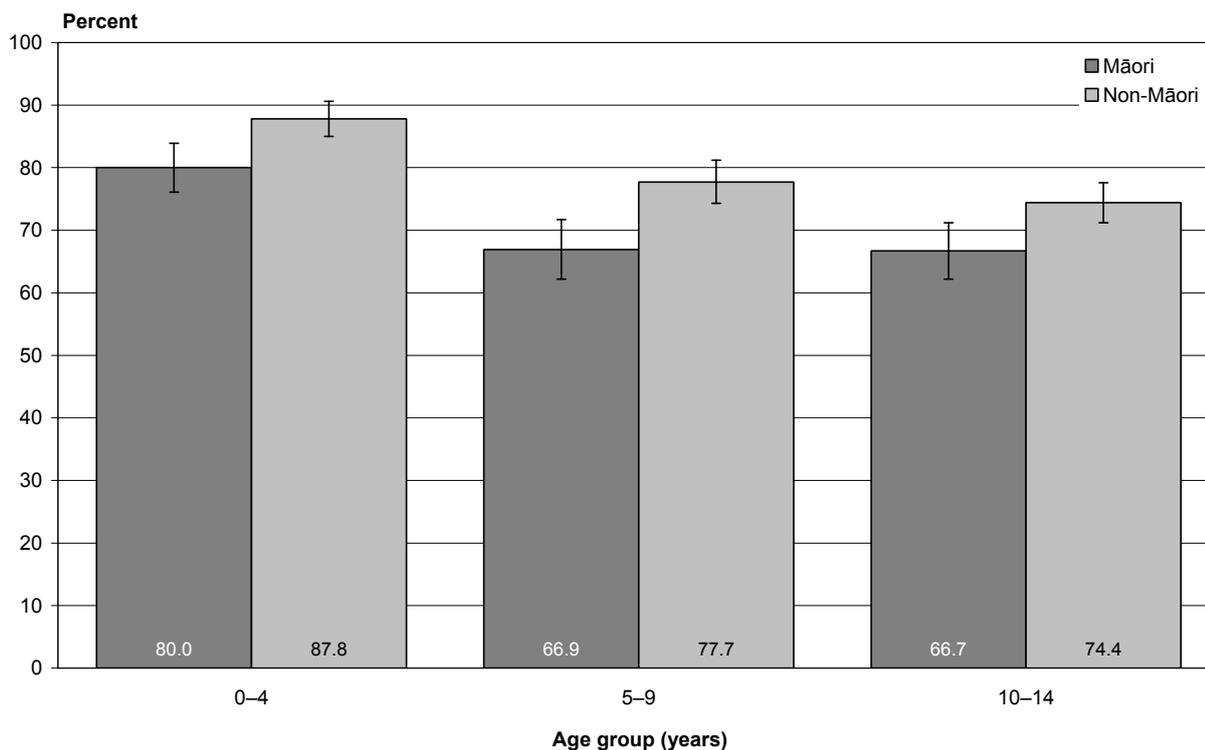


Source: 2006/07 New Zealand Health Survey

Family cohesion, by age group

For both Māori and non-Māori, family cohesion decreases with increasing age group. Parents of children aged 0–4 years were more likely to report ‘excellent or very good’ family cohesion than parents of 5–9 and 10–14-year-old children (Figure 6). In all age groups, parents of non-Māori children were more likely to report ‘excellent or very good’ family cohesion than parents of Māori children (p-values <0.01).

Figure 6: Parent rating of family’s ability to get along as ‘excellent or very good’, Māori and non-Māori children, by age group (unadjusted)

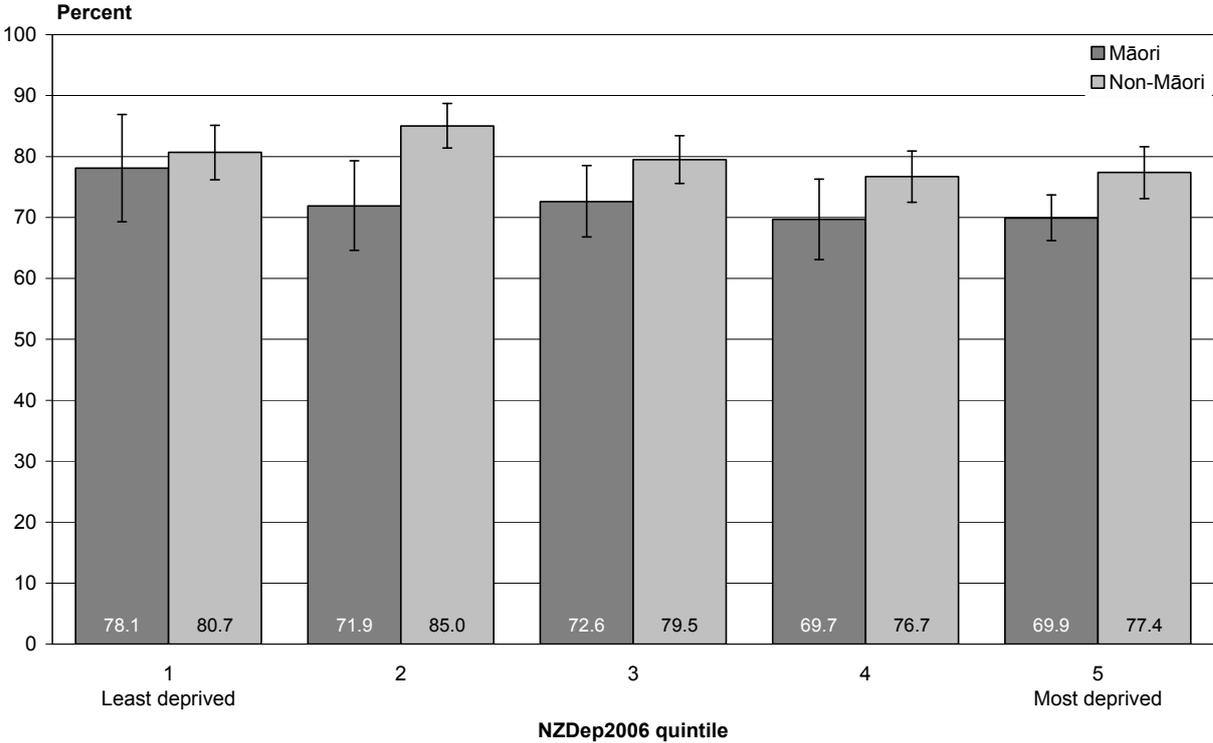


Source: 2006/07 New Zealand Health Survey

Family cohesion, by neighbourhood deprivation

There was no significant difference in the prevalence of ‘excellent or very good’ family cohesion for Māori or non-Māori children by neighbourhood deprivation (Figure 7). However, Māori living in the most deprived neighbourhoods (NZDep2006 quintile 5) were less likely to have parents report their family’s ability to get along with one another as ‘excellent or very good’ compared with non-Māori children living in similarly deprived neighbourhoods (p-value = 0.01).

Figure 7: Parent rating of family’s ability to get along as ‘excellent or very good’, Māori and non-Māori children, by NZDep2006 quintile (age standardised)



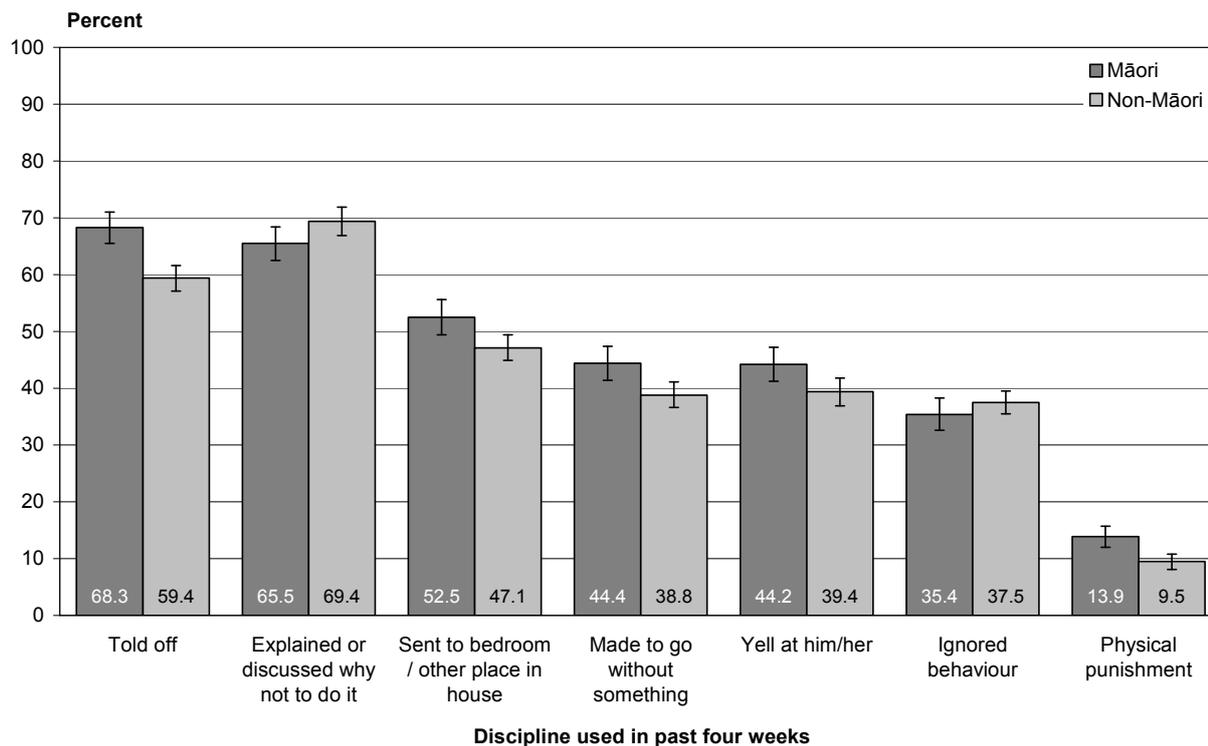
Source: 2006/07 New Zealand Health Survey

Discipline

In the 2006/07 New Zealand Health Survey the primary caregiver of child participants was asked to choose from eight options relating to how they responded to their child when they misbehaved over the past four weeks. Parents were able to choose multiple options. The options were: (1) made them go without something or miss out on something, (2) yelled at them, (3) explained or discussed why they should not do it, (4) physical punishment, such as smacking, (5) told them off, (6) sent them to their room, (7) ignored their behaviour, or (8) something else. They were also asked which of these forms of discipline they thought were the most effective.

The most common responses to misbehaviour, reported by the primary caregivers of both Māori and non-Māori children, were being ‘told off’ and an explanation or discussion of ‘why they should not do something’ (Figure 8).

Figure 8: Most common strategies to change unwanted behaviour, Māori and non-Māori children (age standardised)

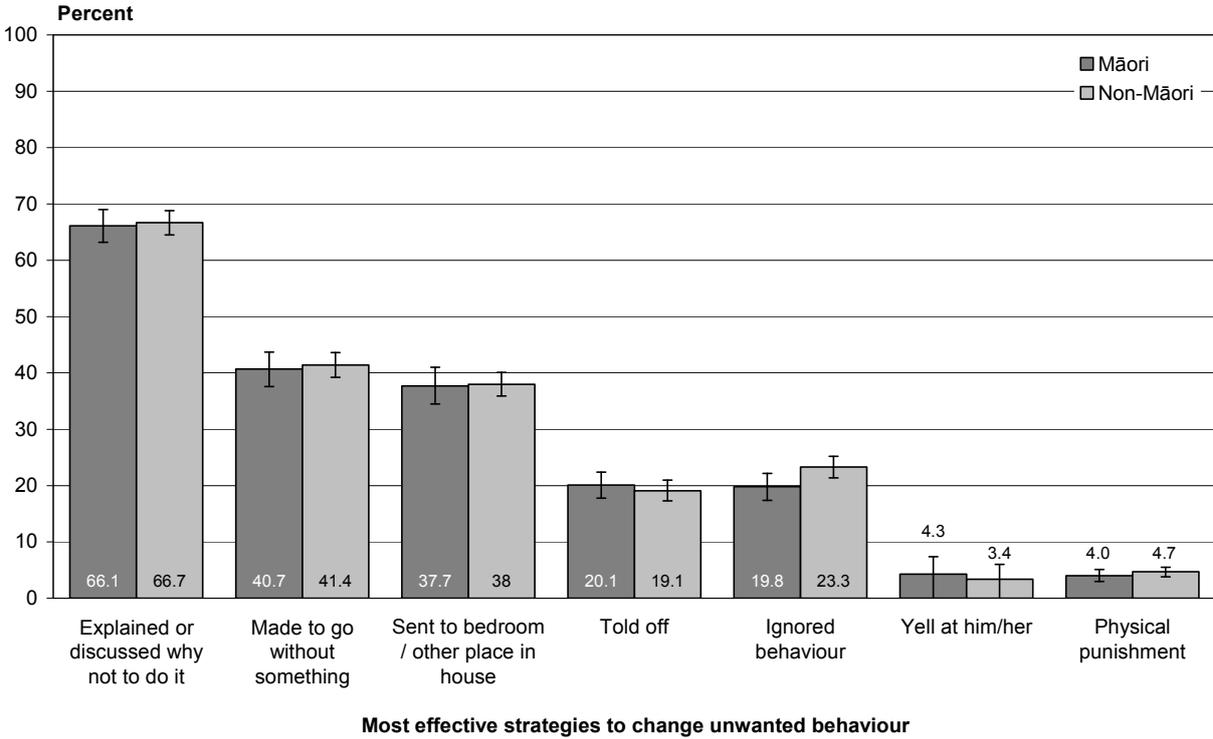


Source: 2006/07 New Zealand Health Survey

Effective discipline strategies

Parents were also asked what they thought were the most effective things to do when trying to change their child’s behaviour. The form of discipline reported to be most effective among primary caregivers of both Māori and non-Māori children was to explain or discuss why not to do something (Figure 9).

Figure 9: Most effective strategies to change unwanted behaviour, Māori and non-Māori children (age standardised)



Source: 2006/07 New Zealand Health Survey

Physical punishment

Discipline that does not include physical punishment has been found to be better for the parent-child relationship, and is more effective when the methods used are consistent, supportive and authoritative (not authoritarian)⁶ (Smith et al 2004). Parental use of physical punishment is associated with negative developmental outcomes such as antisocial behaviour, poor intellectual development, poor parent-child relationships and mental health problems (Smith et al 2004).

The Ministry of Health is part of a cross-government initiative working towards attaining violence-free homes in New Zealand, and is committed to monitoring changing parental attitudes and behaviour towards children (Taskforce for Action on Violence within Families 2006). The above factors justify the more detailed exploration of the use of physical punishment by age group and deprivation.

Physical punishment was the least-used form of discipline in the past four weeks among both Māori and non-Māori children. However, overall, 14.0% (12.2–15.9) of Māori children and 9.3% (8.0–10.7) of non-Māori children experienced physical punishment by their primary caregiver in the past four weeks. After adjusting for age, Māori children were significantly more likely to experience physical punishment by their primary caregiver than non-Māori children.

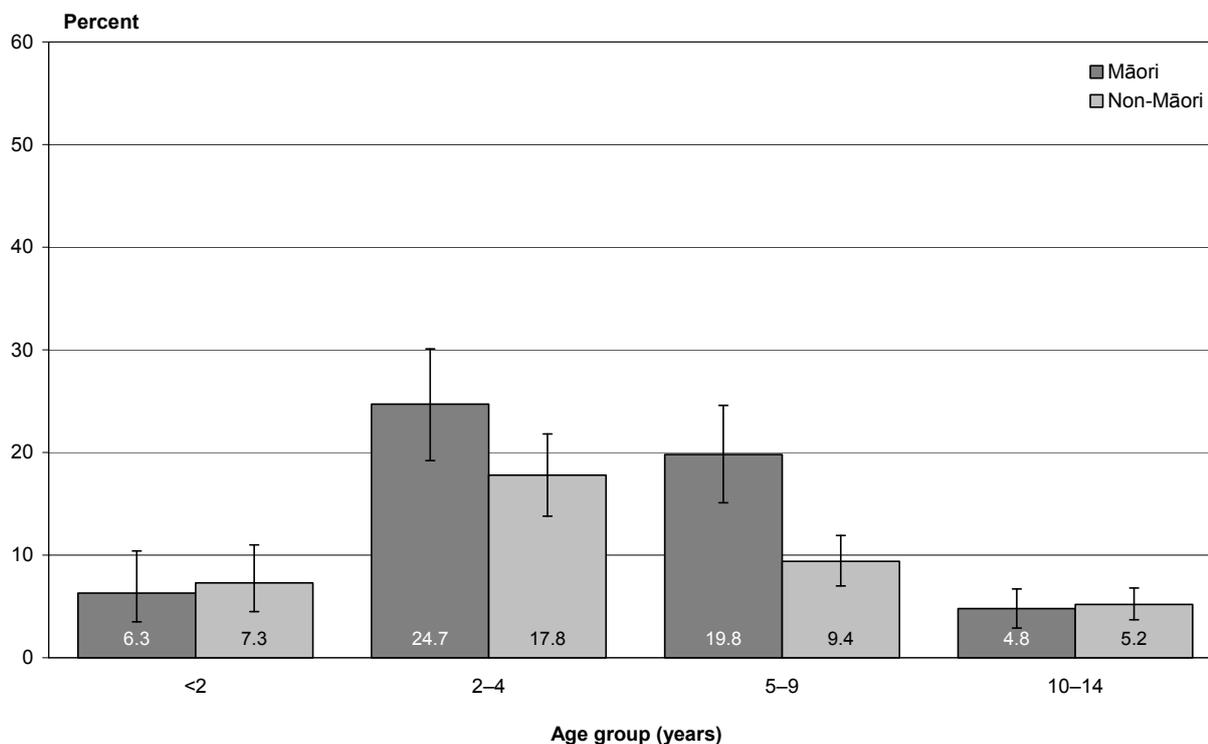
⁶ While authoritative methods are imposing and respectful, authoritarian parenting styles lean more towards angry and aggressive demands and harsh discipline.

Of parents who used physical punishment in the past four weeks, just under one in four parents of Māori children (23.1%, 16.3–30.0) and one in three parents of non-Māori children (32.9%, 26.5–39.3) reported physical punishment as an effective discipline strategy. After adjusting for age, parents of Māori children who had used physical punishment in the past four weeks were less likely to report physical punishment as an effective mode of discipline than parents of non-Māori children (p-value = 0.04).

Physical punishment, by age group

Among both Māori and non-Māori, children aged 2–4 years were more likely to have experienced physical punishment than those in other age groups (p-value < 0.05). Among 2–4-year-olds and 5–9-year-olds, the primary caregivers of Māori children were more likely than those of non-Māori children to use physical punishment (p-values < 0.05) (Figure 10).

Figure 10: Physical punishment by the primary caregiver in the past four weeks, Māori and non-Māori children, by age group (unadjusted)

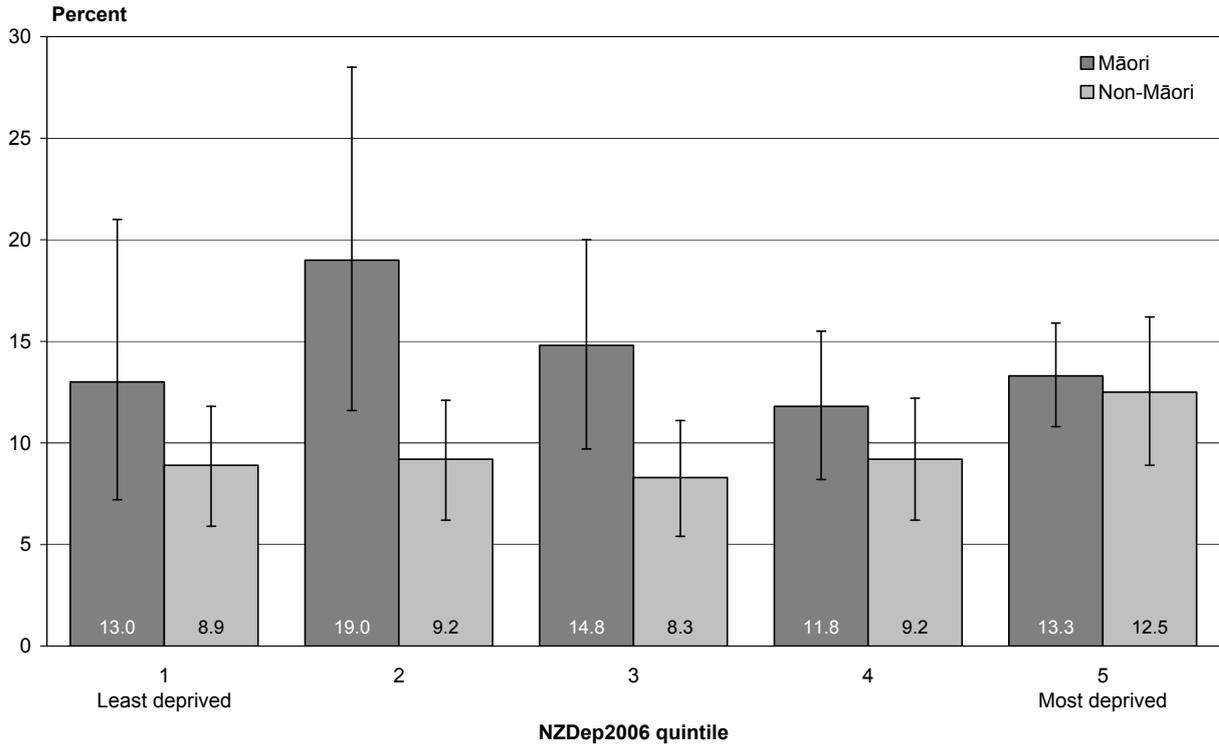


Source: 2006/07 New Zealand Health Survey

Physical punishment, by neighbourhood deprivation

There was no significant difference in the prevalence of physical punishment for either Māori or non-Māori children by neighbourhood deprivation (Figure 11). However, the primary caregivers of Māori living in NZDep2006 quintiles 2 and 3 were significantly more likely to use physical punishment in the previous four weeks than the primary caregivers of non-Māori children living in the same quintiles (p-values < 0.03).

Figure 11: Physical punishment by the primary caregiver in the past four weeks, Māori and non-Māori children, by NZdep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Health risk and protective environment

Healthy environments influence health behaviours that are associated with good health outcomes. Although only variables that have been shown in the literature to be associated with health outcomes are included in this report, readers need to be aware that the associations between indicators in this report do not necessarily imply *causality*. For example, if the survey finds that a particular health behaviour is more common in people living in deprived areas, an *association* has been identified. This does not mean the health behaviour is caused by living in a deprived area. Associations between current health states and current behaviour or current socio-demographic characteristics, need to be interpreted with caution, as current health states may reflect past, rather than present, behaviour or circumstances.

Breastfeeding and introduction of solids

Appropriate nutrition in the first few months of life is more critical than at any other time in the life cycle. Breast milk has many health benefits, including reduced risk to the child of lower respiratory tract disease, atopic dermatitis (eczema), childhood leukaemias and sudden infant death syndrome (Hoddinott et al 2008). Breastfeeding is promoted by the World Health Organization, United Nations Children’s Fund (UNICEF) and the Ministry of Health as the best food for infants (World Health Organization and UNICEF 2003; Ministry of Health 2008d).

The Ministry of Health recommends that infants be fed exclusively on breast milk to around six months of age, with continued breastfeeding up to two years or beyond. Solid foods and fluids should be gradually introduced along with the usual milk feed (breast milk or infant formula) around six months of age, but not before four months of age (Ministry of Health 2008d). There are a number of risks associated with the early introduction of solids before the age of four months, including increased risk of eczema, asthma, allergies, respiratory disease, gut infections, diarrhoea and dehydration, iron deficiency and malnutrition. Late introduction of solids, after six months of age, has been associated with increased risk of iron deficiency, malnutrition and delays in oral motor development (Ministry of Health 2008d).

There are two types of breastfeeding: exclusive and partial. Exclusive breastfeeding is when infants have not been given any liquids or solids (excluding prescribed medicines) other than breast milk. Partial breastfeeding is breastfeeding that has continued following the introduction of non-breast milk liquids and/or solids. This subsection presents results for both exclusive and partial breastfeeding combined ('ever breastfed') as well as for exclusive breastfeeding on its own.

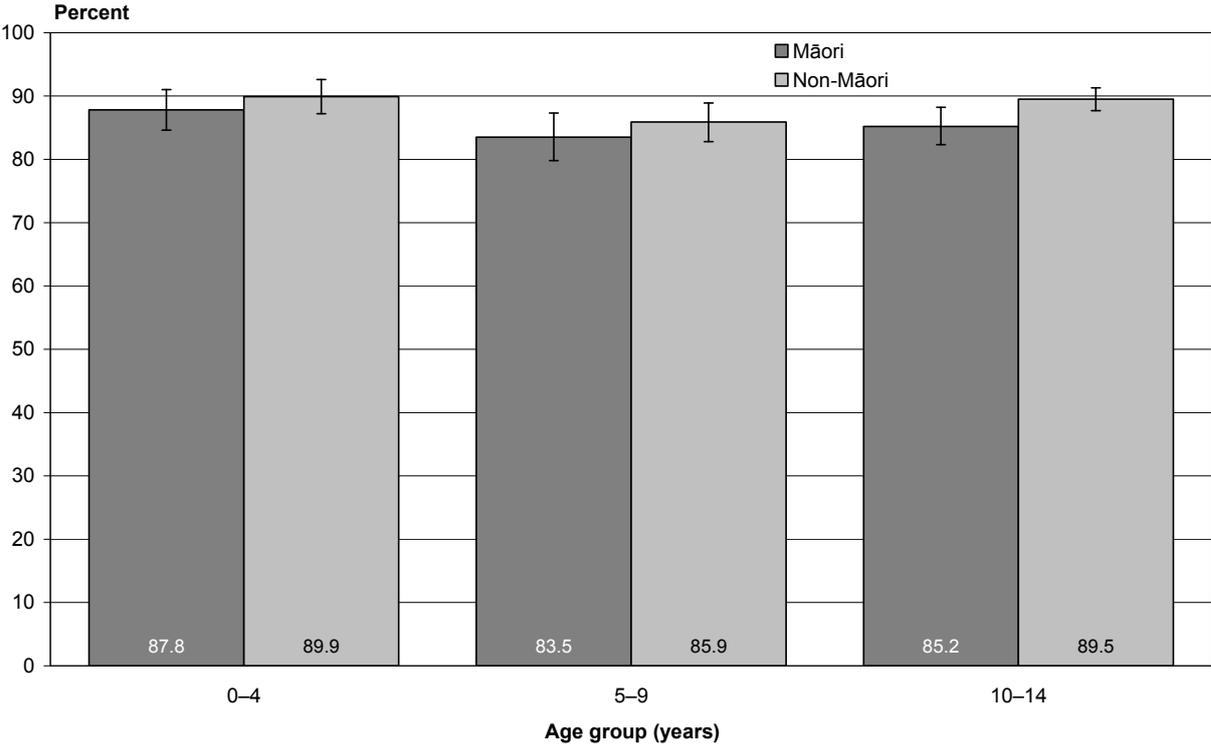
Ever breastfed children

A high proportion of Māori (85.5%, 83.8–87.2) and non-Māori (88.4%, 87.0–89.9) children have *ever* been breastfed (including exclusive and partial). After adjusting for age, Māori were slightly less likely than non-Māori children to have ever been breastfed (p-value = 0.01).

Ever breastfed children, by age group

The prevalence of ever having been breastfed did not vary by age group for either Māori or non-Māori (Figure 12). However, within the 10–14 years age group, Māori were less likely to have ever been breastfed compared with non-Māori children (p-value = 0.01).

Figure 12: Ever breastfed children, Māori and non-Māori, by age group (unadjusted)

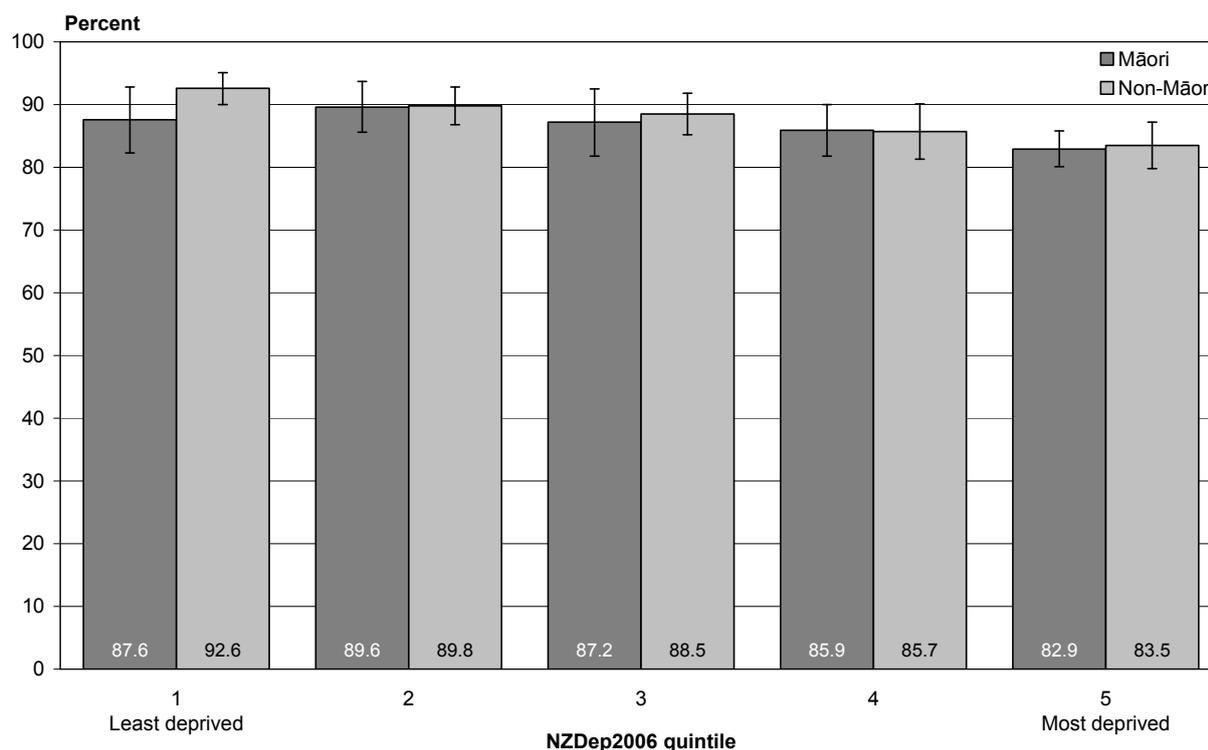


Source: 2006/07 New Zealand Health Survey

Ever breastfed children, by neighbourhood deprivation

There were no differences in the prevalence of ever having been breastfed by neighbourhood deprivation for Māori (Figure 13). In contrast, for non-Māori, the prevalence of ever having been breastfed was significantly higher in the least deprived areas (NZDep2006 quintile 1) than the most deprived areas (NZDep2006 quintile 5). There were no differences in the age-adjusted prevalence of ever having been breastfed between Māori and non-Māori children within NZDep2006 quintiles.

Figure 13: Ever breastfed children, Māori and non-Māori, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Age breastfeeding stopped

For Māori aged less than five years, who had ceased breastfeeding and had ever been breastfed, the mean age at which breastfeeding was stopped was 8.3 months (7.4–9.2 months). This was comparable to the mean age for non-Māori (8.7 months, 8.1–9.3 months).

One in ten Māori (10.4%, 6.4–14.4) and one in eight non-Māori (8.3%, 5.5–11.1) children aged 2–4 years were still breastfed at two years of age. There was no significant difference between Māori and non-Māori children in the age of breastfeeding cessation or breastfeeding at two years of age.

Exclusive breastfeeding

At six weeks, 71.9% (67.6–76.2) of Māori and 73.2% (69.6–76.8) of non-Māori children were exclusively breastfed. At three months 54.0% (49.1–58.8) of Māori and 56.4% (51.9–60.9) of non-Māori children were exclusively breastfed. At six months 8.2% (5.3–11.2) of Māori and 7.3% (5.4–9.3) of non-Māori children were exclusively breastfed. There were, however, no significant differences between Māori and non-Māori exclusive breastfeeding rates.

Solids before four months of age

Overall, the mean age of introduction of solids was approximately 5.5 months for both Māori (5.3, 5.1–5.5) and non-Māori (5.5, 5.3–5.7) children. One in six Māori (16.3%, 12.4–20.2) and one in 12 non-Māori (8.7%, 6.3–11.1) children less than five years of age were given solids before four months. After adjusting for age, Māori children were significantly more likely to be given solids before four months compared with non-Māori children.

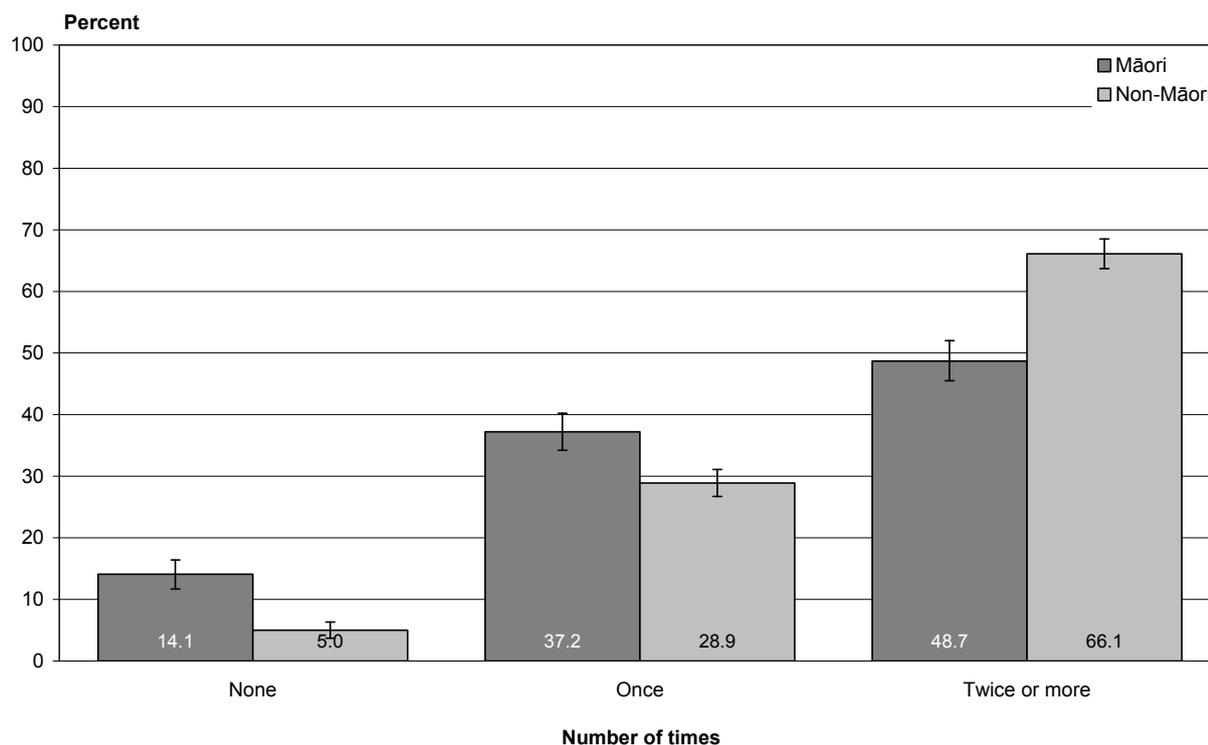
Daily teeth-brushing

The Ministry of Health recognises that oral health is an important part of general good health (Ministry of Health 2006). Oral health conditions include tooth decay, abscesses and infections in the mouth, and gum disease. Poor oral health can lead to pain as well as difficulty eating and speaking. In New Zealand, oral health is strongly correlated with the fluoridation of water supplies, with people living in areas where the water supply is fluoridated having (on average) better oral health than those in non-fluoridated areas. Other modifiable risk factors for poor oral health include poor diet, teeth-brushing less than twice a day, and cigarette smoking (Ministry of Health 2006).

This subsection focuses on the prevalence of regular teeth-brushing among New Zealand children.

Half of Māori (48.8%, 45.6–52.1) and two-thirds of non-Māori (66.0%, 63.6–68.5) children aged 2–14 years had brushed their teeth at least twice in the previous day. After adjusting for age, Māori were significantly less likely to have brushed their teeth at least twice in the previous day compared with non-Māori children. Māori were significantly more likely than non-Māori children to have brushed their teeth once or not at all on the previous day (Figure 14).

Figure 14: Teeth-brushing in the previous day, Māori and non-Māori children aged 2–14 years (age standardised)



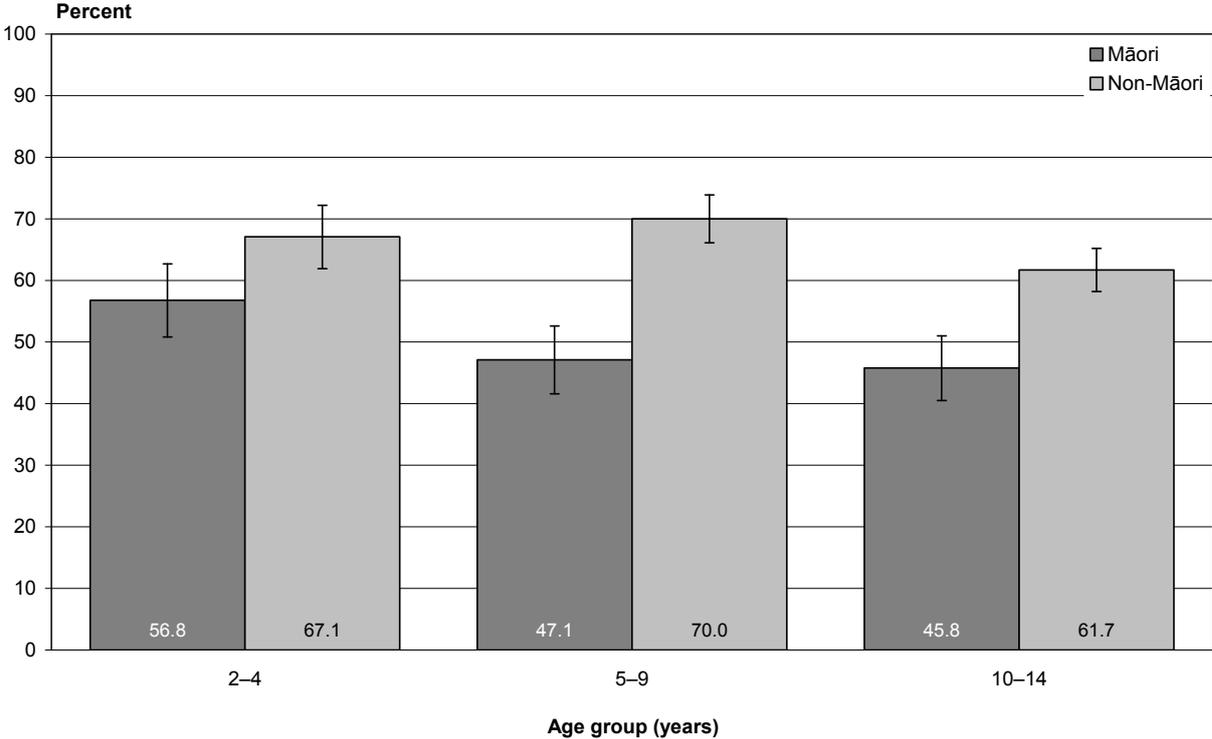
Source: 2006/07 New Zealand Health Survey

Brushed teeth at least twice in the previous day, by age group

The prevalence of brushing teeth at least twice in the previous day differed with age; both 10–14-year-old Māori and non-Māori children had a lower prevalence than 2–4-year-olds, although this difference was only significant for Māori (p -value < 0.01) (Figure 15). Among Māori, the decrease in prevalence occurred earlier, between the 2–4-year-old group and the 5–9-year-old group, compared with non-Māori, where the decrease occurred between the 5–9-year-old group and the 10–14-year-old group.

Among all age groups, Māori were significantly less likely to have brushed at least twice in the previous day compared with non-Māori children (2–4 year-old group: p -value = 0.01).

Figure 15: Brushed teeth at least twice in the previous day, Māori and non-Māori children aged 2–14 years, by age group (unadjusted)

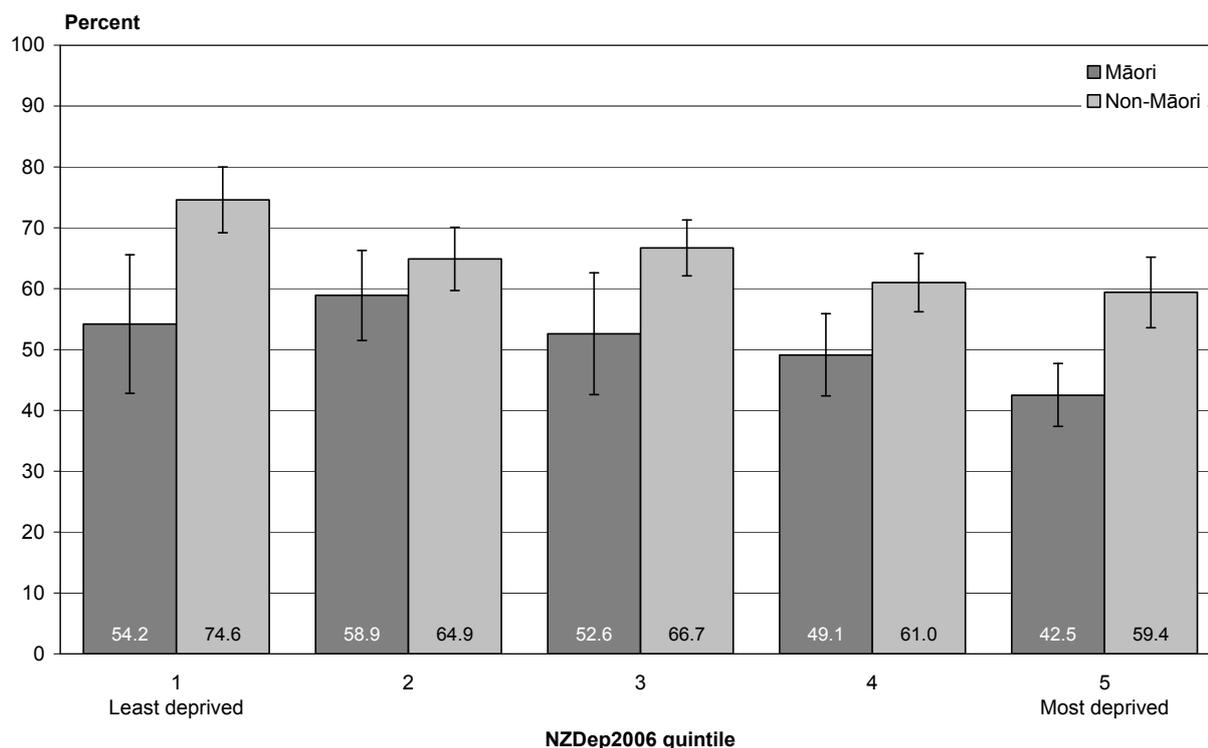


Source: 2006/07 New Zealand Health Survey

Brushed teeth at least twice in the previous day, by neighbourhood deprivation

For both Māori and non-Māori children the prevalence of having brushed at least twice in the previous day decreased with increasing deprivation (Figure 16). Apart from NZDep2006 quintile 2, Māori were significantly less likely to brush their teeth at least twice a day compared with non-Māori children in the same quintile.

Figure 16: Brushed teeth at least twice in the previous day, Māori and non-Māori children aged 2–14 years, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Breakfast at home every day

Eating breakfast at home every day is a proxy measure of good nutritional intake and healthy behaviour. Research shows that children who do not eat breakfast at home are more likely to consume unhealthy snack foods such as meat pies, chocolate and candies, and soft drink, and are less likely to eat lunch (Utter et al 2007). The 2002 National Children’s Nutrition Survey found that 82.9% of children aged 5–14 years usually had something to eat before they left home in the morning for school (Ministry of Health 2003b).

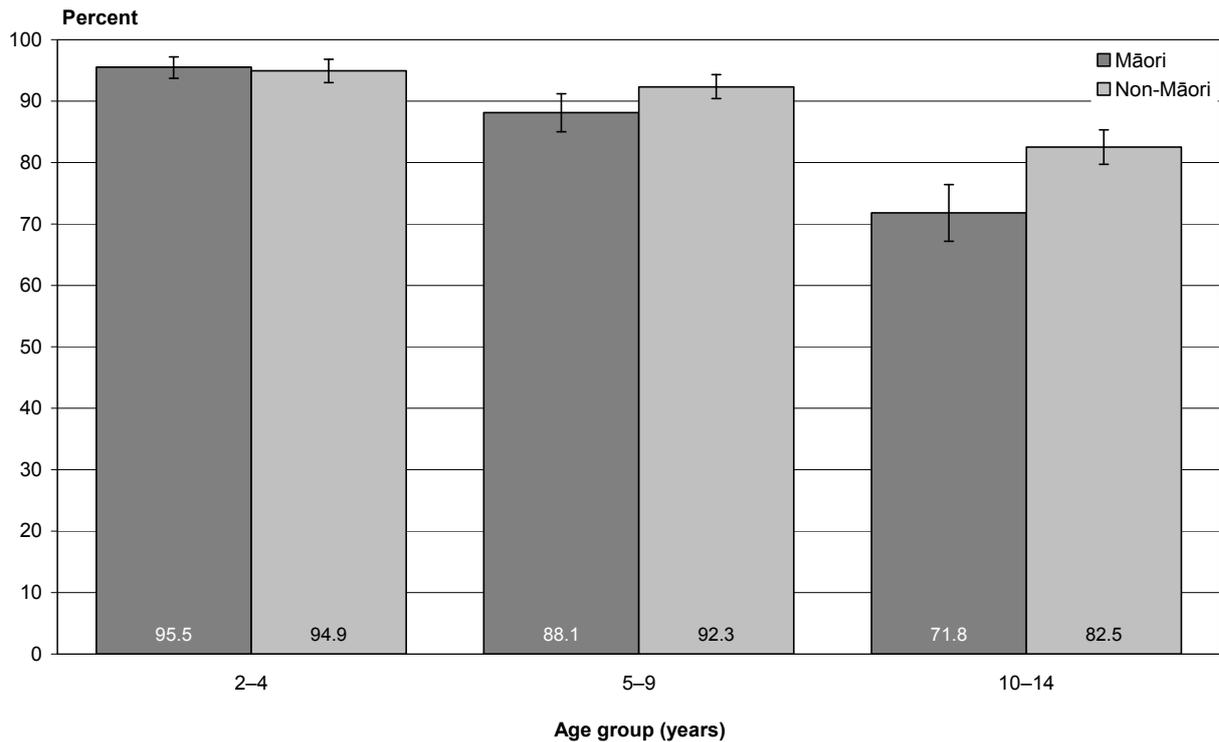
In the 2006/07 New Zealand Health Survey, parents of children aged 2–14 years were asked how many times their child had eaten breakfast at home in the past seven days. Eight out of ten Māori (83.6%, 81.2–86.0) and nine out of ten non-Māori (89.0%, 87.6–90.4) children ate breakfast at home every day in the past week. After adjusting for age, Māori children were less likely than non-Māori children to have eaten breakfast at home daily.

After adjusting for age, Māori children (10.7%, 8.9–12.5) were more likely to have eaten breakfast at home less than five days in the past week than non-Māori children (6.3%, 5.3–7.3).

Breakfast at home every day, by age group

For both Māori and non-Māori children, the prevalence of having breakfast at home every day decreased with increasing age of the child (Figure 17). Māori children aged 5–9 and 10–14 years were significantly less likely to have eaten breakfast at home than non-Māori children in the same age groups. There was no difference between Māori and non-Māori aged 2–4 years.

Figure 17: Breakfast at home every day in the past seven days, Māori and non-Māori children aged 2–14 years, by age group (unadjusted)

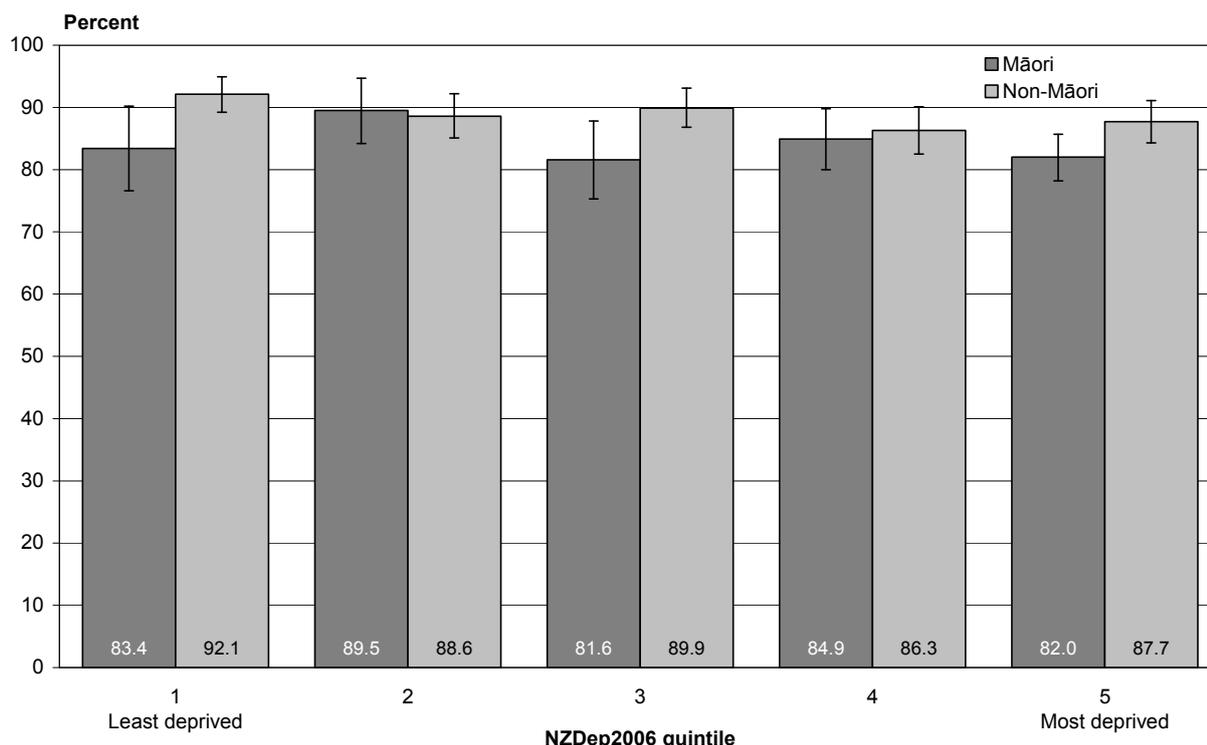


Source: 2006/07 New Zealand Health Survey

Breakfast at home every day, by neighbourhood deprivation

There was no significant difference in the prevalence of having eaten breakfast at home every day by neighbourhood deprivation for Māori or non-Māori children (Figure 18). However, Māori living in NZDep2006 quintiles 1, 3 and 5 were significantly less likely to have eaten breakfast at home every day in the past seven days compared with non-Māori children living in the same quintiles (p -value < 0.03).

Figure 18: Breakfast at home every day in the past seven days, Māori and non-Māori children aged 2–14 years, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Fizzy drink intake

There is a strong association between drinking fizzy drinks and increased risk of obesity (Taylor et al 2005; Vartanian et al 2007; World Cancer Research Fund and American Institute for Cancer Research 2007) as well as type 2 diabetes (Taylor et al 2005; Vartanian et al 2007). In addition, fizzy drinks contain acids that can dissolve tooth enamel, contributing to poor oral health (Ministry of Health 1997).

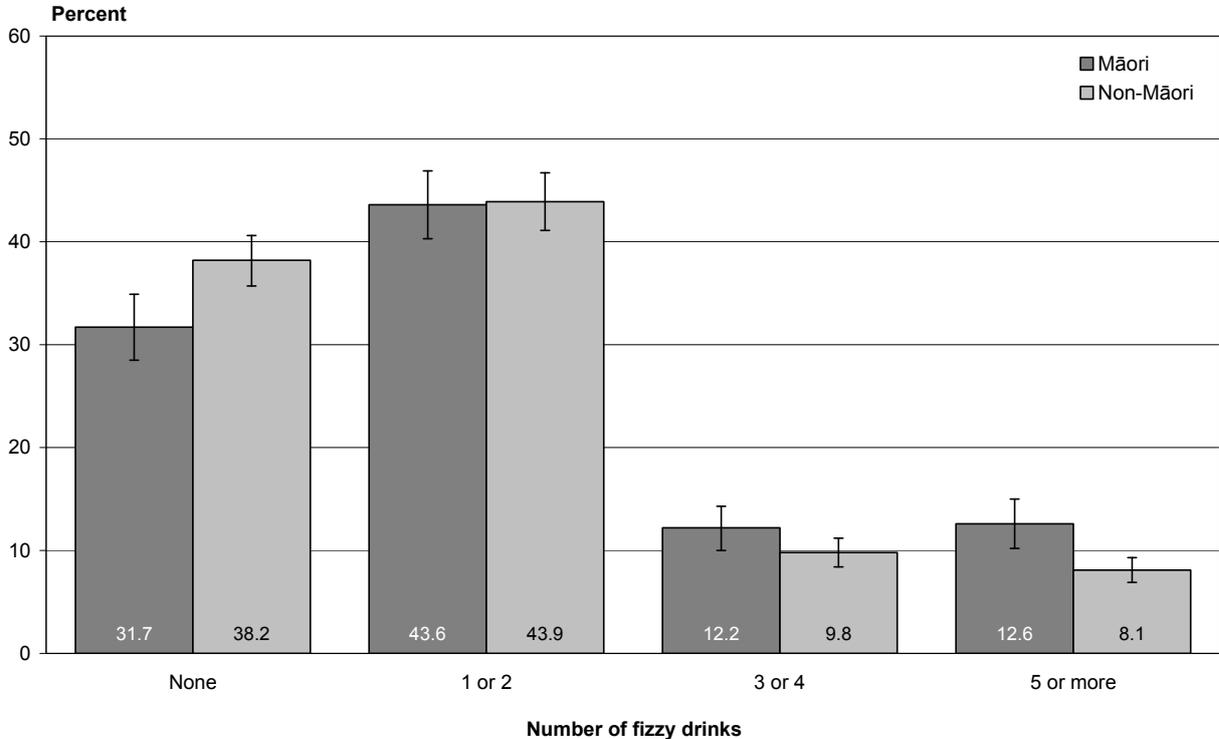
Full-sugar carbonated drinks and energy drinks of all types are recommended as ‘treat foods’ for children aged 2–12 years by the Ministry of Health, to be given at special times only, such as birthday parties (Ministry of Health 1997). Fizzy drinks are not recommended for children under the age of two years (Ministry of Health 2008d).

Parents and caregivers of children aged 2–14 years in the 2006/07 New Zealand Health Survey were asked if in a typical week their child would usually have a fizzy or soft drink, such as cola or lemonade. The definition of fizzy drink includes diet (artificially sweetened) drinks and energy drinks, but does not include powdered drinks made up with water, and does not include fruit juice.

Overall, one in two Māori (51.7%, 48.6–54.8) and three out of seven non-Māori (43.7%, 41.2–46.2) children had a fizzy drink in a typical week. After adjusting for age, Māori children were more likely than non-Māori children to consume a fizzy drink in a typical week.

Māori children were significantly less likely not to have had any fizzy drinks, and more likely to have had five or more fizzy drinks in the previous week, compared with non-Māori children (Figure 19).

Figure 19: Number of fizzy drinks consumed in the past seven days, Māori and non-Māori children aged 2–14 years (age standardised)



Source: 2006/07 New Zealand Health Survey

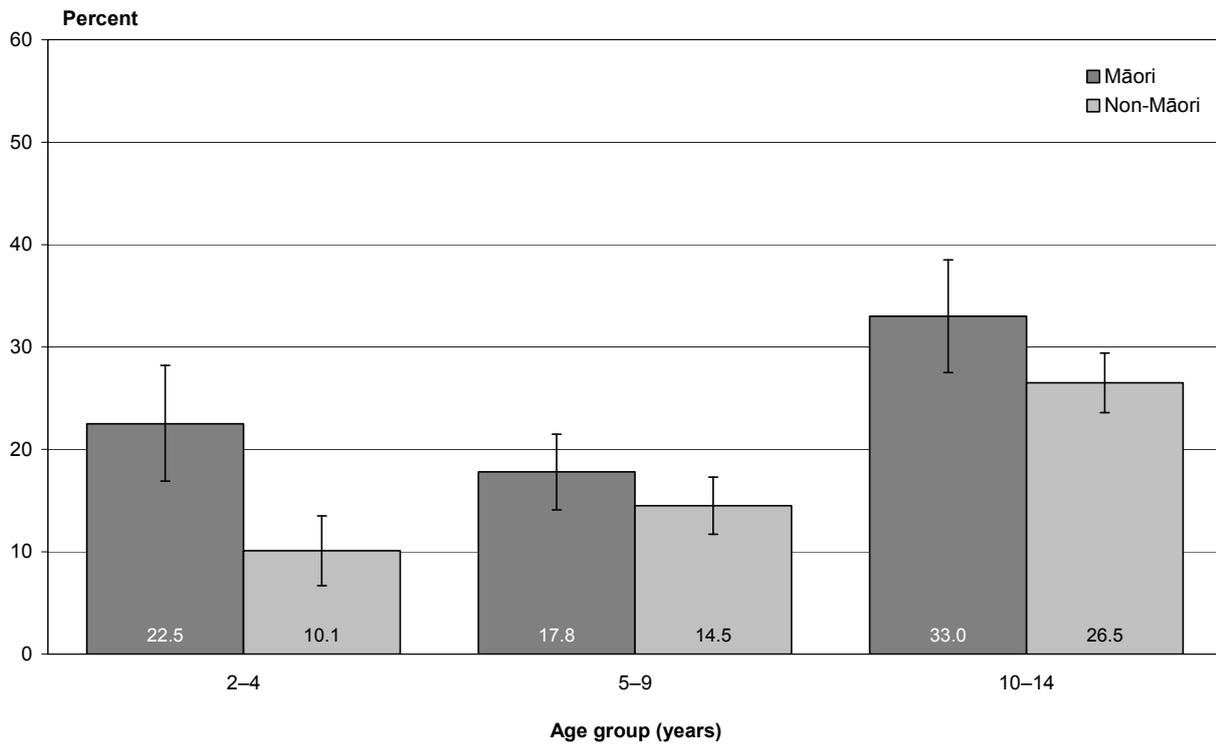
Approximately one in four Māori (24.6%, 21.5–27.8) and one in five non-Māori (18.2%, 16.4–20.0) children aged 2–14 years had three or more fizzy drinks in the preceding week.

Fizzy drink intake, by age group

Among both Māori and non-Māori, children aged 10–14 years had the highest prevalence of consuming three or more fizzy drinks in the previous week (Figure 20).

Māori aged 2–4 years and 10–14 years (p-value = 0.02) were more likely than non-Māori children in the same age groups to have had three or more fizzy drinks in the previous week. There was no significant difference in the 5–9 years age group.

Figure 20: Three or more fizzy drinks consumed in the past seven days, Māori and non-Māori children aged 2–14 years, by age group (unadjusted)

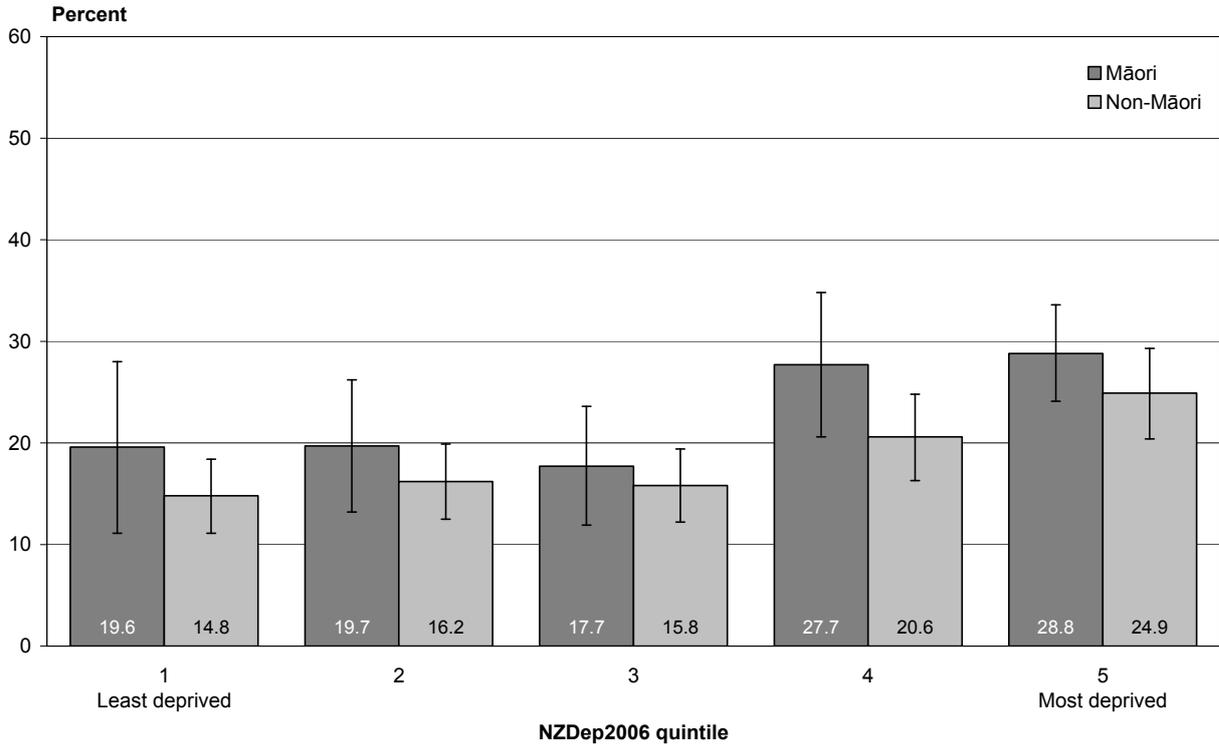


Source: 2006/07 New Zealand Health Survey

Fizzy drink intake, by neighbourhood deprivation

Māori and non-Māori children living in NZDep2006 quintiles 4 and 5 had a higher prevalence of consuming three or more fizzy drinks in the previous week than Māori and non-Māori children living in quintiles 1–3 (Figure 21). However, this difference was not statistically significant for Māori children. Within each quintile there was no significant difference between Māori and non-Māori children.

Figure 21: Three or more fizzy drinks in the past seven days, Māori and non-Māori children aged 2–14 years, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

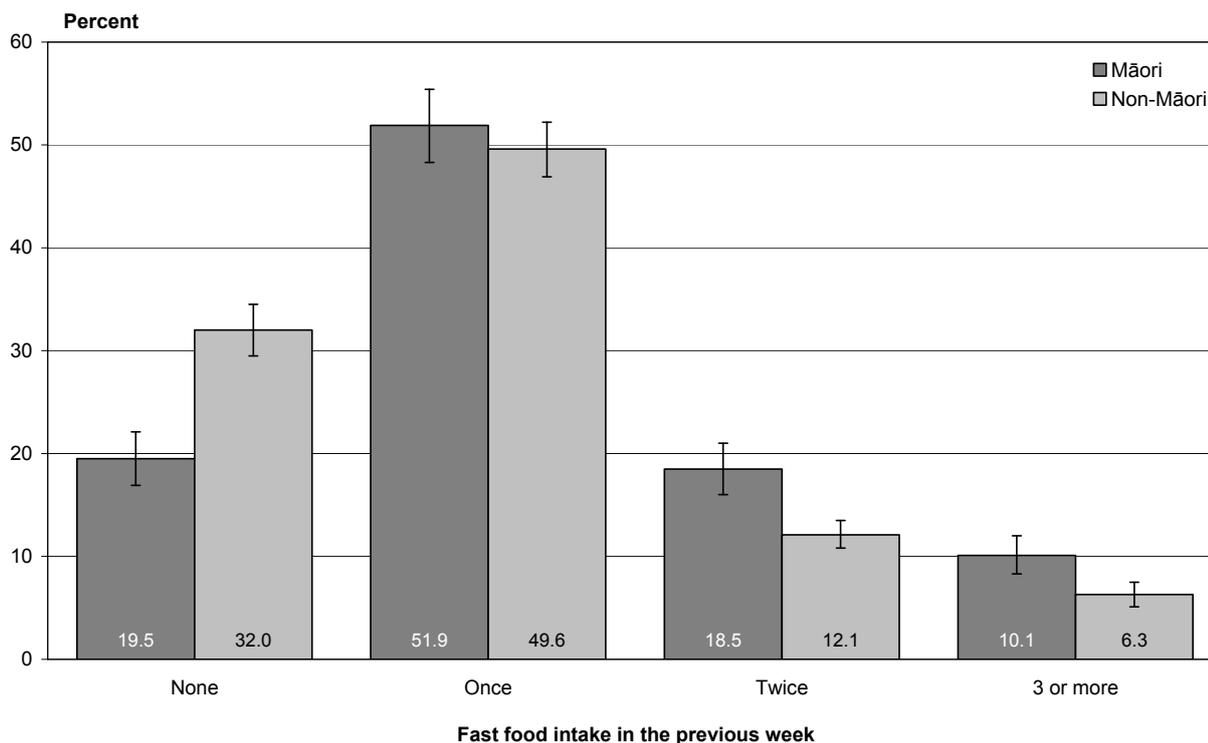
Fast food intake

Evidence suggests that eating fast food more than twice a week is associated with an increased risk of weight gain, overweight and obesity (World Cancer Research Fund and American Institute for Cancer Research 2007). In addition, fast food is generally high in fat, salt and sugar and low in fibre, and is associated with heart disease and hypertension (Ministry of Health 1997).

In the 2006/07 New Zealand Health Survey, parents of children aged 2–14 years were asked whether their child had consumed any food from a fast food place or takeaway shop in the previous week, and if so, how often their child ate this type of food. Three out of four Māori (74.5%, 71.5–77.4) and three out of five non-Māori (60.1%, 57.4–62.8) children usually had fast food in a typical week. After adjusting for age, Māori children were more likely to have fast food in a typical week than non-Māori children.

Non-Māori were more likely than Māori children not to have had any fast food in the previous week (Figure 22). Māori children were more likely than non-Māori children to have had fast food at least twice in the previous week.

Figure 22: Fast food intake in the past seven days, Māori and non-Māori children aged 2–14 years (age standardised)



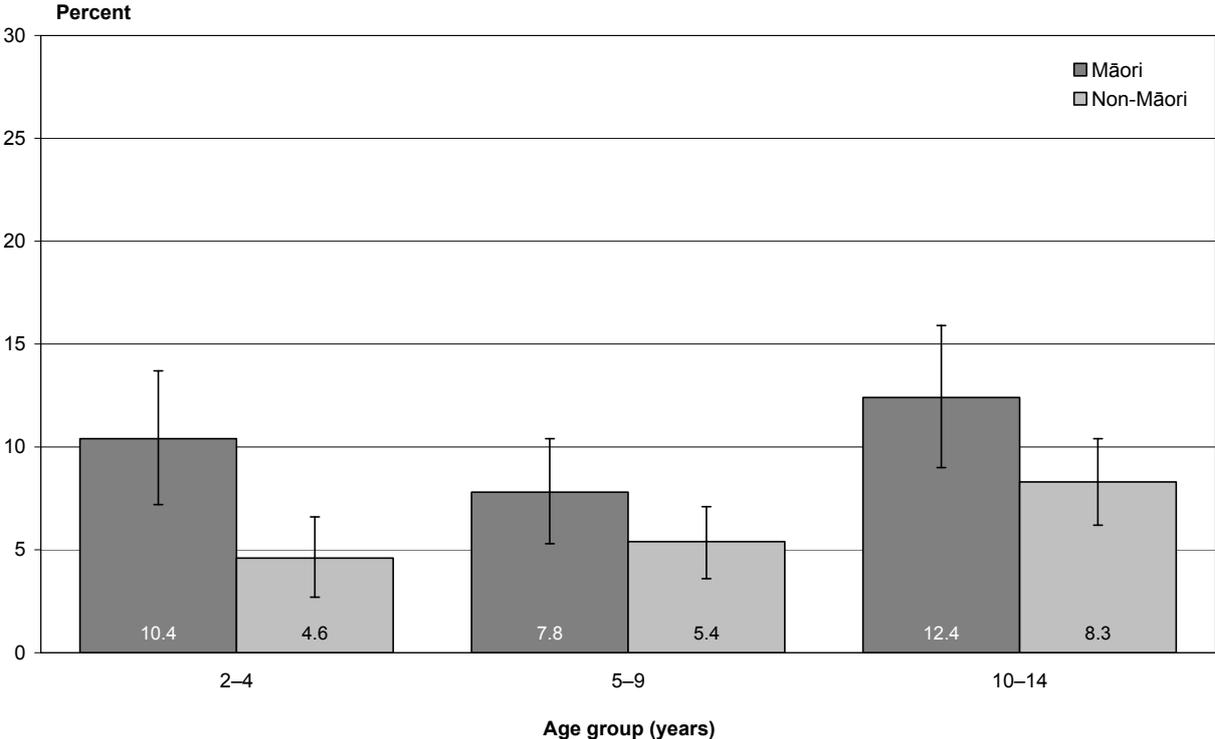
Source: 2006/07 New Zealand Health Survey

Fast food intake, by age group

Although Māori children aged 10–14 years old had the highest prevalence of consuming fast food three or more times in the previous week, this prevalence was only significantly higher than the prevalence among 5–9-year-old Māori (p-value = 0.03), and was not significantly different from that observed among 2–4-year-olds (Figure 23). In contrast, non-Māori children aged 10–14 years were more likely to have eaten fast food three or more times in the previous week than any other age group (p-values < 0.05).

Māori children aged 2–4 years and 10–14 years were significantly more likely to have eaten fast food three or more times in the previous week compared with non-Māori of the same age (p-values < 0.05).

Figure 23: Fast food intake three or more times in the past seven days, Māori and non-Māori children aged 2–14 years, by age group (unadjusted)

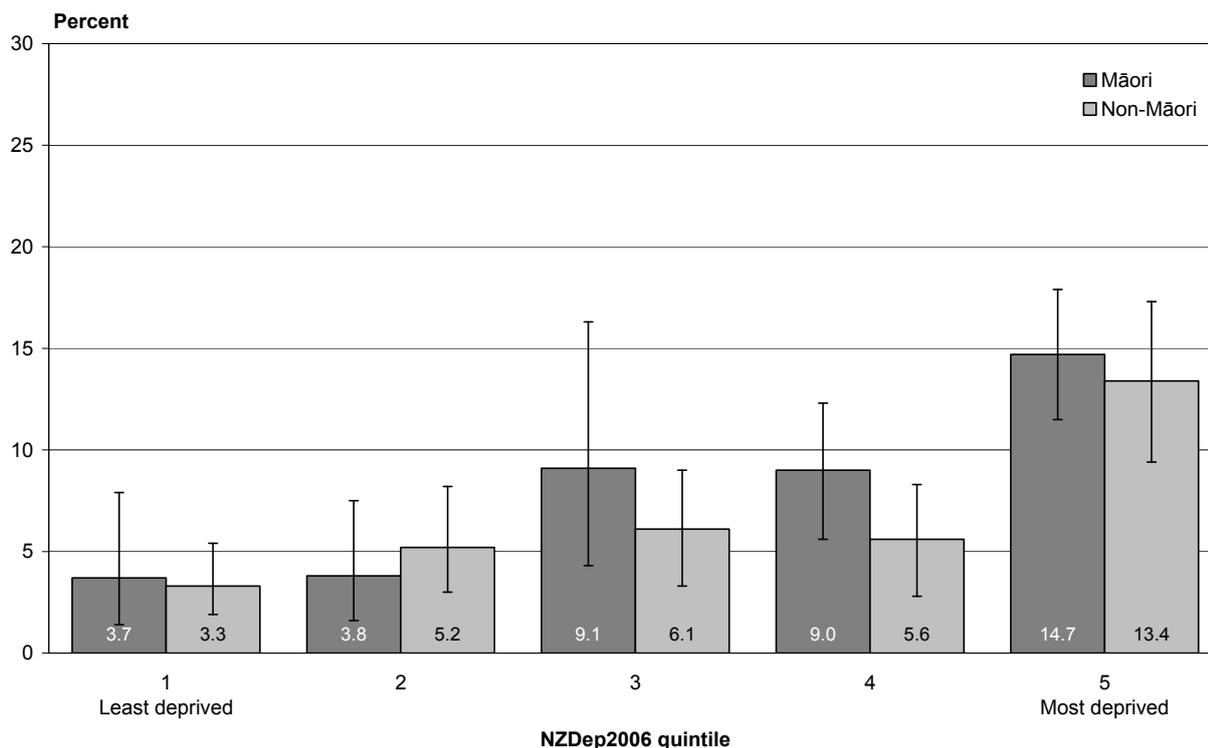


Source: 2006/07 New Zealand Health Survey

Fast food intake, by neighbourhood deprivation

Māori and non-Māori children living in the most deprived neighbourhoods (NZDep2006 quintile 5) were significantly more likely to have eaten fast food three or more times in the previous week compared with Māori and non-Māori children living in the least deprived neighbourhoods (NZDep2006 quintile 1) (Figure 24). There was no significant difference in the prevalence of having eaten fast food three or more times in the previous week between Māori and non-Māori children within NZDep2006 quintiles.

Figure 24: Fast food intake three or more times in the past seven days, Māori and non-Māori children aged 2–14 years, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Active transport to and from school

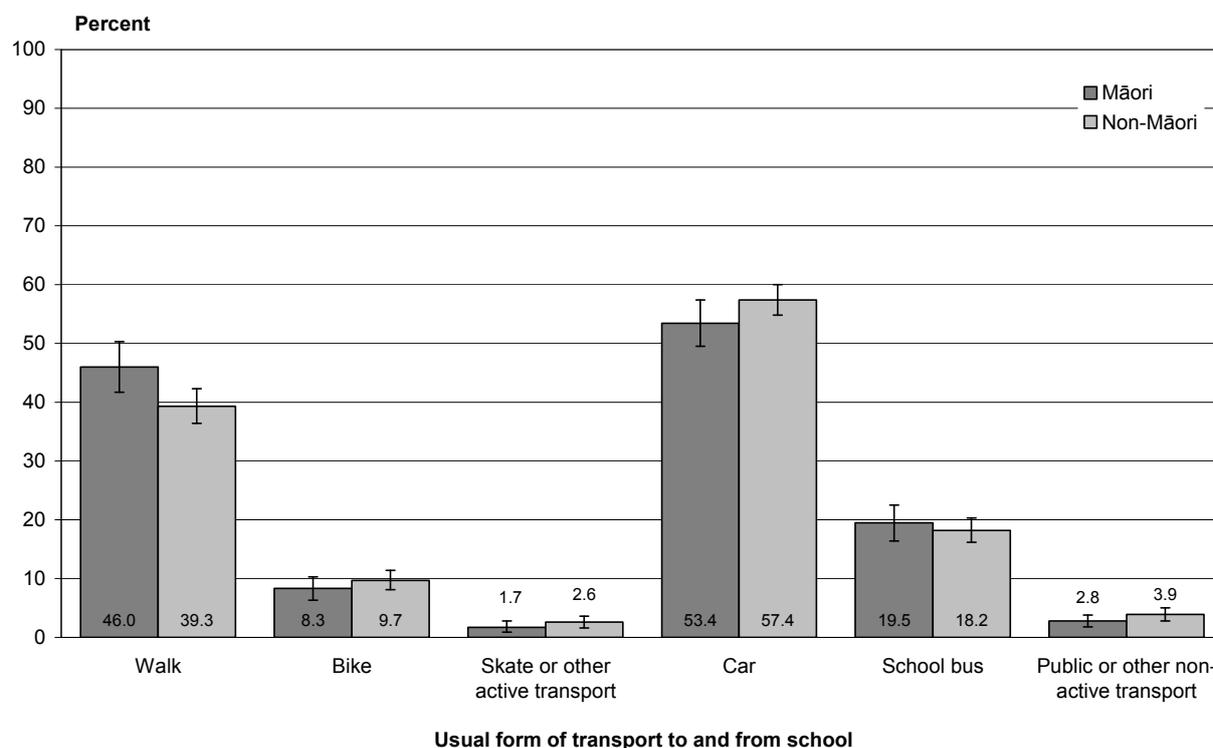
Regular physical activity promotes children’s physical development, coordination, bone density and energy balance. There is also some evidence for a positive association between physical activity habits and self-esteem in children and young adults (US Department of Health and Human Services 1996). Active transport to and from school (eg, walking, biking or skating) provides an opportunity for children to take part in physical activity on a regular basis.

In the 2006/07 New Zealand Health Survey parents and caregivers of children aged 5–14 years were asked how their child usually gets to and from school. Multiple responses could be given (eg, in cases where a child walks to the bus stop and then takes the bus to school). For those children who did not usually use active transport to and from school, parents and caregivers were asked what prevents this from happening.

Half of all Māori (50.4%, 46.1–54.6) and almost half of all non-Māori (45.9%, 42.8–49.0) children aged from 5–14 years usually used active transport to and from school. After adjusting for age there was no significant difference between Māori and non-Māori children in the prevalence of using active transport to and from school.

Walking was the most common form of active transport for both Māori and non-Māori children, with Māori slightly more likely than non-Māori children to walk to and from school (p-value = 0.01) (Figure 25). There was no significant difference in any other mode of transport to and from school between Māori and non-Māori children (Figure 25).

Figure 25: Usual form of transport to and from school, Māori and non-Māori children aged 5–14 years (age standardised)



Source: 2006/07 New Zealand Health Survey

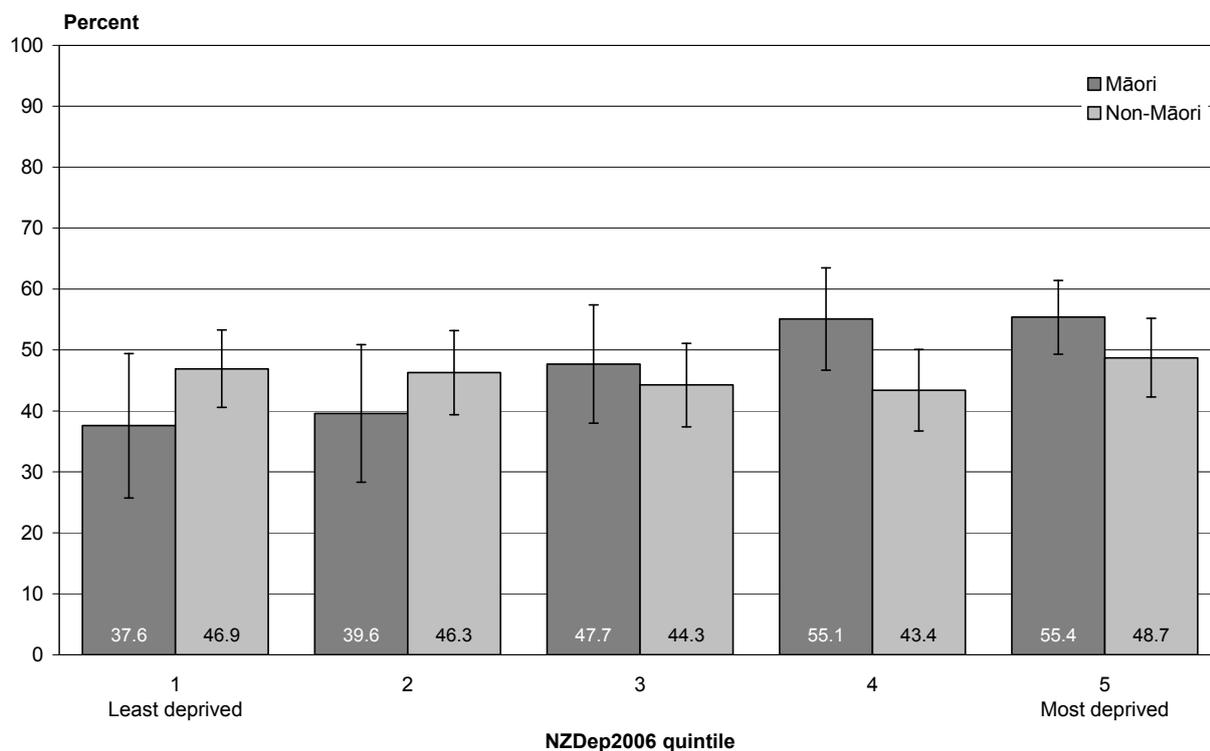
Active transport to and from school, by age group

There was no significant difference in the prevalence of usual use of active transport to and from school for Māori by age group. Māori aged 5–9 years (49.0%, 43.4–54.6) were significantly more likely to use active transport to and from school compared with non-Māori children aged 5–9 years (41.6%, 37.8–45.5, p-value = 0.03). There was no difference in the use of active transport between Māori (51.8%, 46.1–57.4) and non-Māori (49.9%, 46.0–53.8) children aged 10–14 years.

Active transport to and from school, by neighbourhood deprivation

Māori living in the most deprived neighbourhoods (NZDep2006 quintile 5) were significantly more likely to usually use active transport to and from school than Māori living in the least deprived neighbourhoods (NZDep2006 quintile 1), p-value < 0.01 (Figure 26). There was no significant difference by NZDep2006 quintile in the use of active transport for non-Māori children. There was also no significant difference between Māori and non-Māori children in the prevalence of active transport to school within each NZDep2006 quintile.

Figure 26: Active transport to and from school, Māori and non-Māori children aged 5–14 years, by NZDep2006 quintile (age standardised)

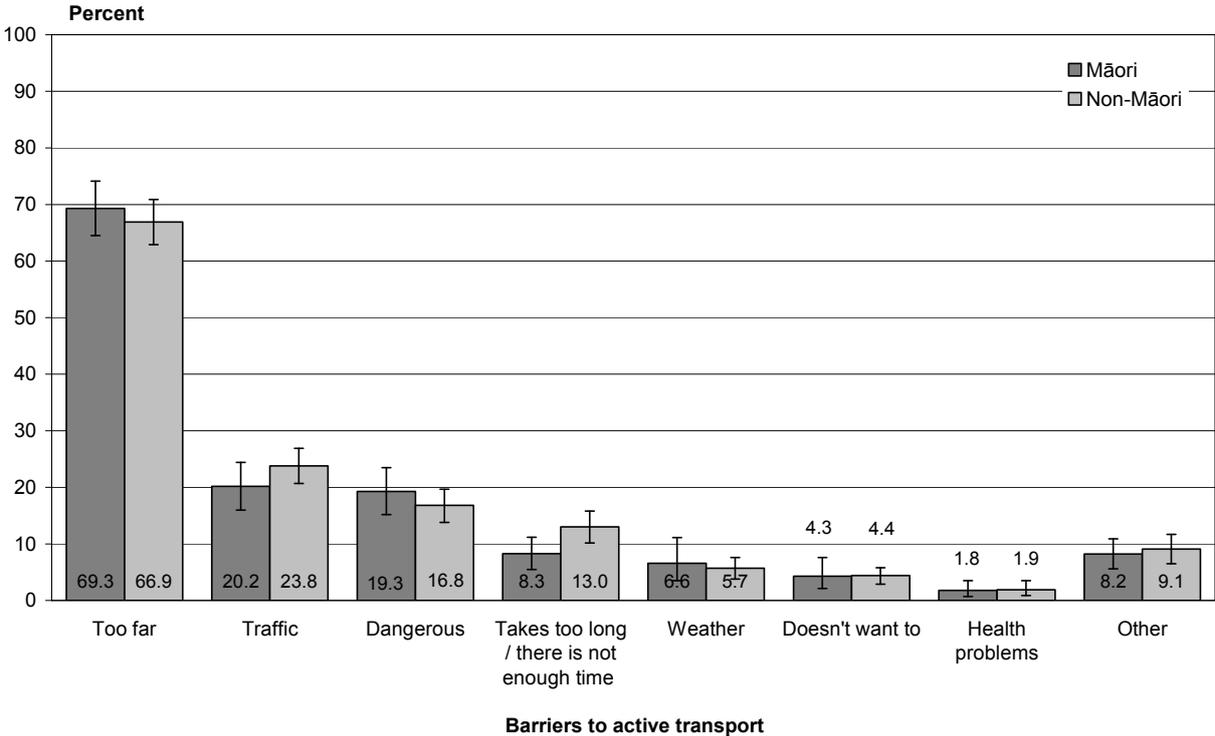


Source: 2006/07 New Zealand Health Survey

Barriers to active transport to and from school

The most common reason identified by the parents of both Māori and non-Māori children for inactive transport was the distance to school (Figure 27). The parents of Māori children were less likely (p -value = 0.02) to report ‘it takes too long or there is not enough time’ as a barrier to active school transport than the parents of non-Māori children. There were no other significant differences in the barriers to active transport to and from school for Māori and non-Māori children.

Figure 27: Barriers to active transport to and from school, Māori and non-Māori children aged 5–14 years (age standardised)



Source: 2006/07 New Zealand Health Survey

Television watching

Watching television is a very sedentary behaviour, which displaces opportunities for more active pursuits. Many studies have found that watching two or more hours of television per day in childhood increases the risk of obesity in both childhood and adulthood (Scragg et al 2006; World Cancer Research Fund and American Institute for Cancer Research 2007). Watching television has also been associated with increased consumption of energy-dense foods and drinks (Utter et al 2006) and poor behavioural outcomes and low social skills (Mistry et al 2007).

The Ministry of Education and Sport and Recreation New Zealand (SPARC) recommend that 5–18-year-olds spend less than two hours a day out of school time in front of television, computers and game consoles (Ministry of Education 2007).

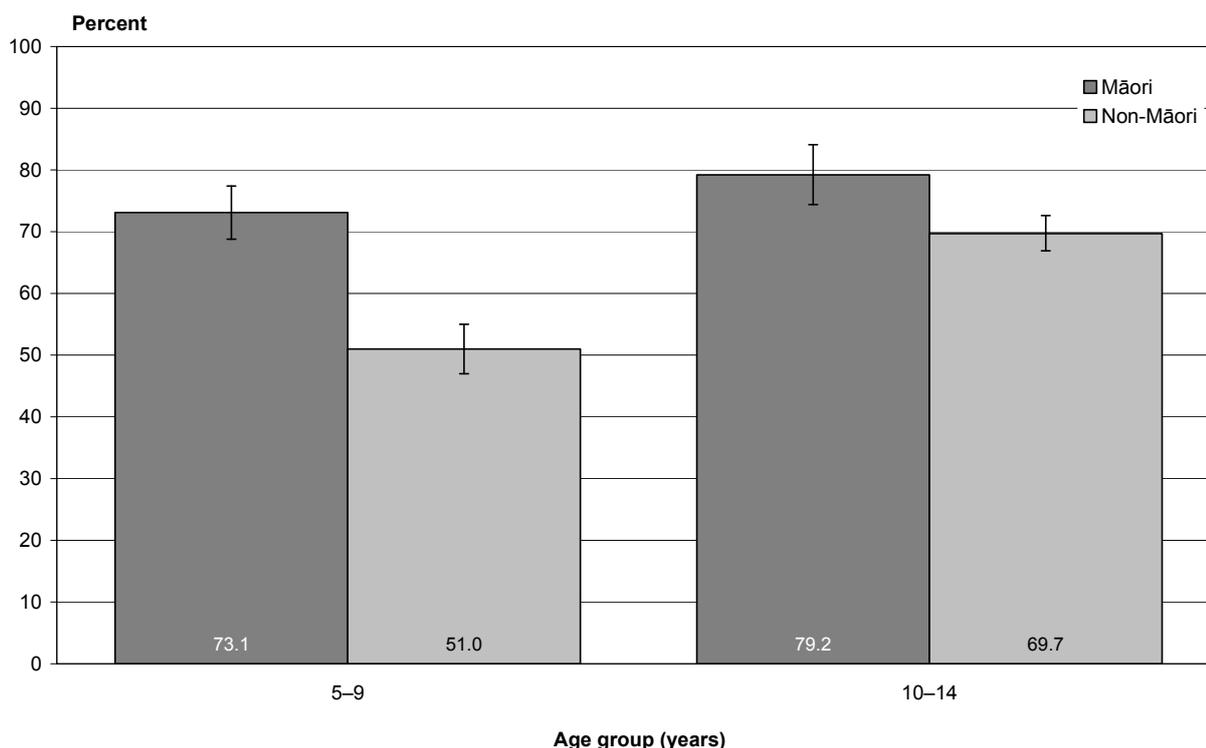
One in four Māori (23.9%, 20.7–27.1) and two out of five non-Māori (39.4%, 36.9–41.9) children aged 5–14 years watched less than two hours of television per day. Three out of four Māori (76.1%, 72.9–79.3) and six in ten non-Māori (60.6%, 58.1– 63.1) children aged 5–14 years usually watched two or more hours of television a day. After adjusting for age, Māori children were significantly less likely to watch less than two hours and more likely to watch two or more hours of television a day compared with non-Māori children.

Television watching, by age group

There was no significant difference by age group in the prevalence of children watching two or more hours of television a day for Māori children (Figure 28). In comparison, among non-Māori children the prevalence of watching two or more hours of television a day increased between the 5–9 and 10–14 years age groups.

Among both 5–9- and 10–14-year-olds, Māori children were more likely to watch two or more hours of television a day than non-Māori children.

Figure 28: Television watching two or more hours a day, Māori and non-Māori children aged 5–14 years, by age group (unadjusted)

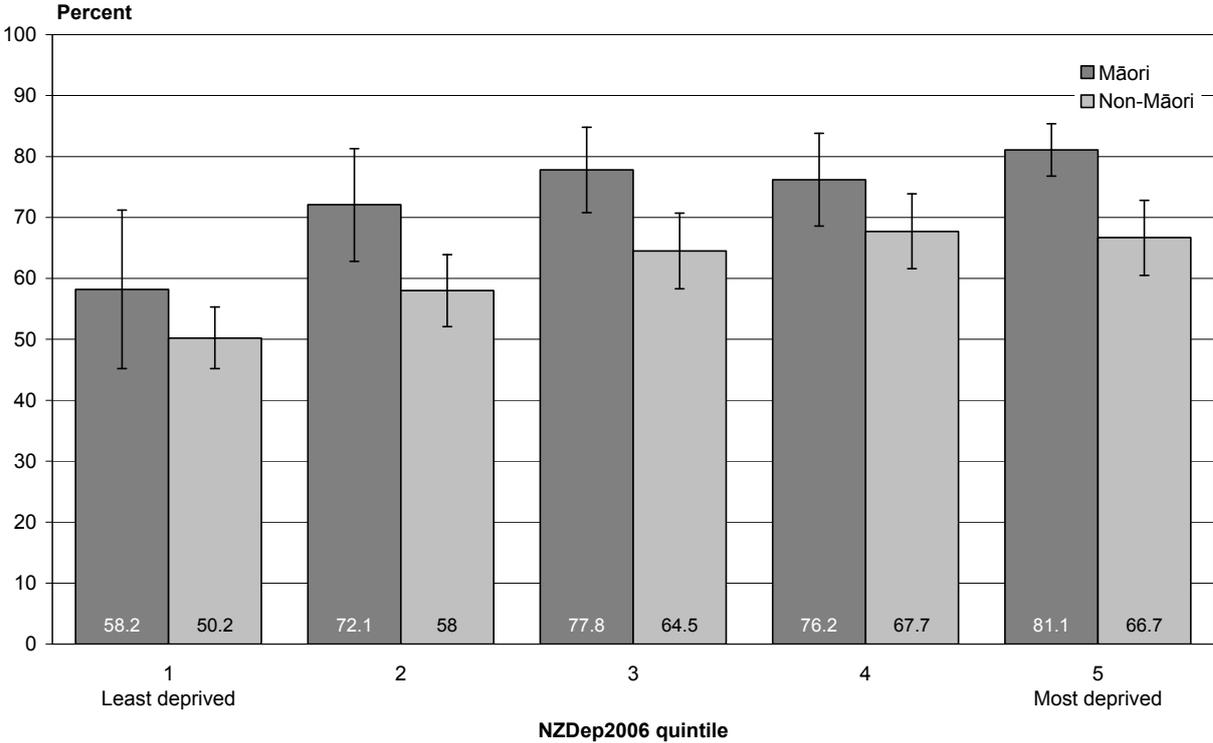


Source: 2006/07 New Zealand Health Survey

Television watching, by neighbourhood deprivation

Children living in the most deprived neighbourhoods (NZDep2006 quintile 5) were significantly more likely than children living in the least deprived neighbourhoods (NZDep2006 quintile 1) to watch two or more hours of television per day (Figure 29). Overall, within each quintile, Māori were more likely than non-Māori children to watch two or more hours of television per day, and these differences were significant in quintiles 2, 3 and 5 (p-values < 0.05).

Figure 29: Television watching two or more hours a day, Māori and non-Māori children aged 5–14 years, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Health outcomes

This subsection outlines key health outcomes among Māori and non-Māori, including health status and the presence of health conditions. Health status is represented by a parental rating of their child’s general health status, as well as health-related quality of life in children based on the Child Health Questionnaire Parent Form 28 (CHQ-PF28). A health condition is defined in this report as a doctor-diagnosed physical or mental illness that has lasted, or is expected to last, for more than six months. The symptoms may come and go or be present all the time.

This subsection presents the most common health conditions among Māori and non-Māori children, focusing on asthma and eczema (two of the most common health conditions among children). Body size (obesity) and oral health (presence of fillings and removal of teeth due to decay, abscess or infection) are also included in this subsection as health outcomes.

It is important to note that the definition of a health condition as a *doctor-diagnosed* physical or mental illness may influence the prevalence for the priority group, because it depends on access to care. Therefore, the prevalence of health conditions presented here may underestimate the true prevalence.

General health summary

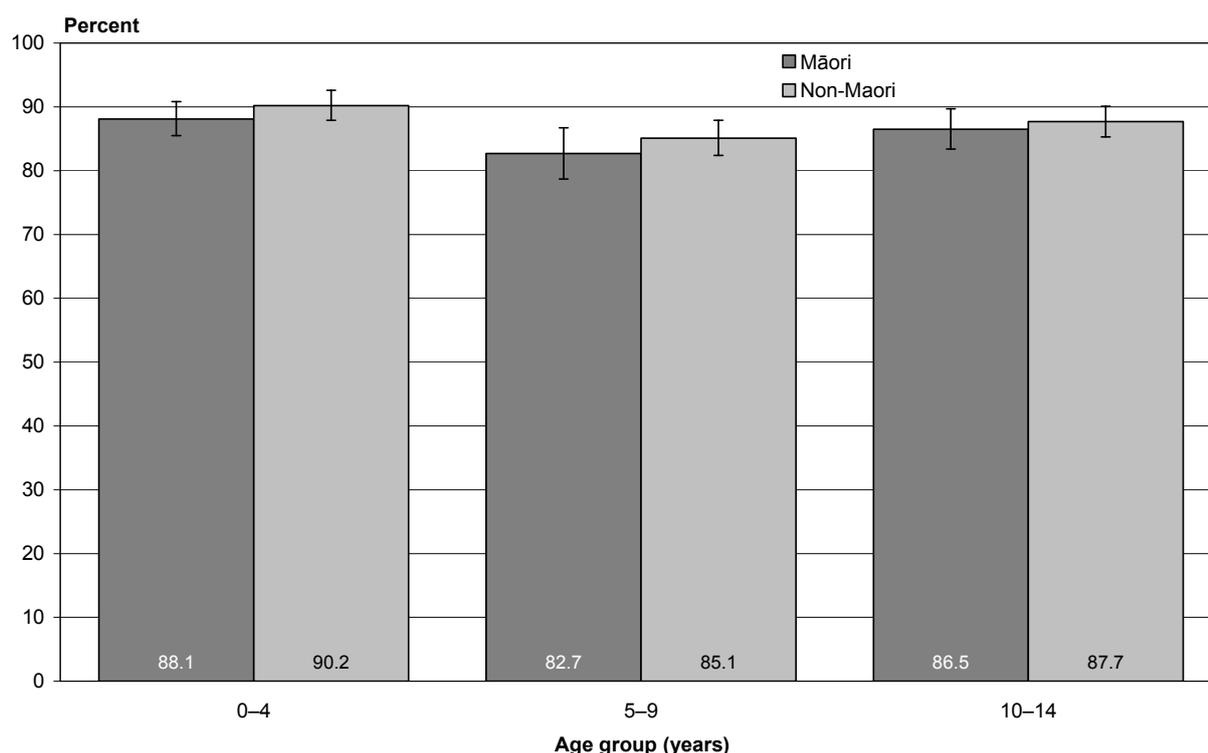
The parents of child participants in the 2006/07 New Zealand Health Survey were asked whether they considered their child's health to be *excellent*, *very good*, *good*, *fair* or *poor*. This internationally used and tested question, known as the general health self-rated health summary, is simple, encompassing both mental and physical health status.

Overall, 85.8% (83.8–87.8) of parents of Māori children and 87.7% (86.2–89.2) of parents of non-Māori children rated their child's health as 'excellent or very good'. After adjusting for age, there was no significant difference in parental rating of health as 'excellent or very good' between Māori and non-Māori children.

General health summary, by age group

Among both Māori and non-Māori, parents of children aged 5–9 years were less likely to rate their child's health as 'excellent or very good' compared with parents of children aged 0–4 years (Figure 30). Within each age group there were no differences between Māori and non-Māori in parent-rated 'excellent or very good' health.

Figure 30: Parent-rated general health 'excellent or very good', Māori and non-Māori children, by age group (unadjusted)



Source: 2006/07 New Zealand Health Survey

General health summary, by neighbourhood deprivation

Both Māori (83.6%, 80.5–86.7) and non-Māori (83.3%, 79.3–87.3) children living in the most deprived neighbourhoods (NZDep2006 quintile 5) were less likely to have their health rated as 'excellent or very good' compared with Māori (91.3%, 85.4–97.3) and non-Māori (91.6%, 89.2–94.1) children living in the least deprived neighbourhoods (NZDep2006 quintile 1, p-values < 0.05). There was no significant difference in the prevalence of health rating as 'excellent or very good' between Māori and non-Māori children living in the same neighbourhood deprivation quintiles.

Child health status (CHQ-PF28)

Parents of children aged 5–14 years were asked 28 questions from the Child Health Questionnaire Parent Form (CHQ-PF28) about their child's quality of life and wellbeing across 10 domains: physical functioning, role limitation (physical and emotional/behavioural), general health perceptions, bodily pain, parental impact (time and emotional), self-esteem, mental health and behaviour (Landgraf et al 1999). Responses to each of the CHQ-PF28 items were scored, and expressed on a 0–100 scale for each of the 10 health domains. The domains are independent of each other, and domain mean scores cannot be compared. However, within each domain, population subgroup (gender, ethnic group) means can be compared. Appendix 1 contains a summary of interpretation of the CHQ-PF28 domains. Because the CHQ-PF28 has been developed only for use with parents of children aged 5–14 years, the results presented here are for this age group only.

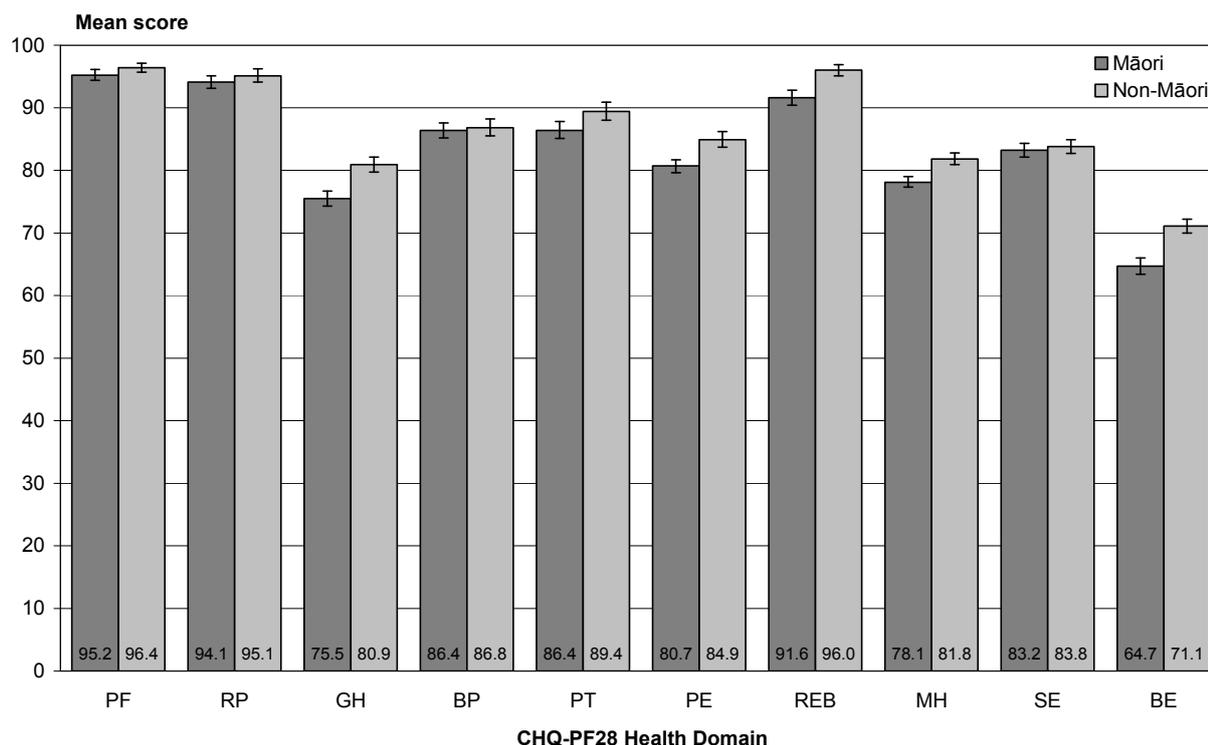
Mean CHQ-PF28 scores, 5–14 years

Māori had significantly lower mean scores compared to non-Māori children in seven out of the ten CHQ-PF28 health domains (p-values < 0.05):

- physical functioning (PF)
- general health (GH)
- parental impact – time (PT)
- parental impact – emotional (PE)
- role/social – emotional/behavioural (REB)
- mental health (MH)
- behaviour (BE) (Figure 31).

There were no significant differences between the mean scores for Māori and non-Māori children when comparing the role/social-physical (RP), bodily pain (BP) or self-esteem (SE) CHQ-PF28 health domains.

Figure 31: Mean CHQ-PF28 scores, Māori and non-Māori children aged 5–14 years (age standardised)



Source: 2006/07 New Zealand Health Survey

Any health condition

Two in five Māori (41.5%, 38.6–44.3) and just over one-third of non-Māori (35.0%, 32.6–37.3) children had been diagnosed by a doctor with any chronic health condition. After adjusting for age, Māori were more likely than non-Māori children to have been diagnosed by a doctor with any chronic health condition.

Prevalence of common health conditions

Table 3 presents the common health conditions diagnosed for Māori and non-Māori children. A health condition is defined as a doctor-diagnosed physical or mental illness that has lasted, or is expected to last, for more than six months.

Table 3: Common health conditions, Māori and non-Māori children (age standardised)

Health condition	Prevalence for Māori children (95% CI)	Prevalence for non-Māori children (95% CI)
Medicated asthma (2–14-year-olds)	20.3% (17.7–23.0)	13.1% (11.6–14.6)
Medicated eczema	14.9% (13.1–16.6)	9.9% (8.5–11.2)
Allergy (all types)	4.7% (3.5–5.8)	6.6% (5.5–7.7)
Birth conditions ¹	2.6% (1.6–3.6)	4.3% (3.2–5.4)
Mental health or behavioural disorders ² (5–14-year-olds)	3.0% (1.9–4.2)	2.6% (1.9–3.4)
Permanent hearing problems	2.1% (1.2–2.9)	0.9% (0.6–1.5)
Vision problems that cannot be corrected with glasses	0.8% (0.5–1.3)	0.8% (0.4–1.4)
Epilepsy	0.5% (0.2–0.9)	0.5% (0.3–0.8)

Source: 2006/07 New Zealand Health Survey

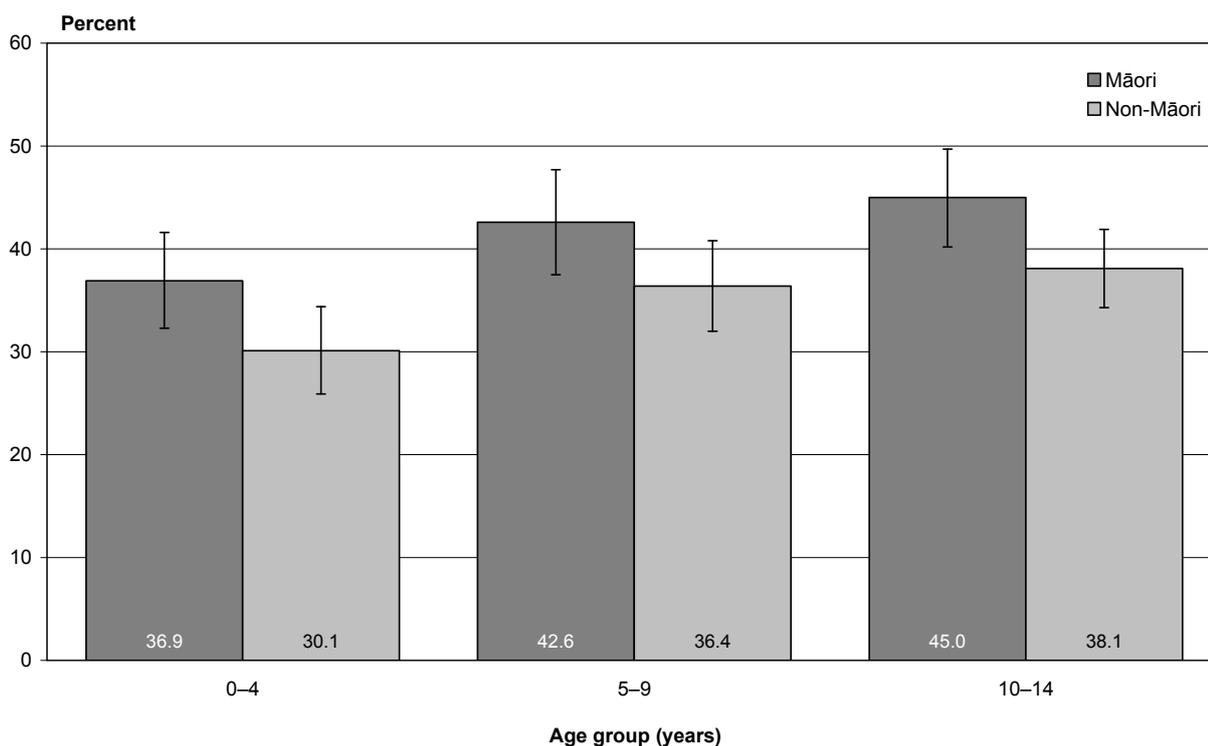
- 1 Birth conditions include spina bifida, congenital heart defects, intellectual impairment from birth and Down syndrome.
- 2 Mental health or behavioural disorders include anxiety disorders, depression, attention deficit hyperactivity disorder, autism/Asperger's syndrome and disruptive disorders.

Adjusted for age, for both Māori and non-Māori children, atopy-related conditions (asthma, eczema and all types of allergy) were the most commonly diagnosed health conditions. Māori were significantly more likely to have been diagnosed with asthma and eczema than non-Māori children. Māori children were also significantly more likely to have permanent hearing problems compared with non-Māori children (p-value = 0.01). Māori children were significantly less likely than non-Māori children to have any diagnosed allergy (p-value = 0.02) or birth condition (p-value = 0.02).

Any health condition, by age group

The prevalence of diagnosed health conditions increased with age among both Māori and non-Māori children (Figure 32). Māori children aged 0–4 years and 10–14 years were significantly more likely to have a health condition compared with non-Māori children within the same age groups (both p-values < 0.05).

Figure 32: Any health condition, Māori and non-Māori children, by age group (unadjusted)

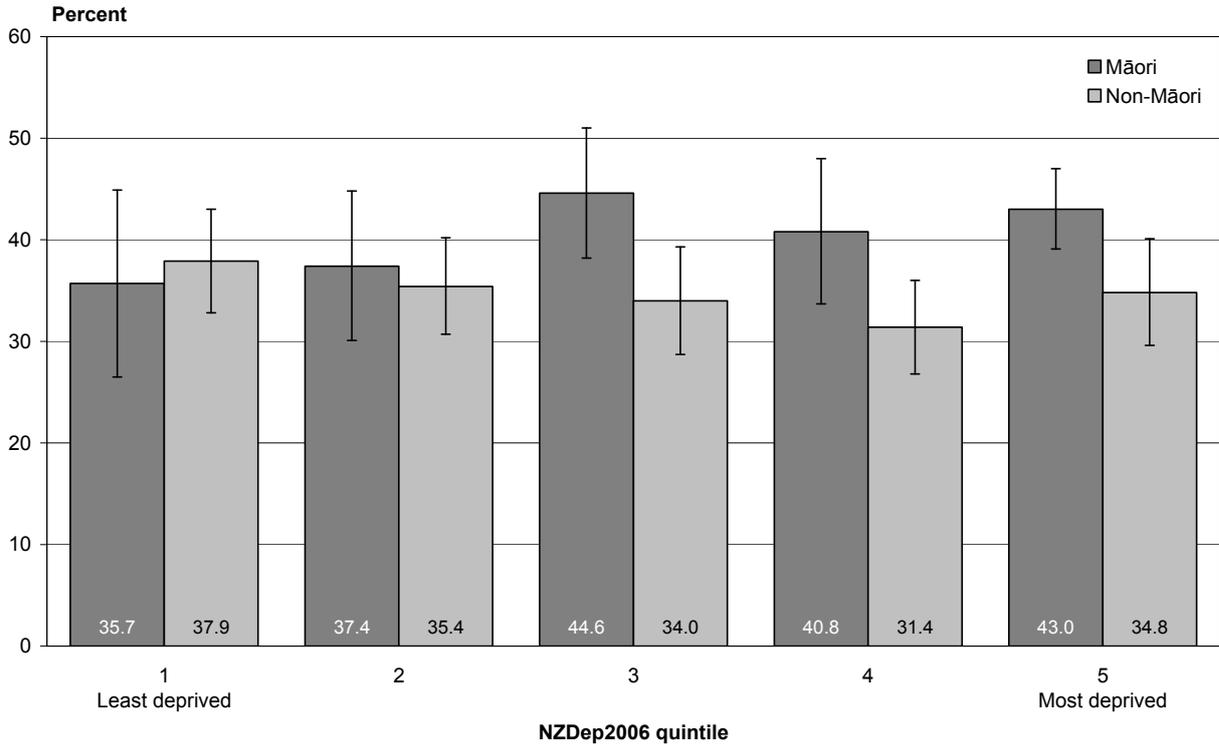


Source: 2006/07 New Zealand Health Survey

Any health condition, by neighbourhood deprivation

For both Māori and non-Māori children there were no significant differences in the prevalence of health conditions by neighbourhood deprivation (Figure 33). However, Māori children living in higher deprivation quintiles (NZDep2006 quintiles 3–5) were significantly more likely to have a health condition compared with non-Māori living in the same quintiles (p -values < 0.05). There were no differences in the prevalence of chronic health conditions between Māori and non-Māori children in the least deprived quintiles.

Figure 33: Any health condition, Māori and non-Māori children, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Asthma (2–14 years)

Asthma is an inflammatory disorder of the airways that causes reversible restriction of air flow into and out of the lungs. It is the most common chronic health condition in New Zealand children (Ministry of Health 2008a). Asthma is rarely diagnosed in children under 12 months of age. The asthma findings presented in this report are therefore for children aged 2 years and over. Only children currently taking medication for asthma have been included here. This approach was taken in order to exclude children who may have been diagnosed with asthma in the past but no longer experience symptoms. Medication, such as inhalers, aerosols or tablets, may be taken every day or only when required for the relief of symptoms.

Asthma is the most common chronic health condition in both Māori and non-Māori children. Overall, 20.4% (17.7–23.1) of Māori and 13.1% (11.6–14.6) of non-Māori children were currently taking medication for asthma. After adjusting for age, Māori were 55% more likely to be taking medication for asthma compared with non-Māori.

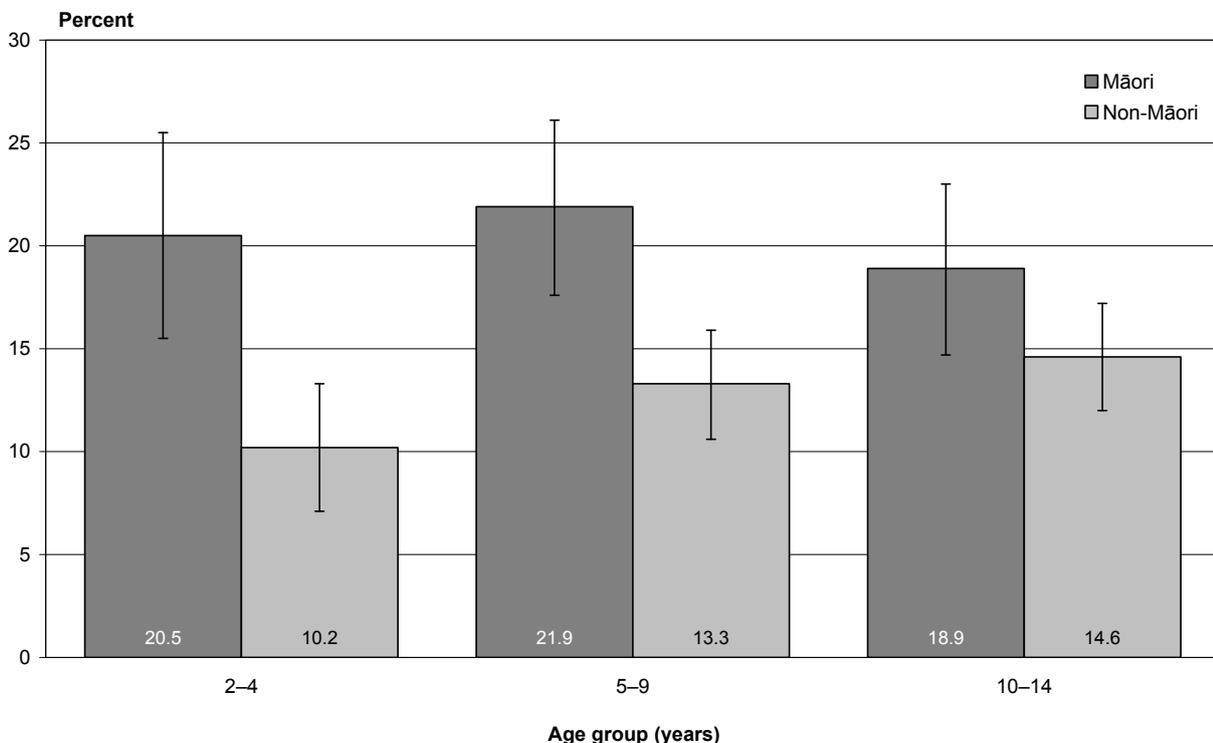
Among both Māori and non-Māori children aged 2–14 years with medicated asthma, 84.3% (79.6–88.9) and 83.1% (77.7–88.5), respectively, were using a bronchodilator and 37.3% (29.5–45.0) and 39.8% (32.4–47.1), respectively, were using a preventive inhaler. After adjusting for age, there was no difference between Māori and non-Māori children with medicated asthma in the prevalence of currently being treated with bronchodilator or preventive inhalers.

A further 6.2% (4.7–7.7) of Māori children aged 5–14 years had had wheezing or whistling in the chest in the last 12 months but had never been diagnosed as having asthma by a doctor. This prevalence was similar for non-Māori children (6.1%, 4.7–7.5), with no difference between the ethnic groups after adjusting for age.

Prevalence of medicated asthma, by age group

Among non-Māori children the prevalence of asthma increases with age, with a significant difference between the 2–4 and 10–14 years age groups (p -value = 0.03) (Figure 34). For Māori there is no difference in the prevalence of medicated asthma by age group. Māori children have a significantly higher prevalence of medicated asthma than non-Māori children in the younger age groups (2–4 and 5–9 years), but not in the older age group (10–14 years).

Figure 34: Medicated asthma, Māori and non-Māori children aged 2–14 years, by age group (unadjusted)



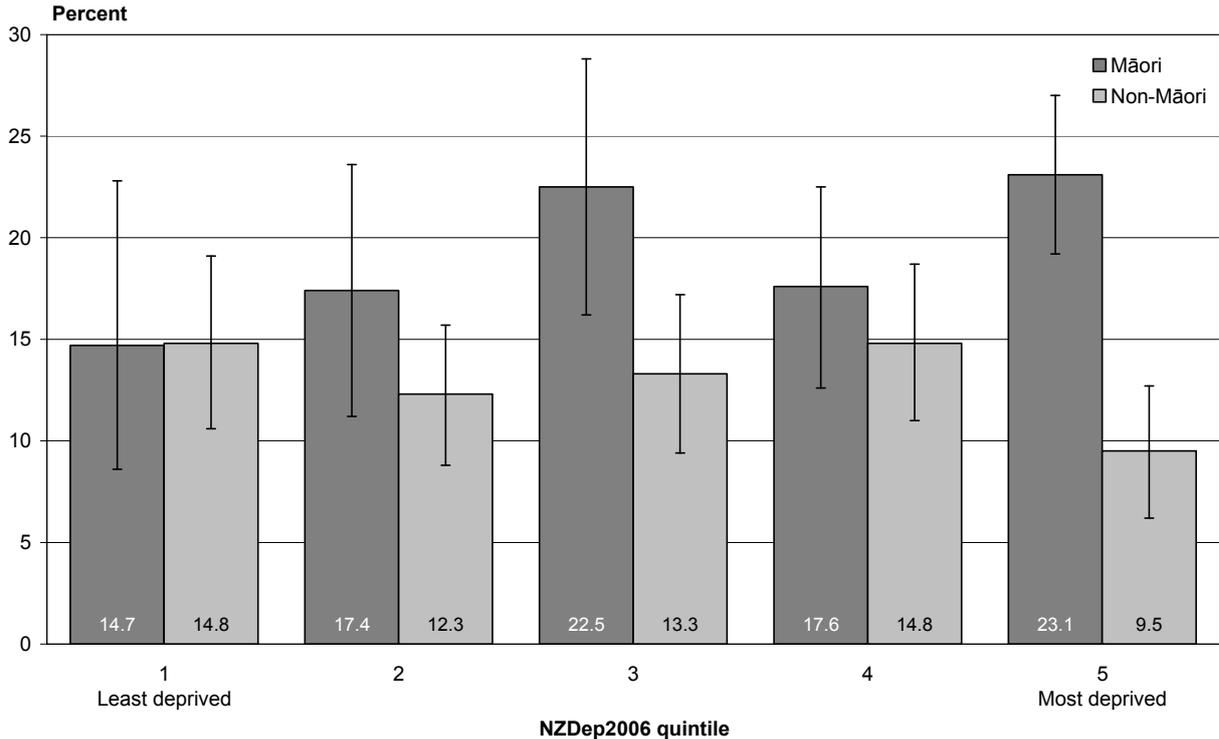
Source: 2006/07 New Zealand Health Survey

Prevalence of medicated asthma, by neighbourhood deprivation

Māori children living in areas of high neighbourhood deprivation (NZDep2006 quintile 5) were more likely to be taking medication for asthma compared with Māori children living in areas of low neighbourhood deprivation (NZDep2006 quintile 1) (p -value = 0.03) (Figure 35). The same pattern was not evident for non-Māori children.

Māori children living in areas of high neighbourhood deprivation (NZDep2006 quintile 5) were 2.4 times more likely to have medicated asthma compared with non-Māori children living in the same NZDep2006 quintile (Figure 35). Māori living in NZDep2006 quintile 3 were also more likely than non-Māori children living in the same NZDep2006 to have medicated asthma (p-value = 0.01). There were no other significant differences by neighbourhood deprivation.

Figure 35: Medicated asthma, Māori and non-Māori children aged 2–14 years, by NZDep2006 quintile (age standardised)



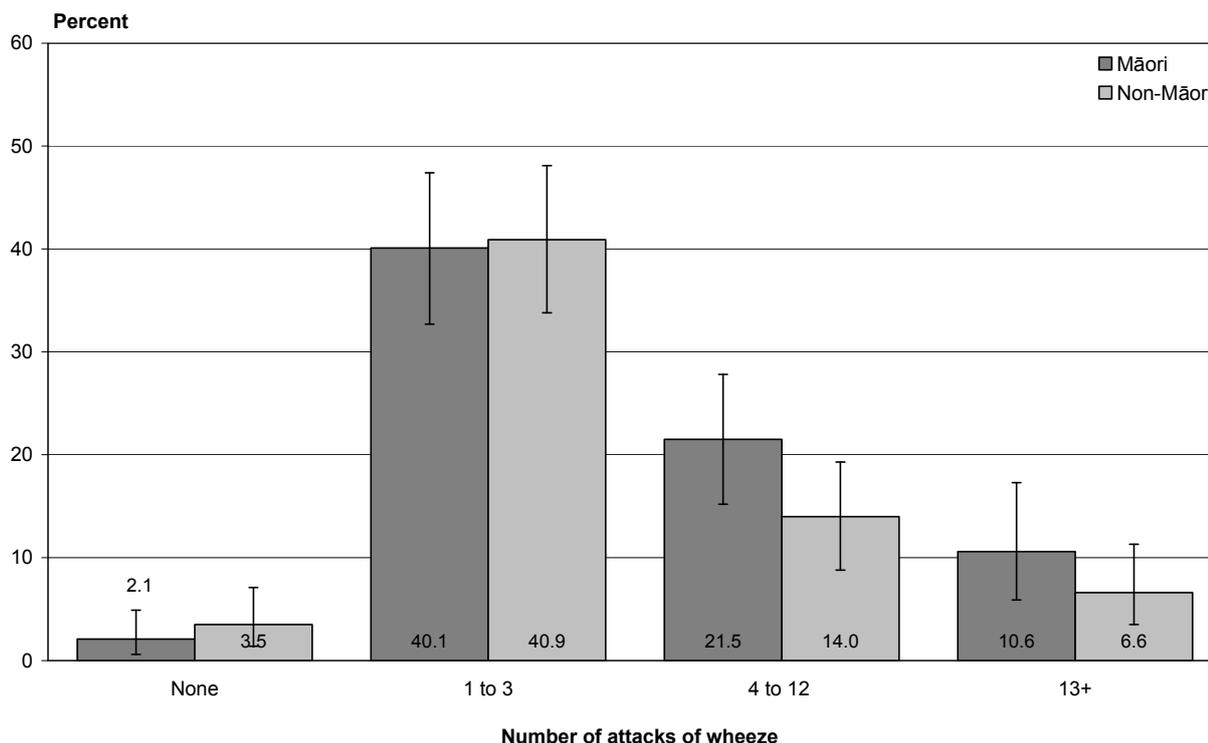
Source: 2006/07 New Zealand Health Survey

Severity of medicated asthma

Attacks of wheeze in last 12 months for children aged 5–14 years taking medication for asthma

Almost all Māori and non-Māori children aged 5–14 years with medicated asthma had had one or more attack(s) of ‘wheezing or whistling in the chest at any time’ in the past 12 months (Figure 36). There was no significant difference in the number of attacks of wheeze in the previous year between Māori and non-Māori children. Most attacks of wheeziness in the previous year occurred 1–3 times among both Māori (40.1%, 32.7–47.4) and non-Māori (40.9%, 33.8–48.1) children (Figure 36).

Figure 36: Attacks of wheeze in the past 12 months, Māori and non-Māori children aged 5–14 years with medicated asthma (age standardised)



Source: 2006/07 New Zealand Health Survey

Speech limited due to wheeze in last 12 months for children aged 5–14 years taking medication for asthma

Māori children aged 5–14 years who had medicated asthma (23.3%, 16.1–30.5) were more likely than non-Māori children with medicated asthma (13.7%, 8.1–19.3) to have had at least one episode of wheeze in the past year severe enough to limit speech to one or two words at a time (p -value = 0.04). There was no significant difference in the prevalence of speech-limiting wheeze by age group for either Māori or non-Māori children. No comparison was possible across NZDep2006 quintiles due to small numbers.

Eczema

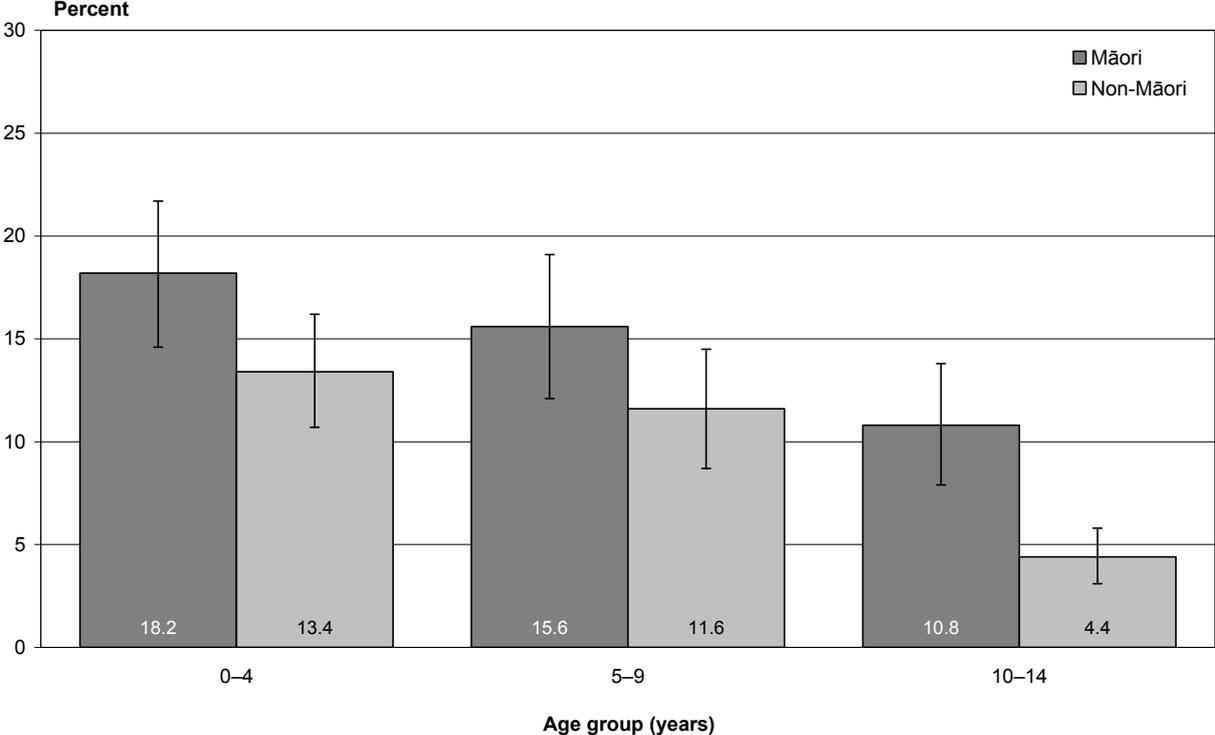
Eczema is an inflammatory skin condition characterised by patches of itchy, dry, red skin. In children it is generally either atopic (allergy) or contact dermatitis (allergy or irritant). Eczema is the second most common chronic health condition for both Māori and non-Māori children.

One in six Māori (14.9%, 13.1–16.7) and one in ten non-Māori (9.7%, 8.4–11.0) children were currently taking medication for eczema. After adjusting for age, Māori children were 1.5 times more likely to be using medication for eczema (topically or orally) compared with non-Māori children.

Medicated eczema, by age group

The prevalence of medicated eczema decreased with age for both Māori and non-Māori children. However, among 0–4- and 10–14-year-old children, Māori had a significantly higher prevalence of medicated eczema than non-Māori (p-values < 0.05) (Figure 37).

Figure 37: Medicated eczema, Māori and non-Māori children, by age group (unadjusted)

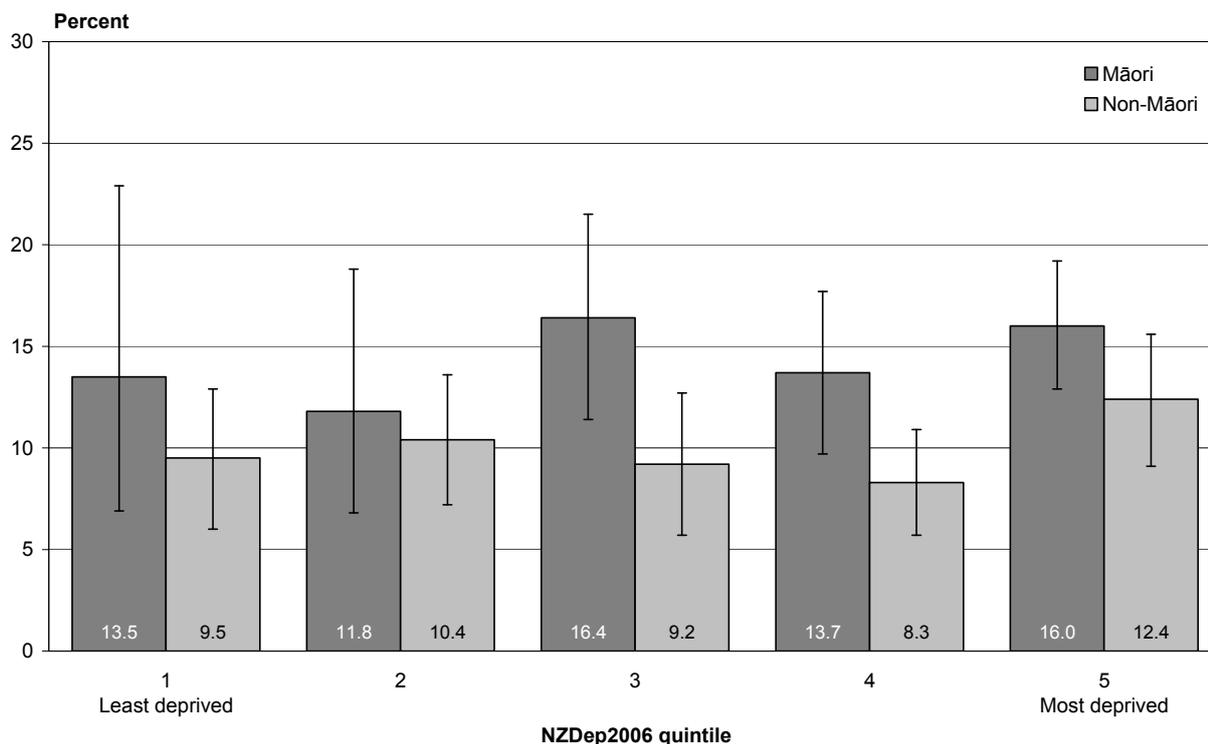


Source: 2006/07 New Zealand Health Survey

Medicated eczema, by neighbourhood deprivation

After adjusting for age, there was no significant difference in the prevalence of medicated eczema for Māori or non-Māori children by NZDep2006 quintile (Figure 38). However, the prevalence of medicated eczema was higher in Māori children than non-Māori children in quintiles 3 and 4, respectively (p-values < 0.03).

Figure 38: Medicated eczema, Māori and non-Māori children, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

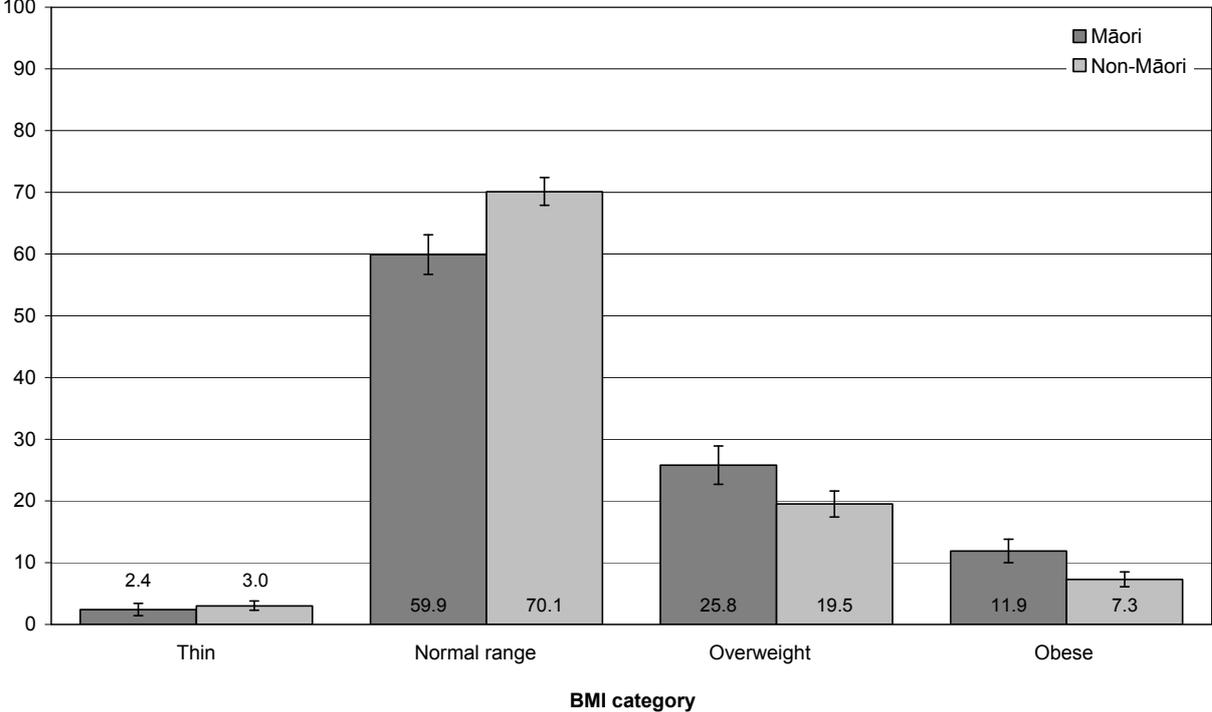
Body size

A healthy body size is increasingly recognised as important for good health and wellbeing. Obese children are at greater risk of short-term and long-term health consequences. Long-term health consequences of obesity include cardiovascular disease, various types of cancer, type 2 diabetes, reproductive disorders, and psychological and social problems (World Health Organization 2000).

For children aged 2–14 years, sex- and age-specific body mass index (BMI) cut-off points developed by the International Obesity Taskforce (IOTF) were used to define thinness, overweight and obesity (Cole et al 2000; Cole et al 2007). BMI is a measure of weight adjusted for height, and is calculated by dividing weight in kilograms by height in metres squared (kg/m^2). It is important to note that although BMI cut-off points have been used to define overweight and obesity, the risk of health conditions increases as BMI increases in all population groups, even within the 'normal' range.

Most Māori and non-Māori children aged 2–14 years had a BMI in the normal range (Figure 39). One in four Māori were overweight and one in eight were obese. Māori children were significantly less likely to have a body size in the normal range and significantly more likely to be overweight, or obese, than non-Māori children (Figure 39).

Figure 39: BMI distribution, Māori and non-Māori children aged 2–14 years (age standardised)



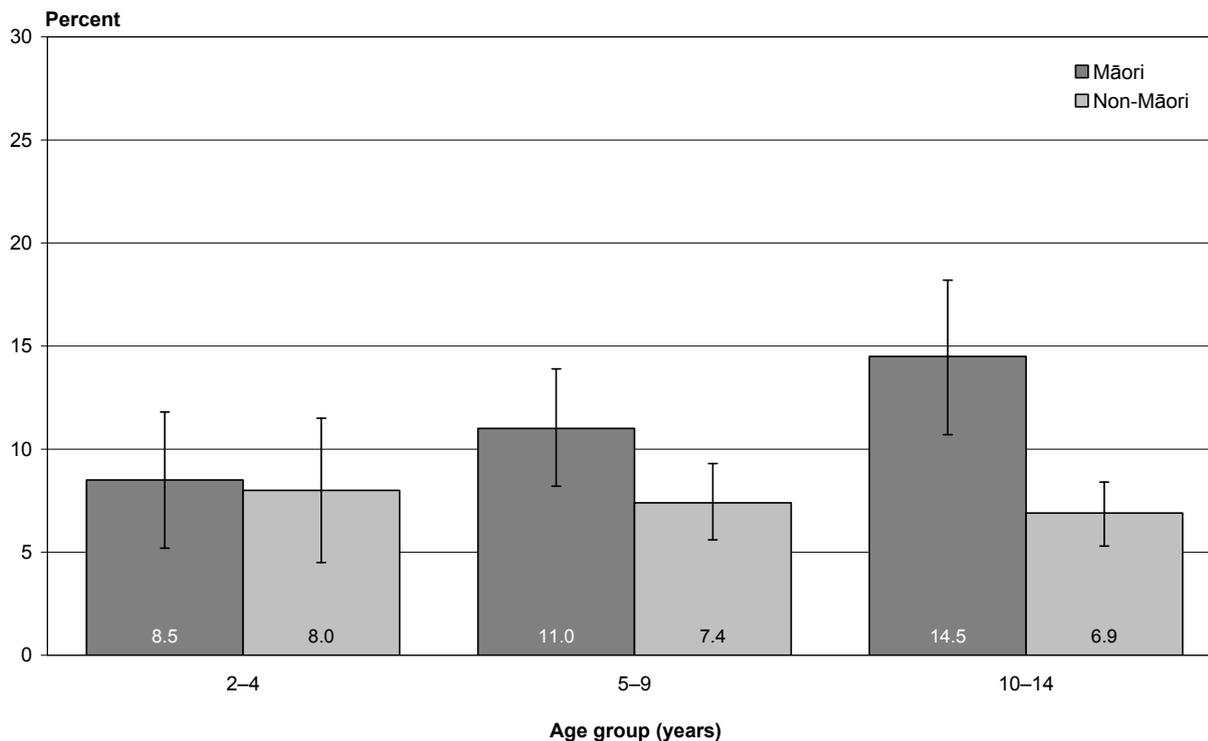
Source: 2006/07 New Zealand Health Survey

The remainder of this subsection focuses on obesity in Māori and non-Māori children.

Obesity, by age group

The prevalence of obesity increased with age for Māori children, whereas for non-Māori children the prevalence remained stable with age (Figure 40). For 2–4-year-old children there was no significant difference in the prevalence of obesity between Māori and non-Māori. However, for children aged 5–9 and 10–14 years there was a significant difference in the prevalence of obesity between Māori and non-Māori children (p-values < 0.04). This disparity increases with age (1.5 times higher in 5–9- year-olds and two times higher in 10–14-year-olds).

Figure 40: Obesity, Māori and non-Māori children aged 2–14 years, by age group (unadjusted)

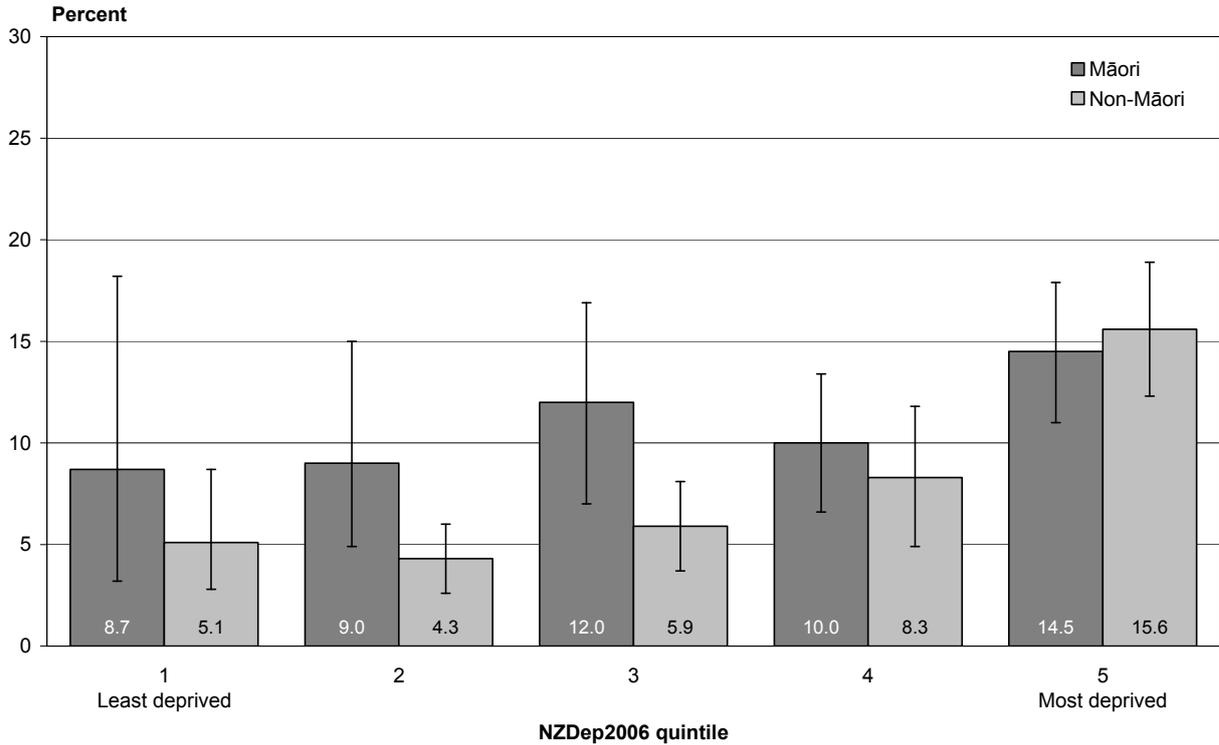


Source: 2006/07 New Zealand Health Survey

Obesity, by neighbourhood deprivation

There was no significant difference in the prevalence of obesity for Māori by NZDep2006 quintile (Figure 41). However, the prevalence of obesity for non-Māori children living in neighbourhoods with the highest deprivation (NZDep2006 quintile 5) was significantly higher than for children living in less deprived neighbourhoods (NZDep2006 quintiles 1–4). Māori children were only significantly more likely to be obese than non-Māori children in quintile 3 (p-value = 0.03).

Figure 41: Obesity, Māori and non-Māori children aged 2–14 years, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Oral health conditions

Good oral health contributes to general wellbeing by enabling an individual to eat, speak and socialise without discomfort, pain or embarrassment (Ministry of Health 2006). Oral health conditions include tooth decay, abscesses and infections in the mouth, and gum disease. They are caused by an interplay of social, behavioural, cultural and economic factors. These factors include fluoridation of water supplies, teeth-brushing less than twice a day, and poor diet (Ministry of Health 2006). Māori children are a priority population of the Oral Health Strategy because they have poorer oral health than the total child population (Ministry of Health 2006).

Oral health conditions included in this subsection are the presence of fillings, and the removal of teeth due to decay, abscess or infection.

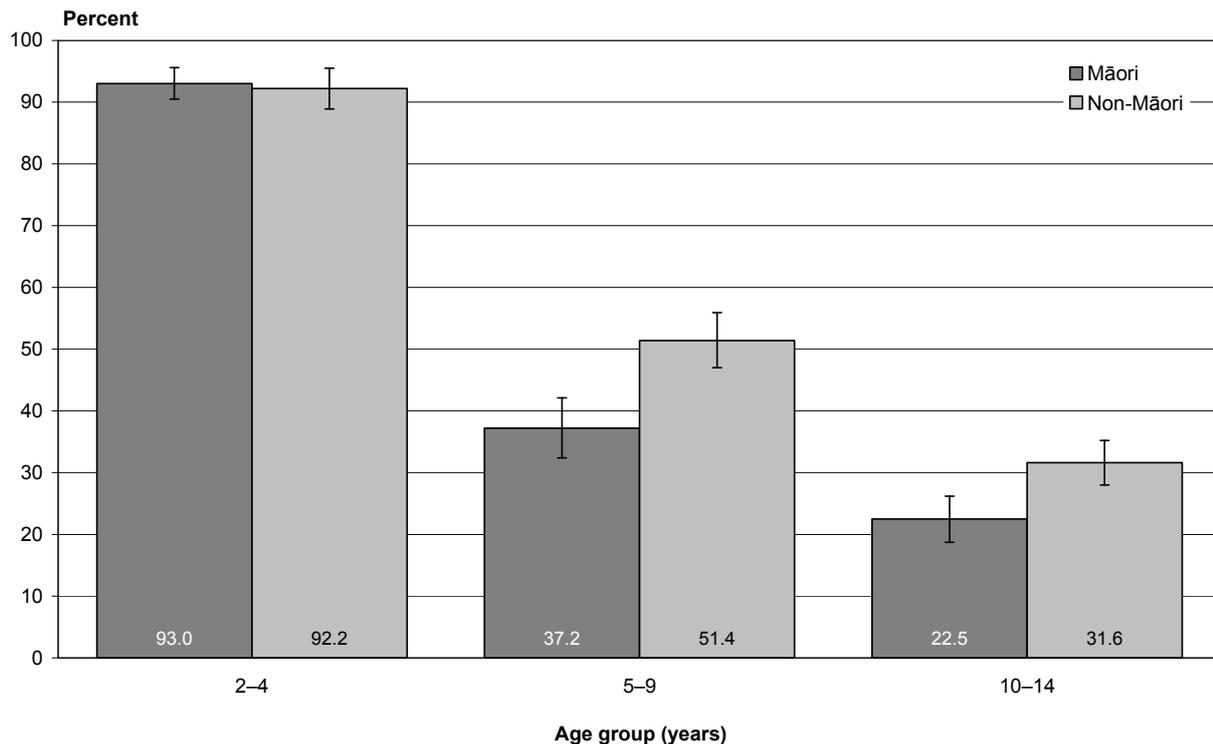
Never had a filling

Overall, just over two in five Māori (44.4%, 41.8–47.0) and one-half of non-Māori (52.8%, 50.4–55.2) children aged 2–14 years have never had a filling in their teeth. After adjusting for age, Māori children were 17% less likely to have never had a filling compared with non-Māori children.

Never had a filling, by age group

Among both Māori and non-Māori children the prevalence of never having had a filling significantly decreased with age. Among 2–4-year-old children there was no difference between Māori and non-Māori. However, Māori aged 5–9 and 10–14 years were less likely to have never had a filling compared with non-Māori children in the same age group (Figure 42).

Figure 42: Never had a filling, Māori and non-Māori children aged 2–14 years, by age group (unadjusted)

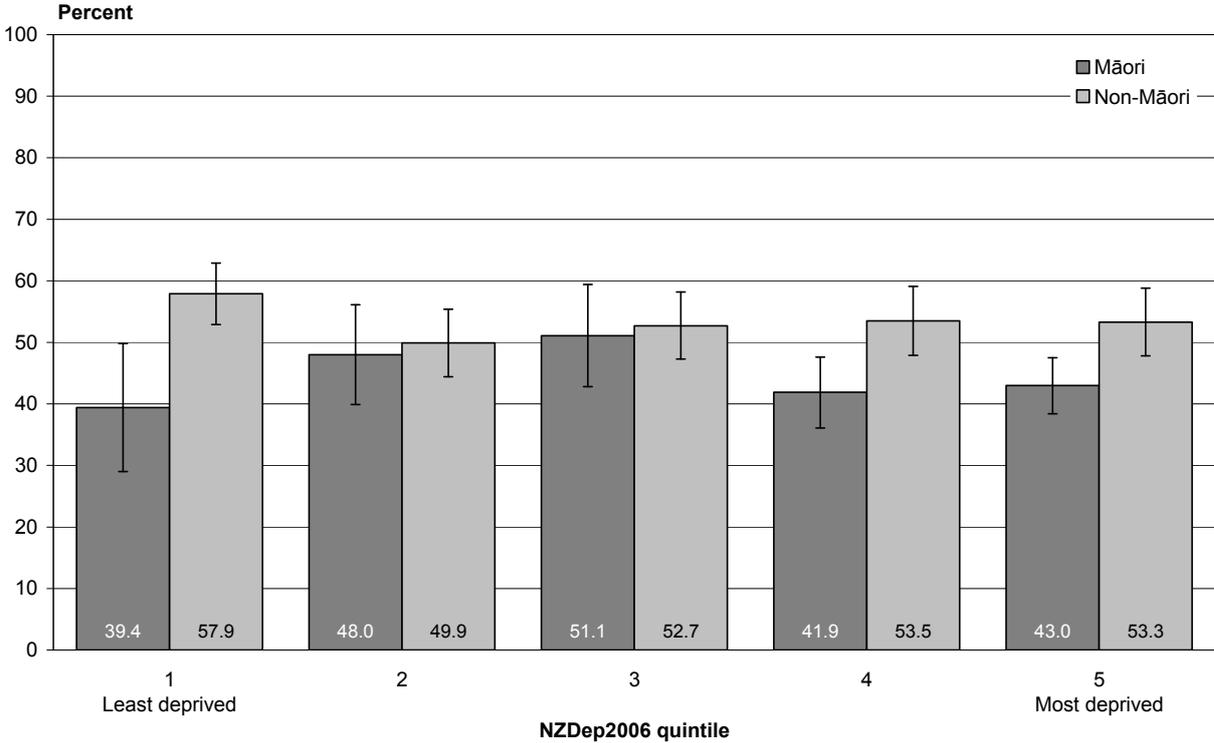


Source: 2006/07 New Zealand Health Survey

Never had a filling, by neighbourhood deprivation

For both Māori and non-Māori children there was no difference by NZDep2006 quintile in the age-standardised rate of never having had a filling (Figure 43). However, in NZDep2006 quintiles 1, 4 and 5 Māori children were less likely to have never had a filling than non-Māori children.

Figure 43: Never had a filling, Māori and non-Māori children aged 2–14 years, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

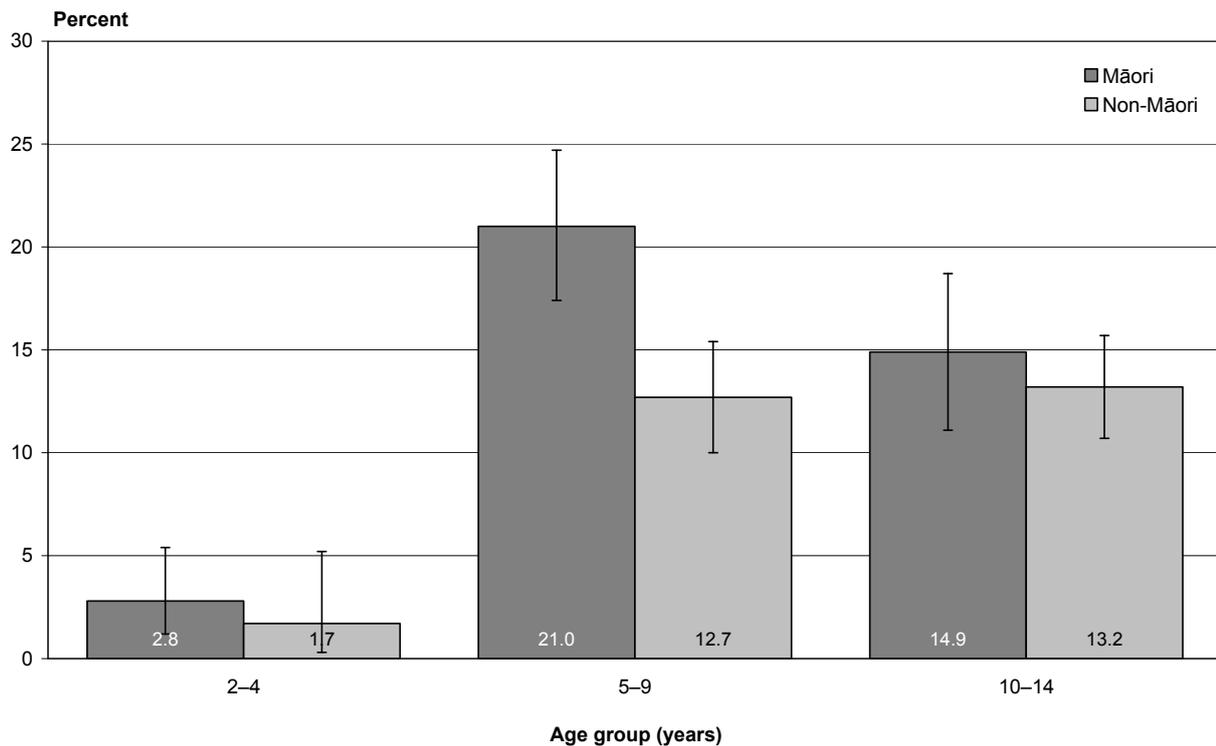
Teeth removed due to decay, abscess or infection

One in seven Māori (14.5%, 12.5–16.6) and one in ten non-Māori (10.4%, 9.0–11.8) children aged 2–14 years had had one or more teeth removed due to decay, abscess or infection. After adjusting for age, Māori children were more likely to have had a tooth removed due to decay, abscess or infection than non-Māori children.

Teeth removed due to decay, abscess or infection, by age group

Among Māori and non-Māori children the prevalence of having had one or more teeth removed due to decay, abscess or infection was similar in the 2–4-year-old and 10–14-year-old age groups. Māori children aged 5–9 years were significantly more likely to have had one or more teeth removed due to decay, abscess or infection, compared with Māori aged 2–4 years or 10–14 years (p-value = 0.02), or non-Māori children of any age group (Figure 44).

Figure 44: Teeth removed due to decay, abscess or infection, Māori and non-Māori children aged 2–14 years, by age group (unadjusted)



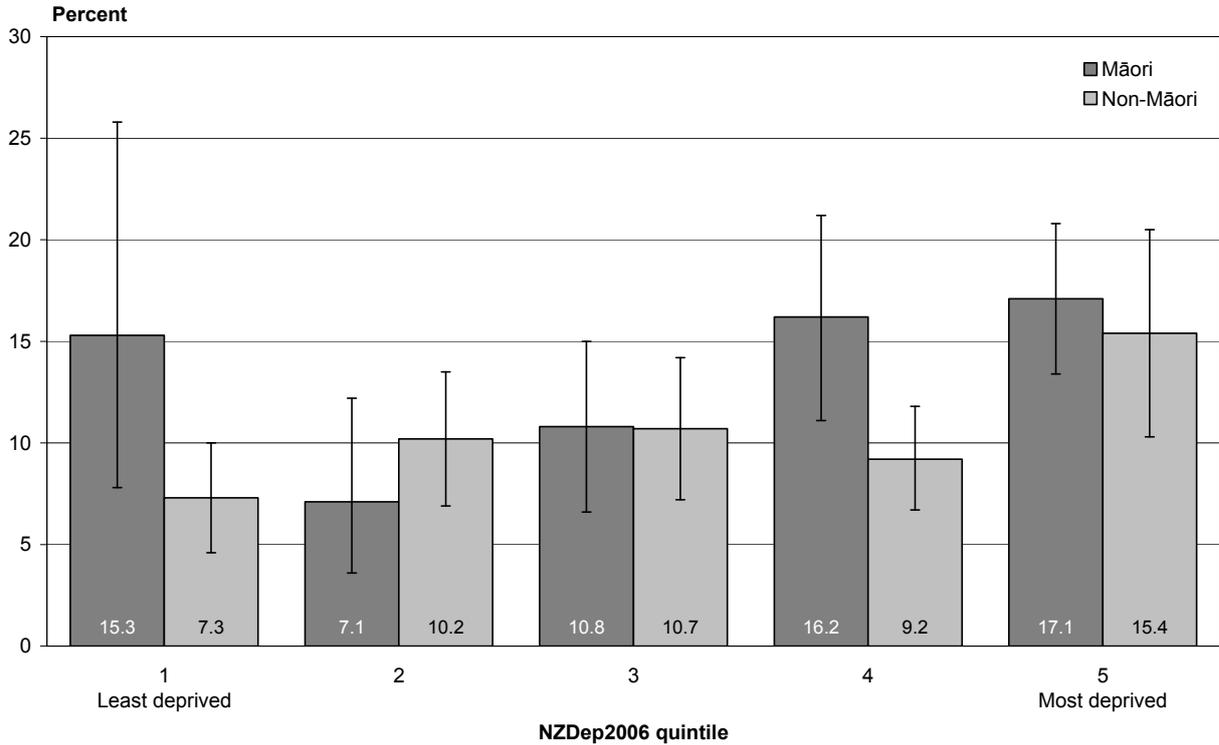
Source: 2006/07 New Zealand Health Survey

Teeth removed due to decay, abscess or infection, by neighbourhood deprivation

Māori children living in quintiles 4 and 5 were more likely to have had teeth removed due to decay, abscess or infection than Māori children living in quintile 2 (p-values < 0.01) (Figure 45). With the exception of quintile 4, for non-Māori children there was an increasing trend with increasing deprivation, with children living in NZDep2006 quintile 5 twice as likely to have had one or more teeth removed due to decay, abscess or infection than children living in quintile 1 (Figure 45).

There were no differences within NZDep2006 quintiles between Māori and non-Māori children, with the exception of quintile 4, where Māori children were significantly more likely to have had one or more teeth removed than non-Māori children (p-value = 0.02).

Figure 45: Teeth removed due to decay, abscess or infection, Māori and non-Māori children aged 2–14 years, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Primary health care use

‘Primary health care’ refers to the professional health care that people receive in the community and it is usually their first point of contact with the health care system. A strong primary health care system is crucial to improving the health of all New Zealanders and reducing health inequalities between different groups.

Realigning the way primary health care is delivered and improving access to primary health care are key components of the Primary Health Care Strategy (Minister of Health 2001). In addition, primary health care remains a priority under the Ministry of Health’s *Statement of Intent 2009–12* (Ministry of Health 2009), with a focus on the delivery of more services locally in the community and in primary care.

This subsection presents findings for Māori and non-Māori children in terms of access to general practitioners, oral health practitioners and Well Child nurses.

General practitioners

The local doctor or general practitioner (GP) is often the first point of contact with the health care system for New Zealanders. GPs operate private businesses and set their own fees for consultations and other services. As part of the Primary Health Care Strategy, funding has been provided by the Government in order to lower the cost of GP visits for people enrolled in primary health organisations (PHOs) and to encourage free GP consultations for children under six years of age.

Nearly all Māori (98.6%, 98.1–99.1) and non-Māori children (97.6%, 96.9–98.3) had a primary health care provider (a GP clinic, after-hours accident and medical centre, or nurse clinic) which they go to first when feeling unwell or injured. For most Māori (98.5%, 97.8–99.2) and non-Māori (98.5%, 98.0–99.0) children with a usual primary health care provider, this provider was a GP.

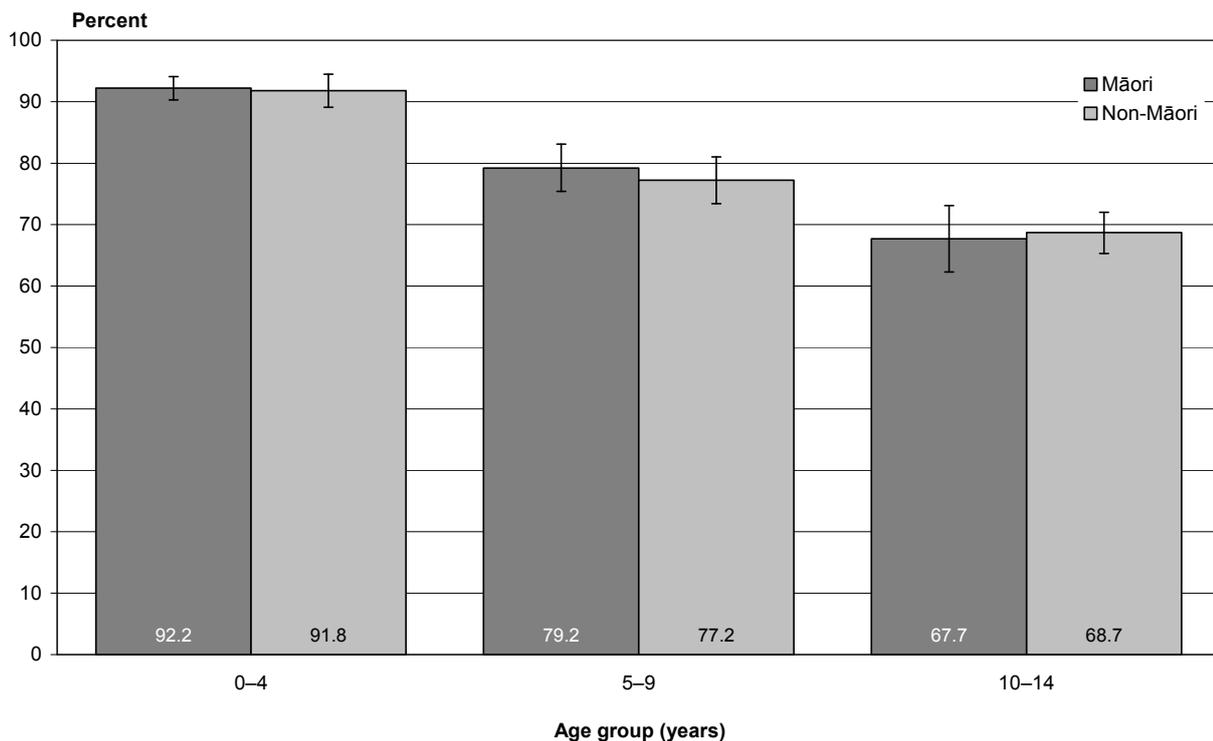
Saw a GP in the previous 12 months

Four out of five Māori (79.9%, 77.5–82.3) and non-Māori (79.0%, 77.2–80.8) children had seen a GP in the previous 12 months. After adjusting for age, there was no significant difference in the proportion of Māori and non-Māori children who had seen a GP in the previous 12 months.

Saw a GP in the previous 12 months, by age group

The prevalence of having seen a GP in the past 12 months for Māori children decreased with age (Figure 46). This pattern of decreasing prevalence of having seen a GP in the past year by age group was also found in non-Māori children. There were no significant differences within age groups between Māori and non-Māori children.

Figure 46: Saw a GP in the past 12 months, Māori and non-Māori children, by age group (unadjusted)



Source: 2006/07 New Zealand Health Survey

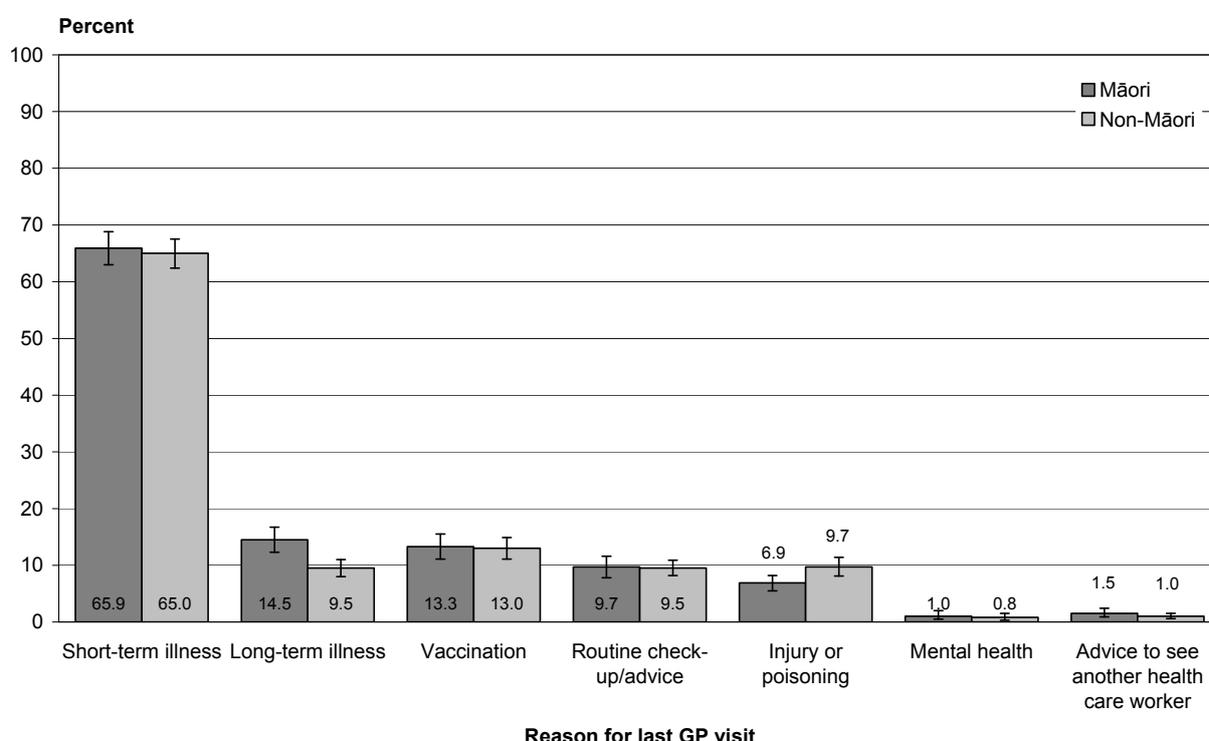
Saw a GP in the previous 12 months, by neighbourhood deprivation

There were no significant differences in having seen a GP in the previous 12 months for Māori and non-Māori children between or within NZDep2006 quintiles (graph not shown).

Reason for last GP visit

After adjusting for age, the most common reason for Māori children to have seen their GP on their last visit was for a short-term health condition,⁷ followed by a long-term illness and vaccination (Figure 47). Māori children were more likely to have seen their GP on their last visit for a long-term illness, and less likely to have seen their GP for injury or poisoning, compared with non-Māori children.

Figure 47: Reason for last visit to GP, Māori and non-Māori children (age standardised)



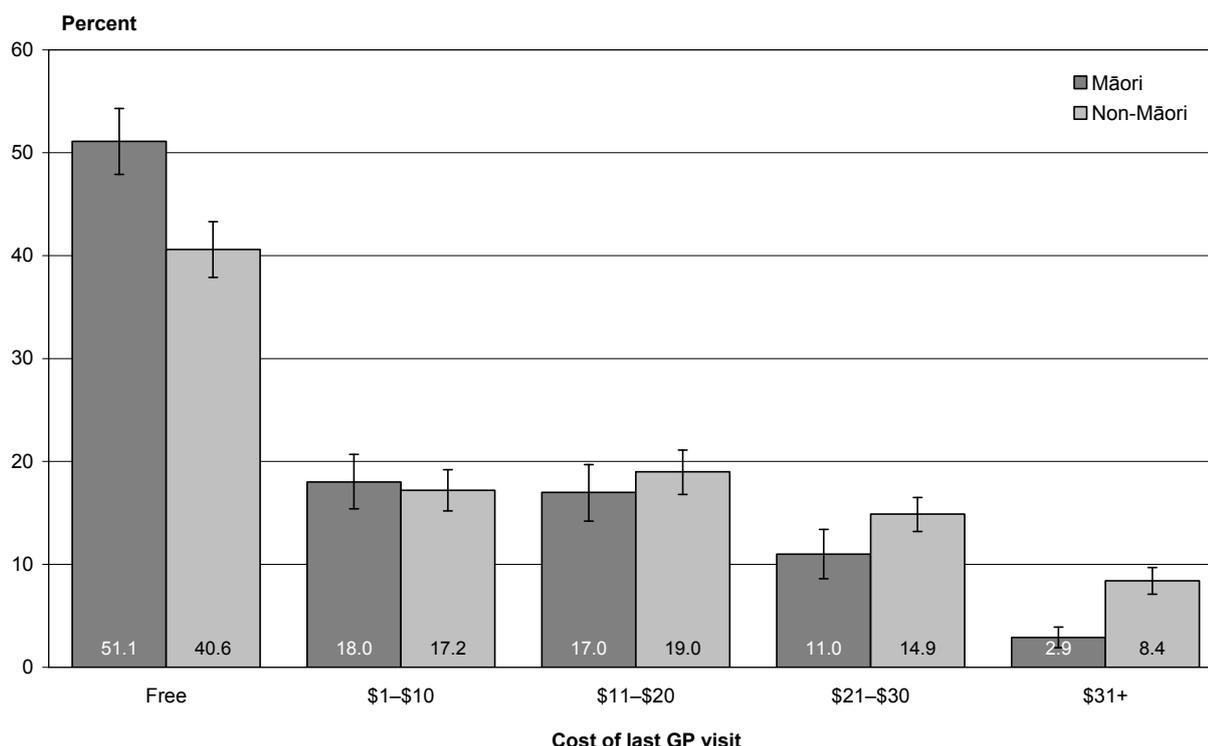
Source: 2006/07 New Zealand Health Survey

Cost of last visit to GP for all children aged 0–14 years

Half of all Māori children (51.1%, 47.9–54.3) were not charged for their last visit to a GP, while the cost for a further 18.0% (15.4–20.7) was \$10 or less. Māori children were significantly more likely not to have been charged for their last visit than non-Māori, and significantly less likely to have been charged \$21 or more compared with non-Māori children (p-value < 0.01) (Figure 48).

⁷ Long-term illnesses were generally considered as those that persist for more than six months (eg, diabetes, birth conditions and allergies that persist for this time). In contrast, short-term health conditions could include viral or bacterial infections such as influenza and the common cold, or other temporary ailments not elsewhere defined.

Figure 48: Cost of last visit to GP, Māori and non-Māori children (age standardised)



Source: 2006/07 New Zealand Health Survey

Cost of last visit to GP for under-six-year-olds

There are no formal guidelines for the cost of visiting a GP for children. However, through government subsidies, practices are encouraged to provide free access for children under six years. The last GP visit was free for eight in ten Māori (77.8%, 73.7–82.0) and six in ten non-Māori (63.5%, 60.1–66.9) aged less than six years. After adjusting for age, Māori children aged less than six years were more likely than non-Māori children of the same age not to have been charged for their last GP visit.

Unmet need for GP services in past 12 months

Nearly all Māori (93.2%, 91.6–94.8) and non-Māori (96.7%, 96.0–97.5) children were able to see a GP in the previous 12 months 'when they needed to'. After adjusting for age, non-Māori children were more likely to be able to see a GP in the previous 12 months when they needed to. However, 6.8% (5.2–8.4) of Māori and 3.3% (2.5–4.0) of non-Māori children needed to see a GP in the last 12 months but were unable to (and therefore experienced unmet need for GP services). After adjusting for age, Māori children had twice the rate of unmet need for GP services compared with non-Māori children.

Unmet need for GP services, by age group

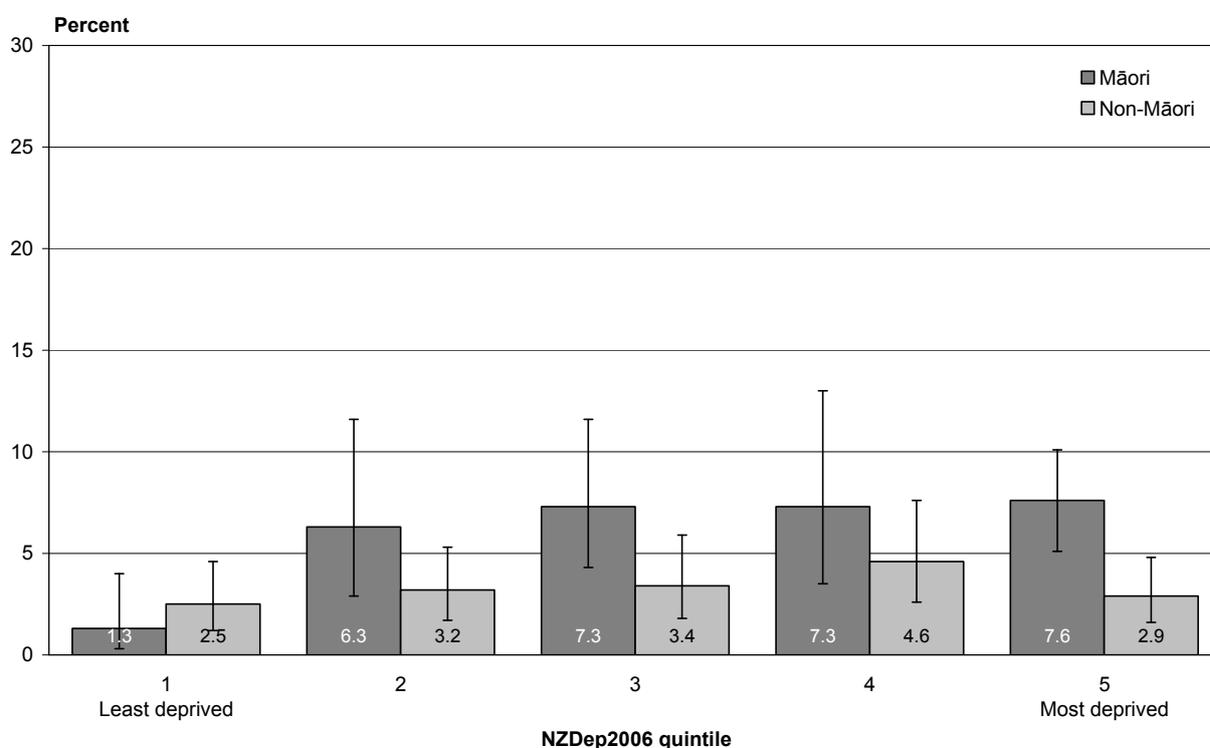
There was no significant difference by age group for Māori or non-Māori children with unmet need for GP services. There were also no significant differences between Māori and non-Māori children within age groups.

Unmet need for GP services, by neighbourhood deprivation

Māori children living in areas of lowest neighbourhood deprivation (NZDep2006 quintile 1) had significantly less unmet need for GP services than Māori children living in areas of greater neighbourhood deprivation (NZDep2006 quintiles 2, 3, 4 and 5; all p-values < 0.05). In contrast, there was no significant difference in unmet need by neighbourhood deprivation for non-Māori children (Figure 49).

In addition, Māori children generally had a higher prevalence of unmet need within deprivation quintiles than non-Māori children (with the exception of quintile 1). However, this trend was only significant in areas of highest neighbourhood deprivation (NZDep2006 quintile 5) (Figure 49).

Figure 49: Unmet need for GP services, Māori and non-Māori children, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Number of times of unmet need for GP services

Māori children with unmet need for GP services had experienced unmet need once (43.6%, 31.3–55.9) or twice (38.6%, 27.3–49.9) in the past 12 months. In comparison, most non-Māori children had experienced unmet need only once (62.8%, 50.9–74.7), and 23.7% (13.9–36.2) had experienced it twice.

After adjusting for age, Māori children were significantly less likely to experience unmet need once in the last 12 months (p-value = 0.03) and significantly more likely to experience unmet need six or more times in the last 12 months (5.2%, 1.7–11.9) when compared with non-Māori children (0.4%, 0.0–2.0) (p-value = 0.04).

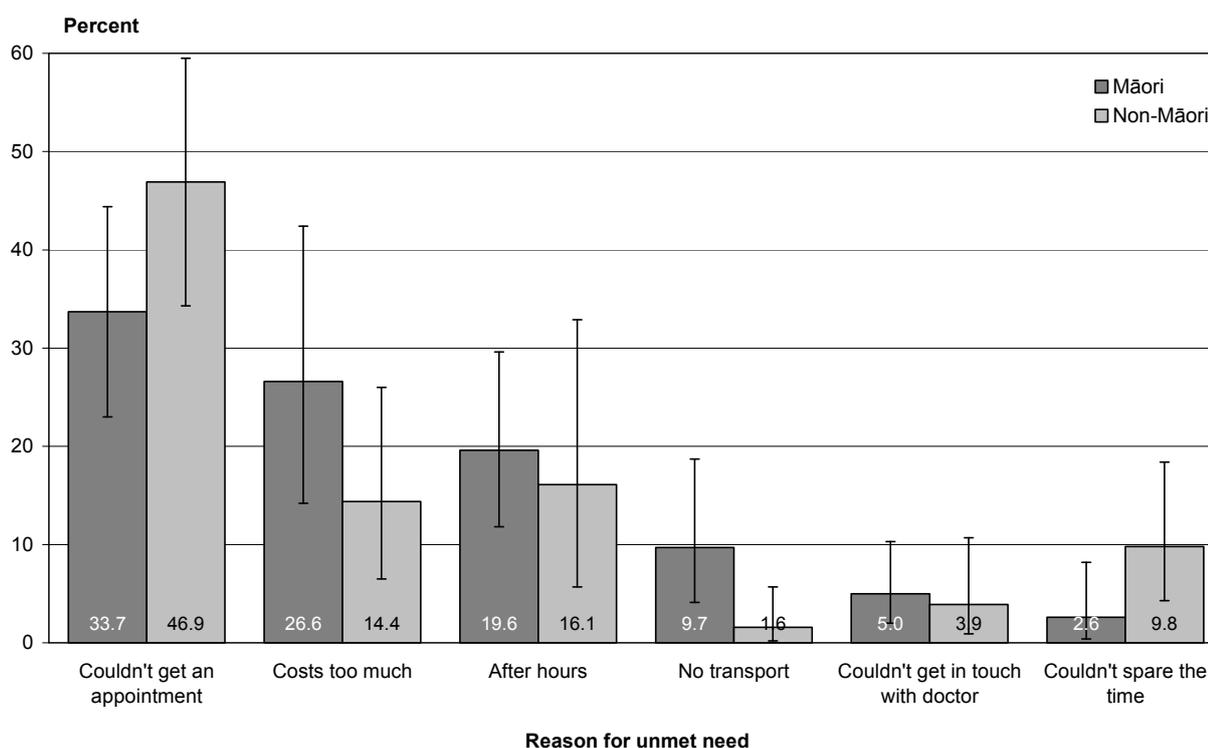
Reason for unmet need for GP services

For both Māori and non-Māori, the top three reasons given by parents for their child not seeing a GP when they needed to was that they 'couldn't get an appointment at a suitable time', 'it costs too much' and 'it was after hours' (Figure 50).

One in ten parents of Māori children (9.7%, 4.1–18.8) reported that a lack of transport was the main reason their child had not seen a GP when they needed to. After adjusting for age, Māori were six times more likely to have parents report lack of transport as a reason for being unable to see a GP compared with non-Māori children (p-value = 0.02) (Figure 50).

Māori were four times less likely to have a parent report that they 'couldn't spare the time' to take their child to see the GP, compared with non-Māori children (p-value = 0.05). There were no other significant differences in reasons for unmet need for GP services between Māori and non-Māori children.

Figure 50: Reason for unmet need for GP services in the past 12 months, Māori and non-Māori children (age standardised)



Source: 2006/07 New Zealand Health Survey

Uncollected prescriptions

GPs are the most common prescribers of medicine for both Māori and non-Māori children. After adjusting for age, 96.3% (94.9–97.7) of Māori and 96.8% (96.0–97.6) of non-Māori children who had a prescription in the previous 12 months received their prescription from a GP.

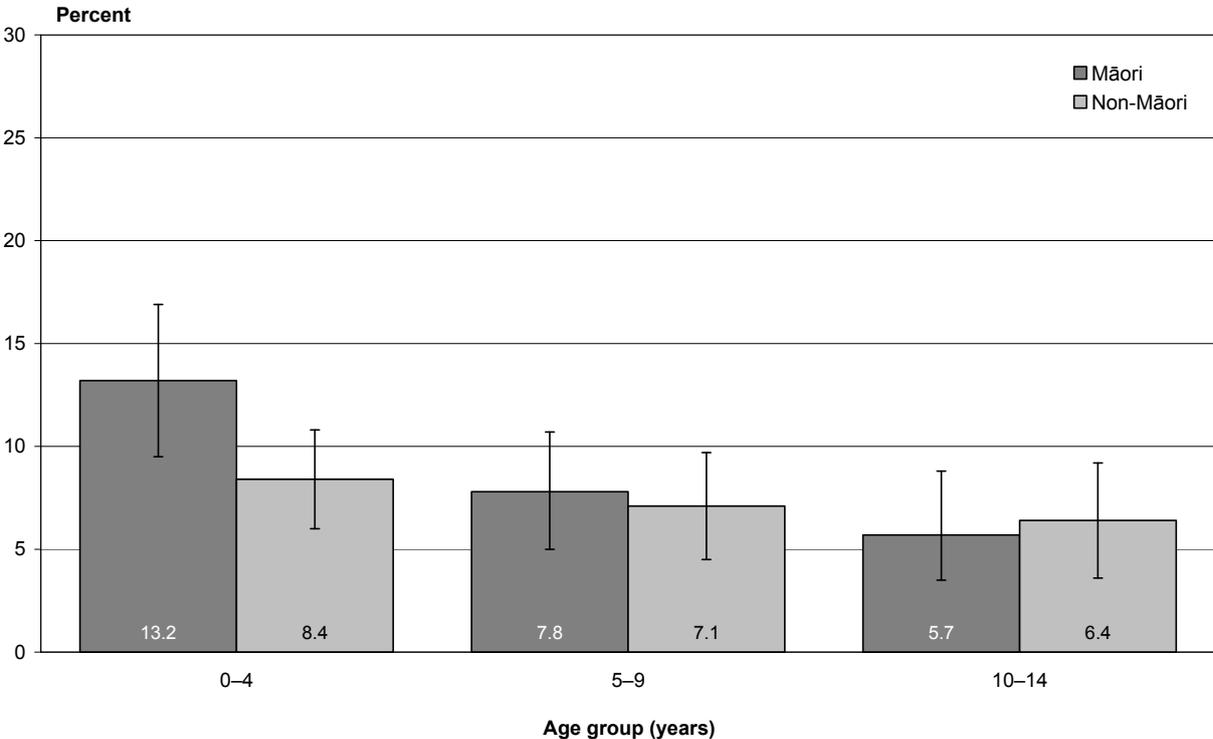
Of the children who had received a prescription in the previous year, 9.3% (7.5–11.1) of Māori and 7.5% (5.9– 9.0) of non-Māori children had one or more prescriptions not collected in the previous year. After adjusting for age, there was no significant difference between Māori and non-Māori children in having uncollected prescriptions.

Uncollected prescriptions, by age group

Among Māori, the prevalence of having an uncollected prescription decreased with age, with Māori aged 0–4 years having the highest prevalence of uncollected prescriptions (p-values < 0.03). There was no difference by age group for non-Māori (Figure 51).

Māori children aged 0–4 years were more likely than non-Māori children in the same age group to have had uncollected prescriptions (p-value = 0.03). There were no other differences within age groups between Māori and non-Māori.

Figure 51: Uncollected prescriptions in the past 12 months, Māori and non-Māori children, by age group (unadjusted)



Source: 2006/07 New Zealand Health Survey

Uncollected prescriptions, by neighbourhood deprivation

There was no significant difference in the prevalence of uncollected prescriptions for Māori or non-Māori children by NZDep2006 quintile, or within NZDep2006 quintile.

Uncollected prescriptions due to cost

Overall, 2.0% (1.1–2.9) of Māori children and 0.9% (0.5–1.5) of non-Māori children had uncollected prescriptions due to cost. After adjusting for age, Māori children were more likely to have uncollected prescriptions due to cost than non-Māori children (p-value = 0.03).

The prevalence of uncollected prescriptions due to cost was higher among Māori aged 0–4 years (3.3%, 1.5–6.4) and 5–9 years (2.2%, 1.0–4.3) than for Māori aged 10–14 years (0.3%, 0.1–0.9). In contrast, there were no significant differences in the prevalence of uncollected prescriptions due to cost by age group for non-Māori children. Māori aged 0–4 years (3.3%, 1.5–6.4) were significantly more likely to have uncollected prescriptions due to cost than non-Māori children of the same age (0.8%, 0.3–2.0). There were no other differences within age groups.

No comparison was possible across NZDep2006 quintiles due to small numbers.

Oral health care services

The Ministry of Health has a vision for high-quality oral health services that promote, improve, maintain and restore good oral health, and that are proactive in addressing the needs of those at greatest risk of poor oral health (Ministry of Health 2006). Children and young people in New Zealand are entitled to free basic dental care⁸ from birth to their 18th birthday (Ministry of Health 2006).

Seen an oral health care worker in the previous 12 months

Most children aged 2–14 years had seen an oral health care worker in the previous 12 months: four out of five Māori (79.3%, 76.4–82.1) and non-Māori (80.4%, 78.7–82.2) children. The proportion of children who had visited an oral health care worker more than one year but less than two years ago was also comparable among Māori (9.4%, 7.2–11.7) and non-Māori (9.4%, 7.9–10.9) children.

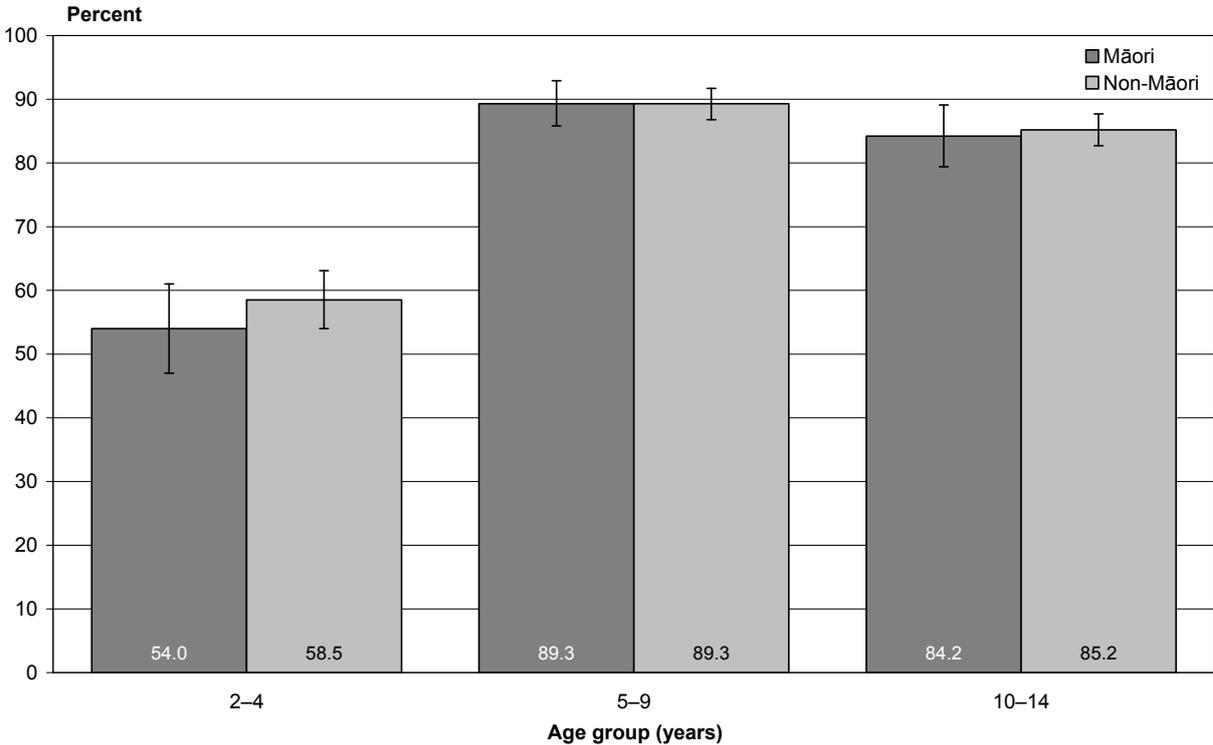
After adjusting for age, there was no significant difference in the prevalence of having seen an oral health care worker in the previous year between Māori and non-Māori. A small proportion of Māori (9.9%, 8.3–11.5) and non-Māori (8.9%, 7.8–10.1) children aged 2–14 years had never seen an oral health care worker. After adjusting for age, there was no significant difference in prevalence between Māori and non-Māori children who had never seen an oral health care worker.

Seen an oral health care worker, by age group

For both Māori and non-Māori, children aged 2–4 years were significantly less likely to have seen an oral health care worker in the previous year than older children (Figure 52). There were no differences between Māori and non-Māori children within age groups.

⁸ Basic dental care includes the provision of dental examinations, fillings, extraction of primary teeth, applications of fluorides, placement of fissure sealants, and oral health education and promotion (see <http://www.healthysmiles.org.nz/>).

Figure 52: Seen an oral health care worker in the past 12 months, Māori and non-Māori children, by age group (unadjusted)



Source: 2006/07 New Zealand Health Survey

Seen an oral health care worker, by neighbourhood deprivation

Among Māori children there was no significant difference by NZDep2006 quintile in the prevalence of having seen an oral health care worker in the previous year. In comparison, for non-Māori children, the prevalence decreased with increasing deprivation. There were no differences between Māori and non-Māori children within NZDep2006 quintiles.

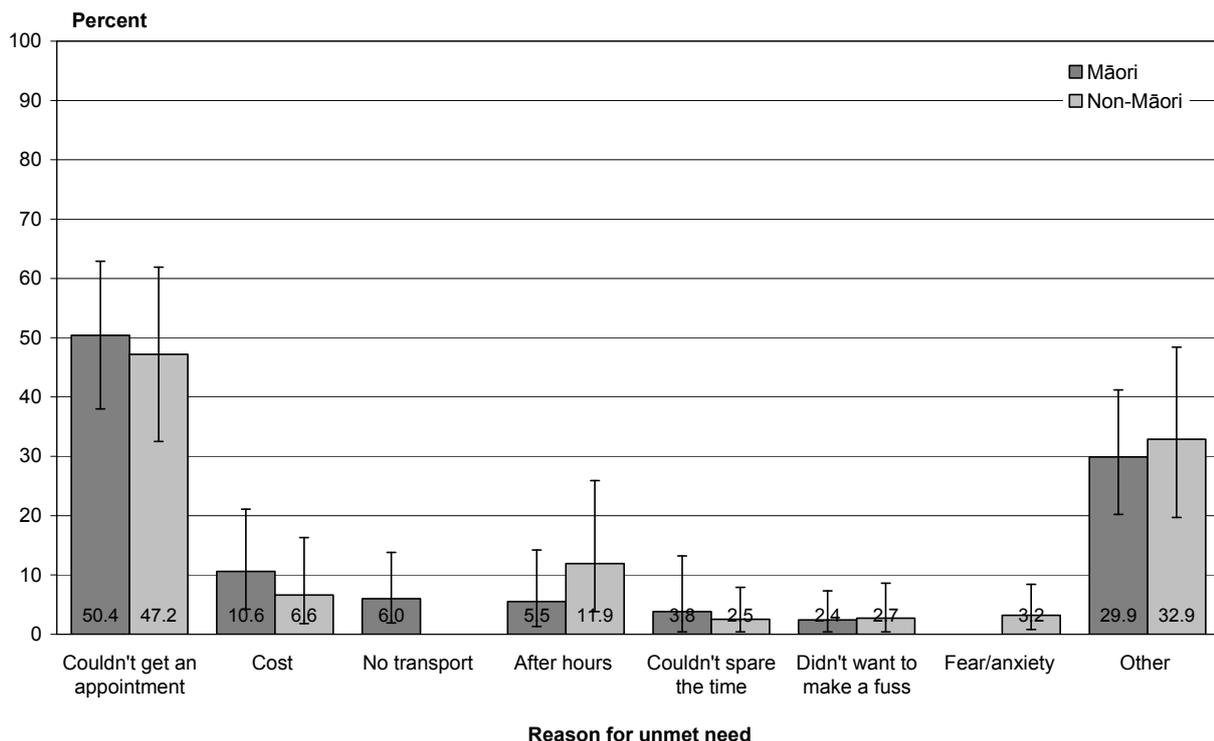
Unmet need for oral health care services

Very small proportions of Māori (4.6%, 3.4–5.8) and non-Māori (3.1%, 2.3–3.8) aged 2–14 years were unable to see an oral health care worker when they needed to in the past 12 months (ie they had an unmet need for oral health services). After adjusting for age, Māori children were slightly more likely (p-value = 0.04) to experience unmet need for oral health care services compared with non-Māori children.

There was no significant difference by age group or NZDep2006 quintile for Māori or non-Māori children who were unable to see an oral health care worker.

Most unmet need for oral health care services among Māori (50.4%, 38.0–62.9) and non-Māori (47.2%, 32.5–61.9) children was due to an inability to get an appointment at a suitable time (Figure 53). One in ten (10.6%, 4.2–21.1) Māori, compared with one in six (6.6%, 1.8–16.3) non-Māori reporting unmet need, were unable to see an oral health care worker due to cost. A lack of transport was the reason for 6.0% (1.9–13.8) of Māori not seeing an oral health care worker when they needed to. A lack of transport was not listed as a reason for unmet need for oral health care services for non-Māori children.

Figure 53: Reason for unmet need for oral health care services, Māori and non-Māori children aged 2–14 years (age standardised)



Source: 2006/07 New Zealand Health Survey

Well Child (Tamariki Ora) nurses

Well Child nurses include Plunket nurses as well as other community workers who provide support services for the development, health and wellbeing of children under five years of age. The Well Child-Tamariki Ora service providers are required to provide culturally appropriate services to all children and their families. They are also required to provide services in a way that recognises the needs of identified priority groups, including Māori children (Ministry of Health 2002).

Half of Māori (53.4%, 47.9–58.8) and non-Māori (55.1%, 51.2–59.0) children aged under five years had seen a Well Child nurse (eg, Plunket nurse, Karitane nurse) in the previous year. After adjusting for age, there was no significant difference between Māori and non-Māori children in the prevalence of having seen a Well Child nurse in the previous year.

4 Pacific Children

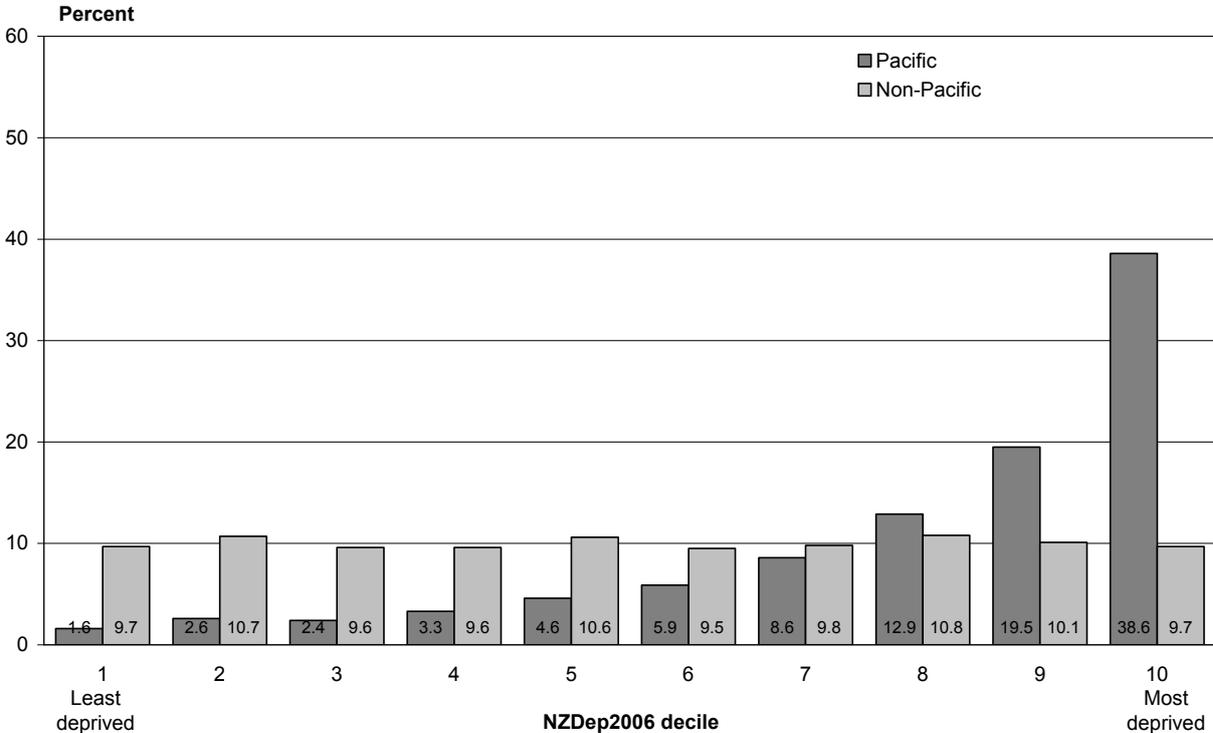
Introduction

In the 2006 Census 100,344 children aged 0–14 years were identified as Pacific, making up 11.5% of the New Zealand child population. Pacific children are culturally diverse, coming from 22 different ethnic groups, of which the largest groups are Samoan, Cook Islands Māori, Tongan, Niuean, Fijian, Tokelauan and Tuvaluan. In comparison with non-Pacific people, Pacific people are a very youthful population, with Pacific children (aged under 15 years) forming 36.5% of the Pacific population, compared with non-Pacific children forming 20.4% of the non-Pacific population (Statistics New Zealand 2007).

Current health statistics indicate that Pacific people have a shorter life expectancy than European people. Pacific males born between 2005 and 2007 are expected to live 73.1 years, 6.0 years less than European males born at the same time (Statistics New Zealand 2007). Pacific females born over the same period have a life expectancy of 75.5 years, 7.6 years less than European females born at the same time (Statistics New Zealand 2007).

Pacific children are significantly more likely to live in areas of higher neighbourhood deprivation (NZDep2006 deciles 9 and 10) compared with non-Pacific children (Figure 54).

Figure 54: Distribution of Pacific and non-Pacific children aged 0–14 years, by NZDep2006 decile



Source: Statistics New Zealand

Pacific children are a priority population in New Zealand's *Child Health Strategy* (Ministry of Health 1998) because they tend to experience poorer health outcomes.

This section presents the results for Pacific children for the following health domains: social environment, risk and protective factors, health outcomes and primary health care use.

Social environment

In this subsection the indicators relating to the social environment presented are exposure to second-hand smoke, family cohesion and discipline.

Second-hand smoke exposure

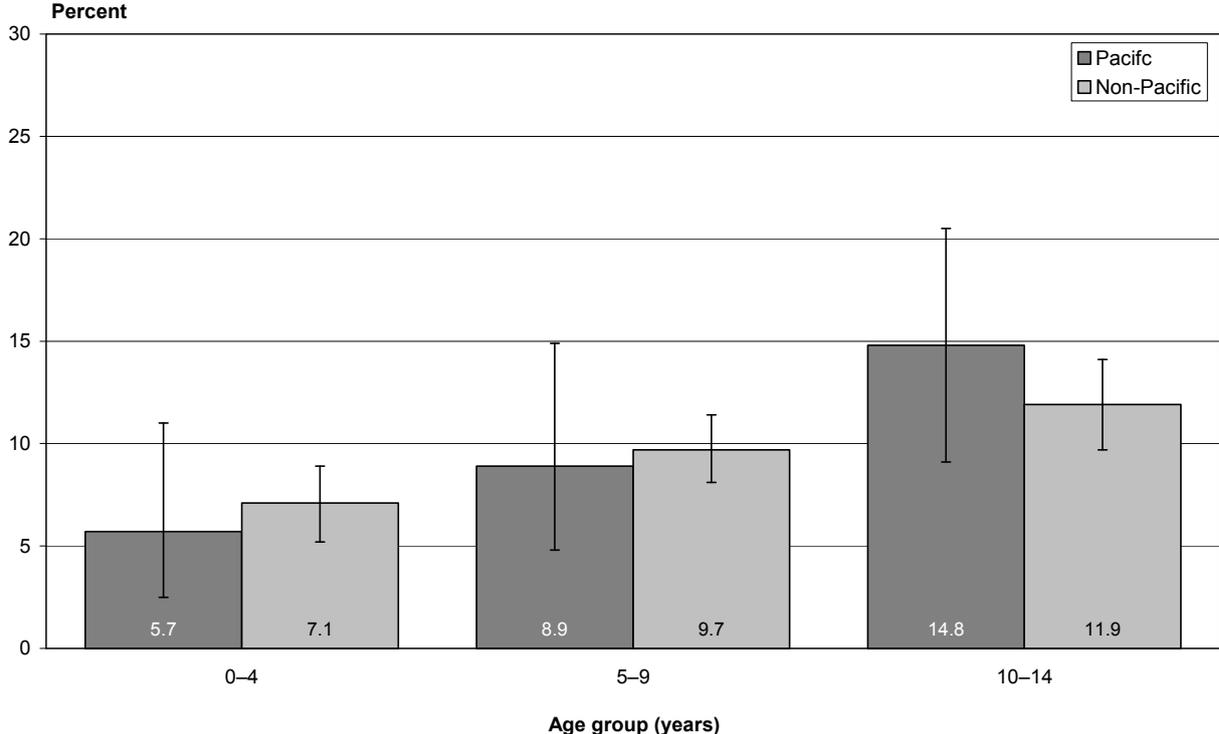
Second-hand smoke comes from two places: smoke breathed out by the person who smokes and smoke from the end of a burning cigarette. Second-hand smoke causes premature death and disease in both children and adults. There is evidence that children who are exposed to second-hand smoke are at an increased risk for sudden unexpected death in infancy (SUDI), chest infections, ear problems and more severe asthma (US Department of Health and Human Services 2006; Best et al 2009).

Overall, one in ten Pacific (9.6%, 7.3–11.9) and non-Pacific (9.6%, 8.5–10.7) children had been exposed to second-hand smoke in the home. After adjusting for age there was no significant difference in exposure to second-hand smoke between Pacific and non-Pacific children.

Exposure to second-hand smoke, by age group

Exposure to second-hand smoke increased by age group for both Pacific and non-Pacific children (Figure 55). However, within each age group there was no significant difference in exposure to second-hand smoke between Pacific and non-Pacific children.

Figure 55: Exposure to second-hand smoke in the home, Pacific and non-Pacific children, by age group (unadjusted)

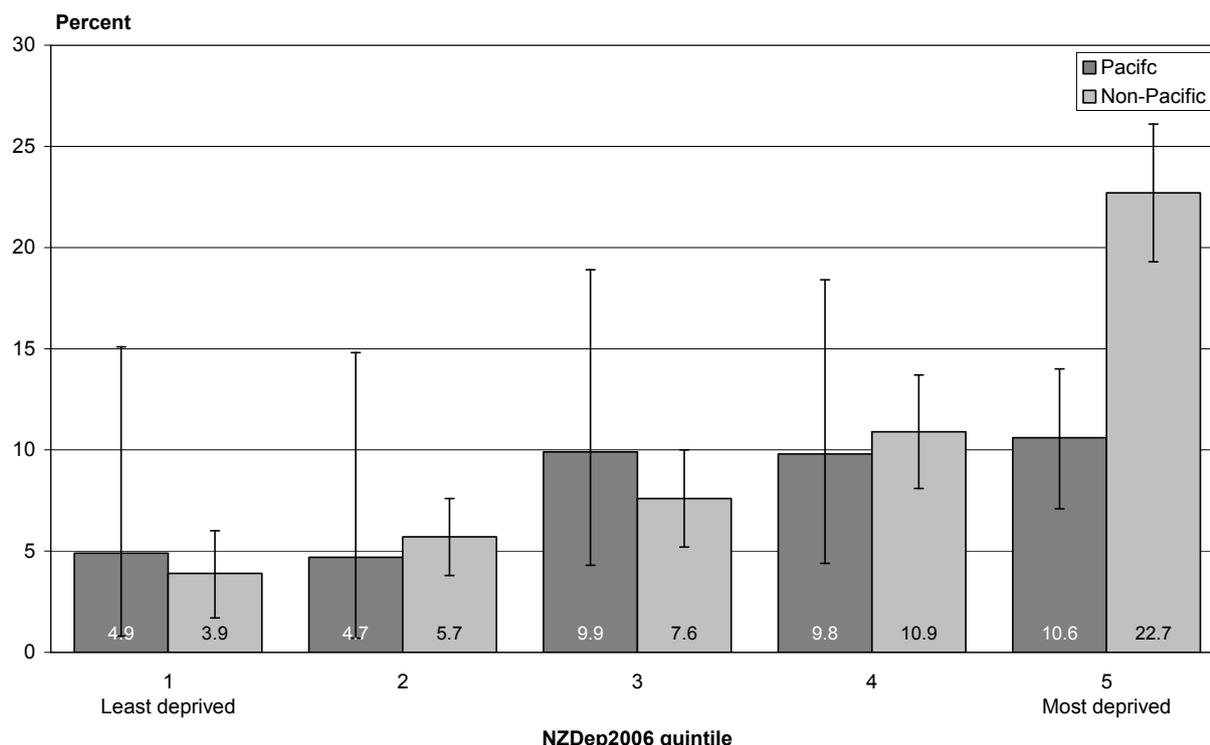


Source: 2006/07 New Zealand Health Survey

Exposure to second-hand smoke, by neighbourhood deprivation

For non-Pacific children, exposure to second-hand smoke increased with increasing deprivation, but there was no difference in exposure to second-hand smoke by NZDep2006 quintile for Pacific children (Figure 56). Pacific children living in quintile 5 were significantly less likely to be exposed to second-hand smoke than non-Pacific children living in the same quintile.

Figure 56: Exposure to second-hand smoke in the home, Pacific and non-Pacific children, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Family cohesion

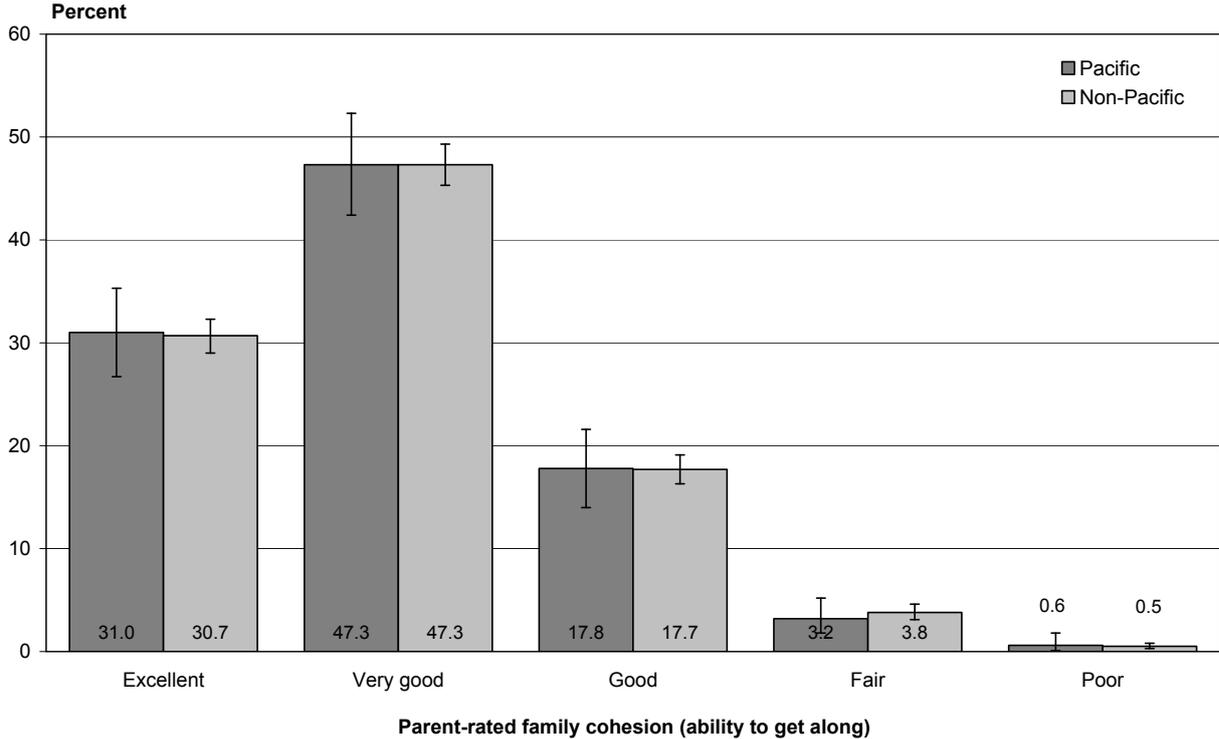
Family is an important social structure, crucial to the health and wellbeing of individuals, especially children, who depend on their family for most of their needs for physical and emotional development (Ministry of Social Development 2004b).

In the 2006/07 New Zealand Health Survey the primary caregiver of each child participant aged from birth to 14 years was asked to rate their family's ability to get along with one another. A definition of family as the immediate family members that live in the same household was given to all participants. The survey used an internationally validated question from the Child Health Questionnaire Parent Form (CHQ-PF28) as a proxy for family wellbeing, which captured one parent's opinion of how well their family members interact. This is often called 'family cohesion', and is both a critical element in the daily functioning of a family and an important asset for families to have in order to 'rebound' from stresses and in times of crisis (Kalil 2003). Family cohesion is not the sole determinant of family wellbeing, but simply one dimension of many that have an impact on the way a family functions (Olson 1993).

It is important to note that although in this subsection we look at family cohesion by ethnic group, the ethnic group analyses do not represent the family unit; that is, these analyses do not describe, for example, 'Pacific families'.

The majority of parents of both Pacific (78.6%, 74.7–82.5) and non-Pacific (77.8%, 76.2–79.4) children rated their family’s ability to get along with one another as ‘excellent’ or ‘very good’. After adjusting for age, there was no significant difference between Pacific and non-Pacific families in rating their ability to get along as ‘excellent’ or ‘very good’. There were also no significant differences in levels of family cohesion between Pacific and non-Pacific children (Figure 57).

Figure 57: Parent rating of family’s ability to get along, Pacific and non-Pacific children (age standardised)

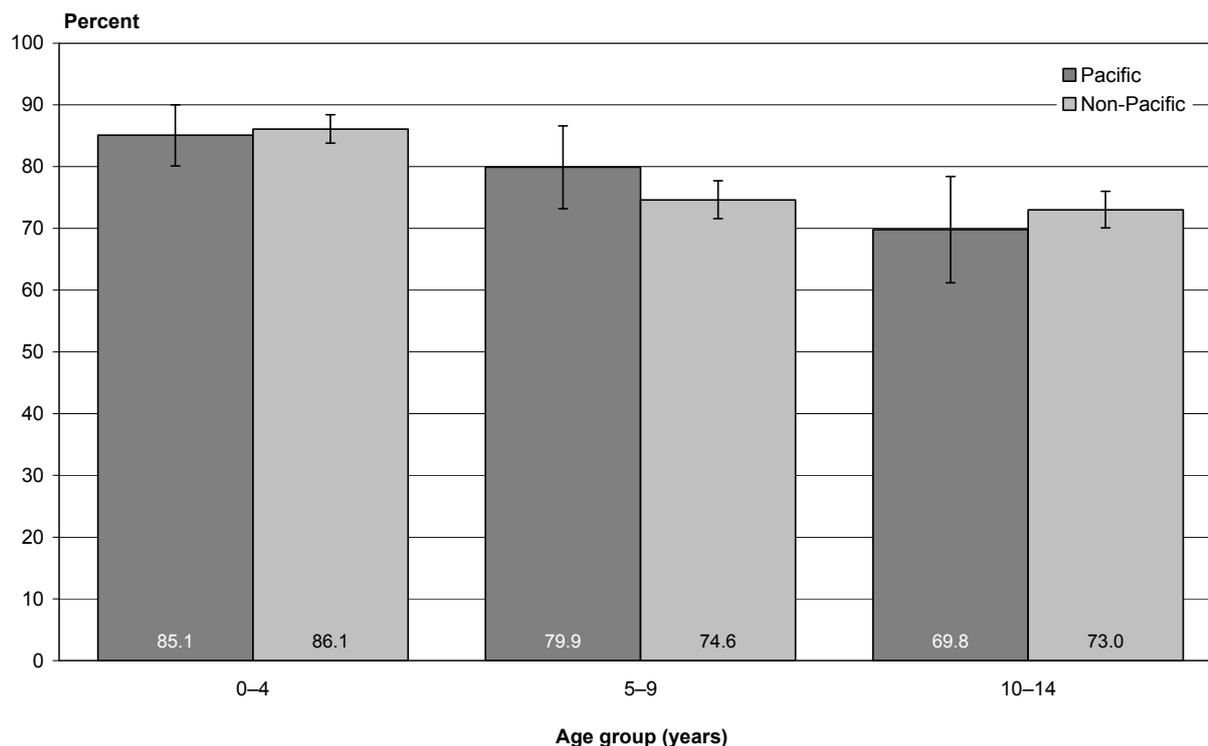


Source: 2006/07 New Zealand Health Survey

Family cohesion, by age group

Among non-Pacific families family cohesion was more likely to be ‘excellent or very good’ among those with children aged 0–4 years compared to other age groups (Figure 58). Among Pacific families family cohesion was more likely to be ‘excellent or very good’ among those with children aged 0–4 years compared to families with 10–14-year-olds. There was no significant difference in the prevalence of ‘excellent or very good’ family cohesion for Pacific and non-Pacific children within age groups.

Figure 58: Parent rating of family’s ability to get along as ‘excellent or very good’, Pacific and non-Pacific children, by age group (unadjusted)



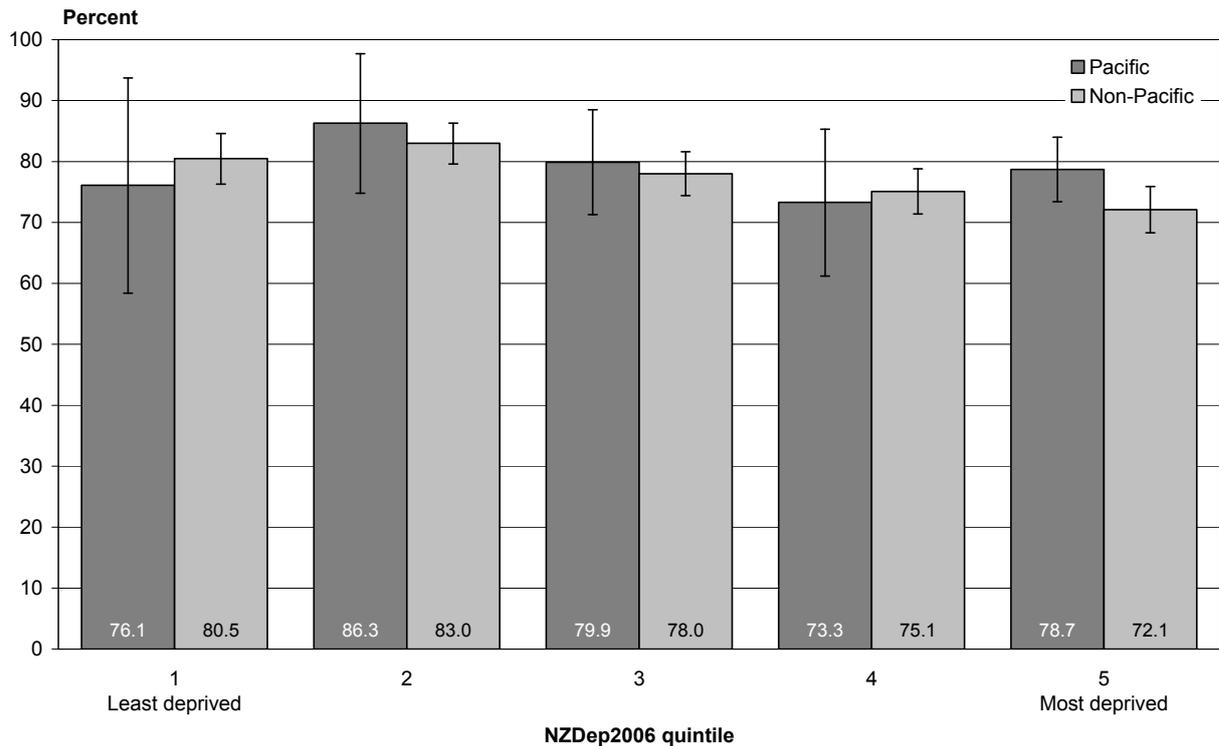
Source: 2006/07 New Zealand Health Survey

Family cohesion, by neighbourhood deprivation

Among Pacific children there was no significant difference in the prevalence of ‘excellent or very good’ family cohesion by neighbourhood deprivation (Figure 59). In comparison, non-Pacific children residing in NZDep2006 quintile 1 had a significantly higher prevalence of ‘excellent or very good’ family cohesion than those in quintile 5.

There was no significant difference in the prevalence of ‘excellent or very good’ family cohesion between Pacific and non-Pacific children within NZDep2006 quintiles, apart from in quintile 5, where Pacific families were more likely than non-Pacific families to rate their ability to get along as ‘excellent or very good’ (p-value < 0.05).

Figure 59: Parent rating of family’s ability to get along as ‘excellent or very good’, Pacific and non-Pacific children, by NZDep2006 quintile (age standardised)



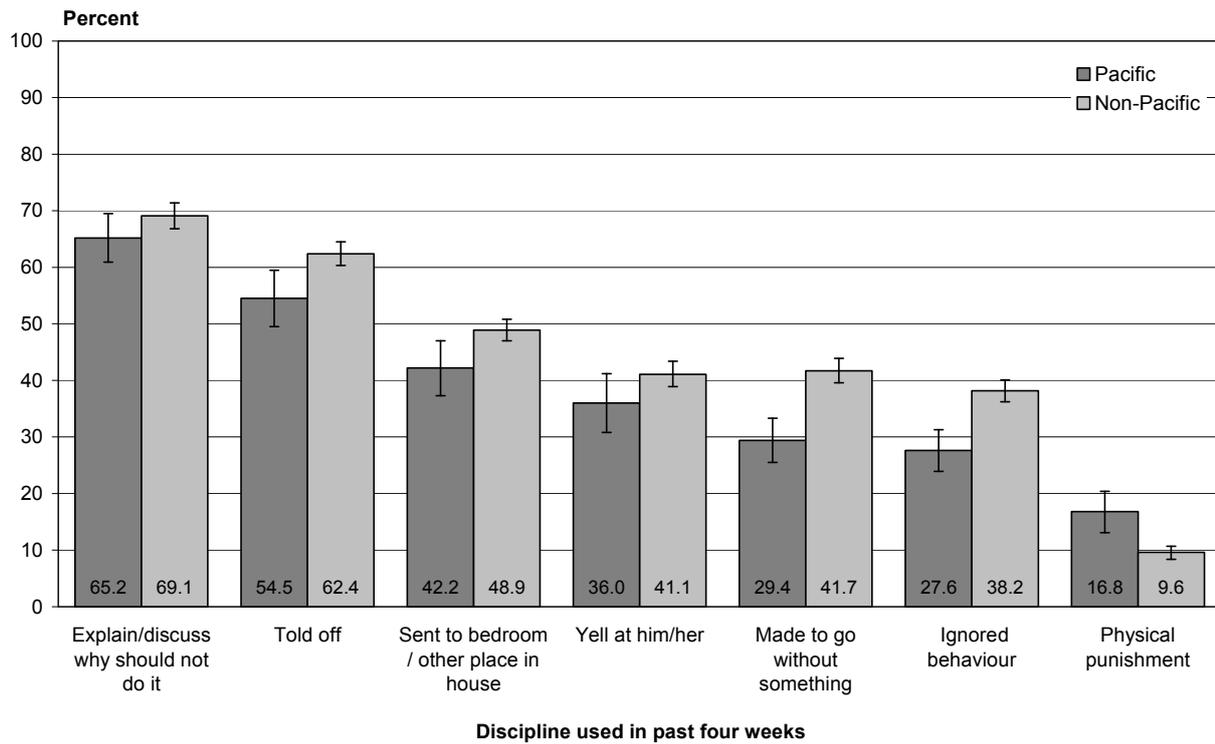
Source: 2006/07 New Zealand Health Survey

Discipline

In the 2006/07 New Zealand Health Survey the primary caregiver of child participants was asked to choose from eight options for how they responded to their child when they misbehaved over the past four weeks. Parents were able to choose multiple options. The options were: (1) made them go without something or miss out on something, (2) yelled at them, (3) explained or discussed why they should not do it, (4) physical punishment, such as smacking, (5) told them off, (6) sent them to their room, (7) ignored their behaviour, or (8) something else. They were also asked which of these forms of discipline they thought were the most effective.

The most common responses to misbehaviour, reported by the primary caregivers of both Pacific and non-Pacific children, were an explanation or discussion of ‘why they should not do something’ and being ‘told off’ (Figure 60).

Figure 60: Most common strategies to change unwanted behaviour, Pacific and non-Pacific children (age standardised)

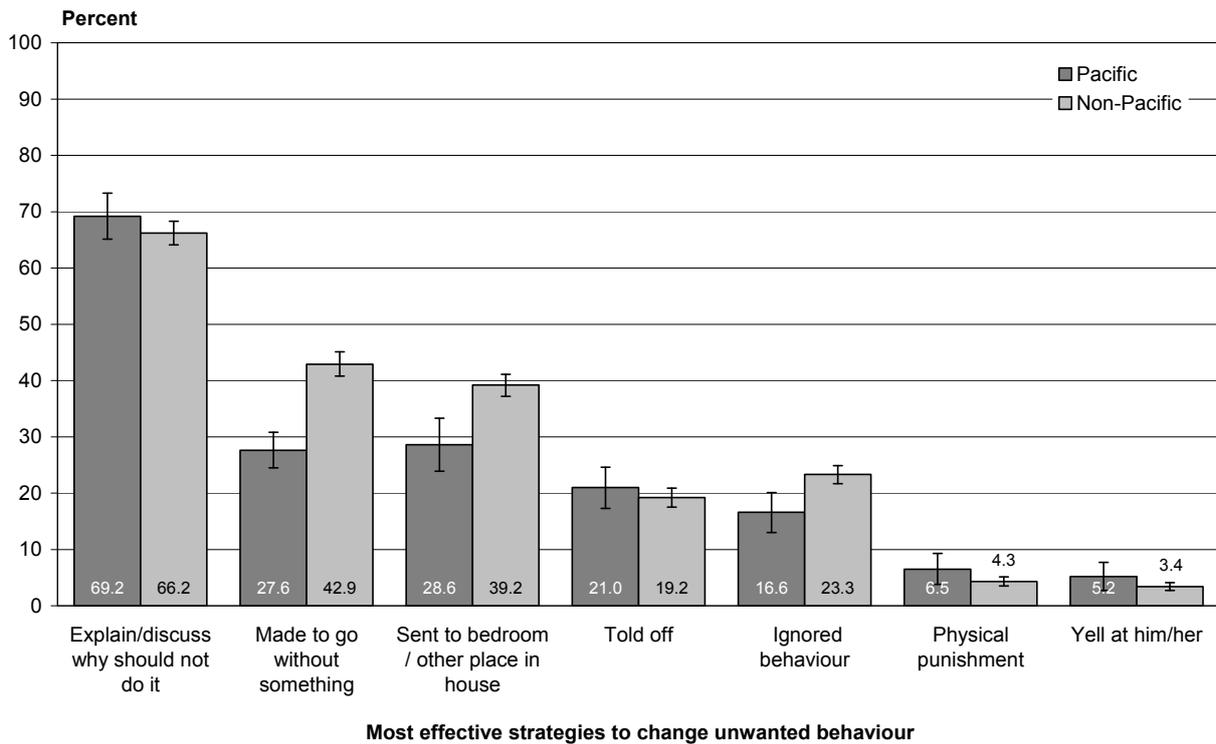


Source: 2006/07 New Zealand Health Survey

Effective discipline strategies

Parents were also asked what they thought were the most effective things to do when trying to change their child’s behaviour. The form of discipline reported to be most effective among primary caregivers of both Pacific and non-Pacific children was to explain or discuss why not to do something (Figure 61).

Figure 61: Most effective strategies to change unwanted behaviour, Pacific and non-Pacific children (age standardised)



Source: 2006/07 New Zealand Health Survey

Physical punishment

Discipline that does not include physical punishment has been found to be better for the parent-child relationship, and is more effective when the methods used are consistent, supportive and authoritative (not authoritarian)⁹ (Smith et al 2004). Parental use of physical punishment is associated with negative developmental outcomes such as antisocial behaviour, poor intellectual development, poor parent-child relationships and mental health problems (Smith et al 2004).

The Ministry of Health is part of a cross-government initiative working towards attaining violence-free homes in New Zealand, and is committed to monitoring changing parental attitudes and behaviour towards children (Taskforce for Action on Violence within Families 2006). The above factors justify the more detailed exploration of the use of physical punishment by age group and deprivation.

Physical punishment was the least used form of discipline in the previous four weeks among both Pacific and non-Pacific children. Overall, 16.9% (13.2–20.5) of primary caregivers of Pacific children and 9.6% (8.4–10.7) of primary caregivers of non-Pacific children used physical punishment in the previous four weeks. After adjusting for age, Pacific children were more likely to have experienced physical punishment by their primary caregiver than non-Pacific children.

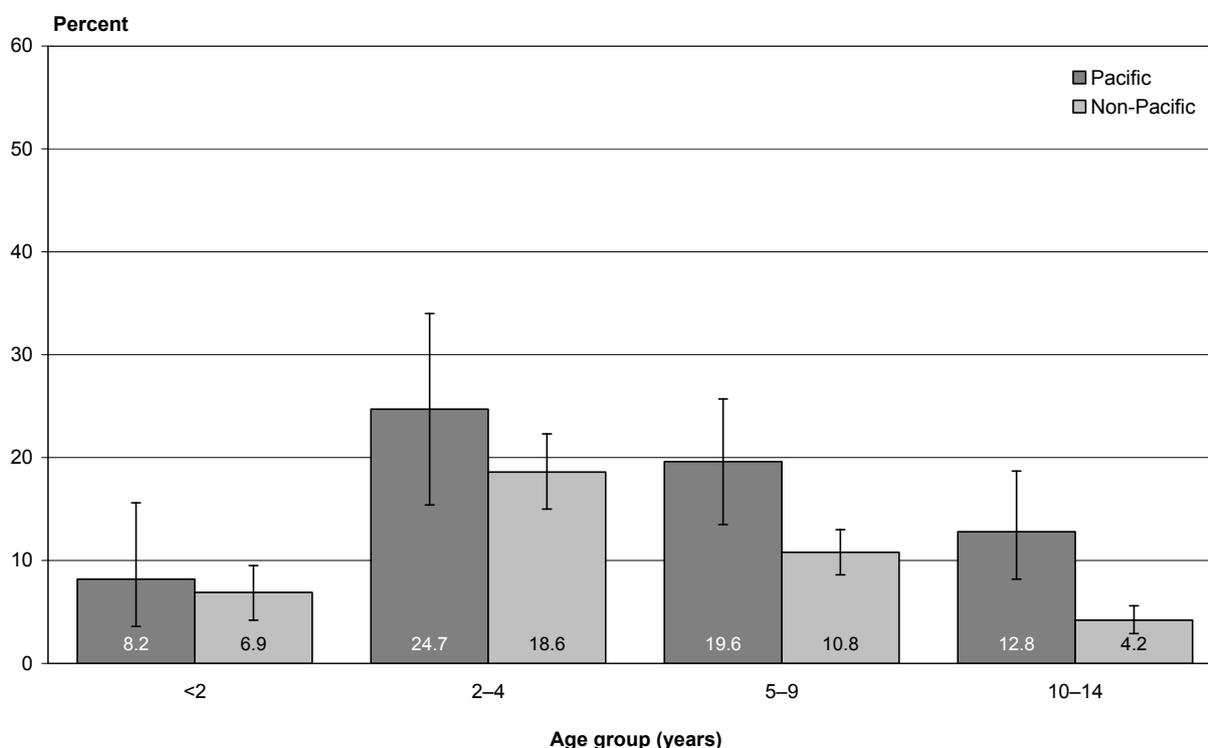
⁹ While authoritative methods are imposing and respectful, authoritarian parenting styles lean more towards angry and aggressive demands and harsh discipline.

Of parents who used physical punishment in the past four weeks, just under one in three parents of both Pacific (30.7%, 17.4–44.0) and non-Pacific (29.7%, 24.6–34.8) children reported that it was an effective mode of discipline, with no significant difference between the two groups after adjusting for age.

Physical punishment, by age group

Among both Pacific and non-Pacific children the experience of physical punishment in the previous four weeks peaked in 2–4-year-old children (Figure 62). Pacific children aged 5–9 years and 10–14 years were significantly more likely to have experienced physical punishment by their primary caregiver in the previous four weeks than non-Pacific children in the same age groups.

Figure 62: Physical punishment by the primary caregiver in the past four weeks, Pacific and non-Pacific children, by age group (unadjusted)

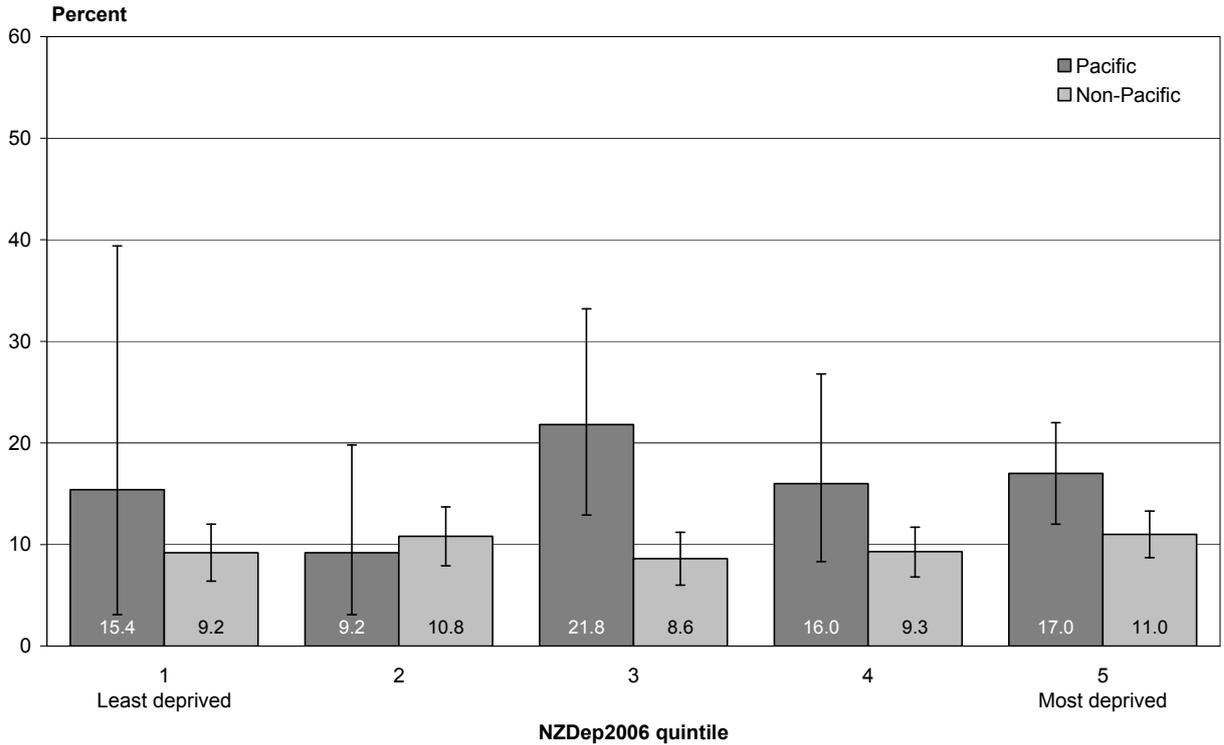


Source: 2006/07 New Zealand Health Survey

Physical punishment, by neighbourhood deprivation

There was no significant difference in the prevalence of physical punishment by neighbourhood deprivation for Pacific and non-Pacific children. Within NZDep2006 quintiles, Pacific children living in quintiles 3 and 5 were more likely to experience physical punishment by their primary caregiver than non-Pacific children living in the same quintiles (p-values < 0.03).

Figure 63: Physical punishment by the primary caregiver in the past four weeks, Pacific and non-Pacific children, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Health risk and protective environment

Healthy environments influence health behaviours that are associated with good health outcomes. Although only variables that have been shown in the literature to be associated with health outcomes are included in this report, readers need to be aware that the associations between indicators in this report do not necessarily imply *causality*. For example, if the survey finds that a particular health behaviour is more common in people living in deprived areas, an *association* has been identified. This does not mean the health behaviour is caused by living in a deprived area. Associations between current health states and current behaviour or current socio-demographic characteristics, need to be interpreted with caution, as current health states may reflect past, rather than present, behaviour or circumstances.

Breastfeeding and introduction of solids

Appropriate nutrition in the first few months of life is more critical than at any other time in the life cycle. Breast milk has many health benefits, including reduced risk to the child of lower respiratory tract disease, atopic dermatitis, childhood leukaemia and sudden infant death syndrome (Hoddinott et al 2008). It is promoted by the World Health Organization, the United Nations Children’s Fund (UNICEF) and the Ministry of Health as the best food for infants (World Health Organization and UNICEF 2003, Ministry of Health 2008d).

The Ministry of Health recommends that infants be fed exclusively on breast milk to around six months of age, with continued breastfeeding up to two years or beyond. Solid foods and fluids should be gradually introduced along with the usual milk feed (breast milk or infant formula) around six months of age, but not before four months (Ministry of Health 2008d). There are a number of risks associated with the early introduction of solids before the age of four months, including increased risk of eczema, asthma, allergies, respiratory disease, gut infections, diarrhoea and dehydration, iron deficiency and malnutrition. Late introduction of solids, after six months of age, has been associated with increased risk of iron deficiency, malnutrition and delays in oral motor development (Ministry of Health 2008d).

There are two types of breastfeeding: exclusive and partial. Exclusive breastfeeding is when infants have not been given any liquids or solids (excluding prescribed medicines) other than breast milk. Partial breastfeeding is breastfeeding that has continued following the introduction of non-breast milk liquids or solids. This subsection presents results for both exclusive and partial breastfeeding combined ('ever breastfed') as well as for exclusive breastfeeding on its own.

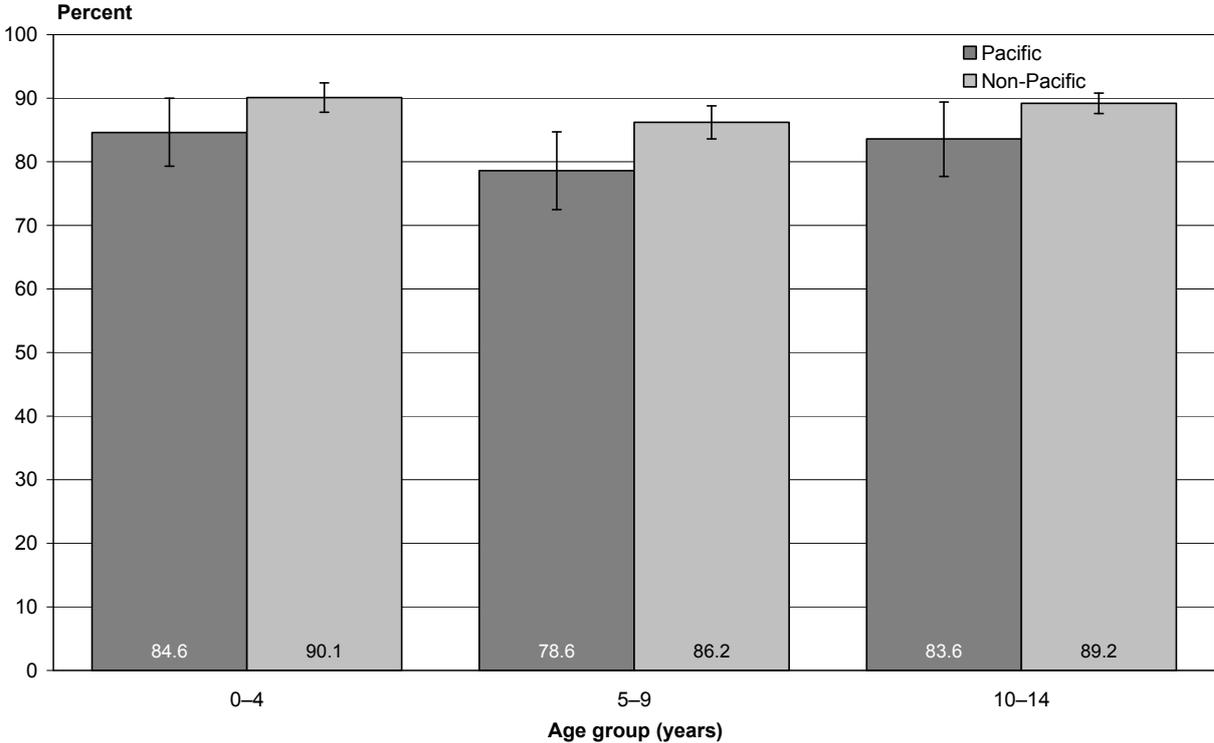
Ever breastfed children

Eight in ten Pacific (82.3%, 78.8–85.8) and nine in ten non-Pacific (88.5%, 87.3–89.7) children have ever been breastfed. After adjusting for age, Pacific children were less likely than non-Pacific children to have ever been breastfed.

Ever breastfed, by age group

There were no differences in the prevalence of ever having been breastfed by age group for Pacific or non-Pacific children (Figure 64). Within age groups, Pacific children aged 5–9 years were less likely to have ever been breastfed compared to non-Pacific children in the same age group (p -value = 0.02). There were no other significant differences within age groups when comparing Pacific and non-Pacific children.

Figure 64: Ever breastfed children, Pacific and non-Pacific children, by age group (unadjusted)



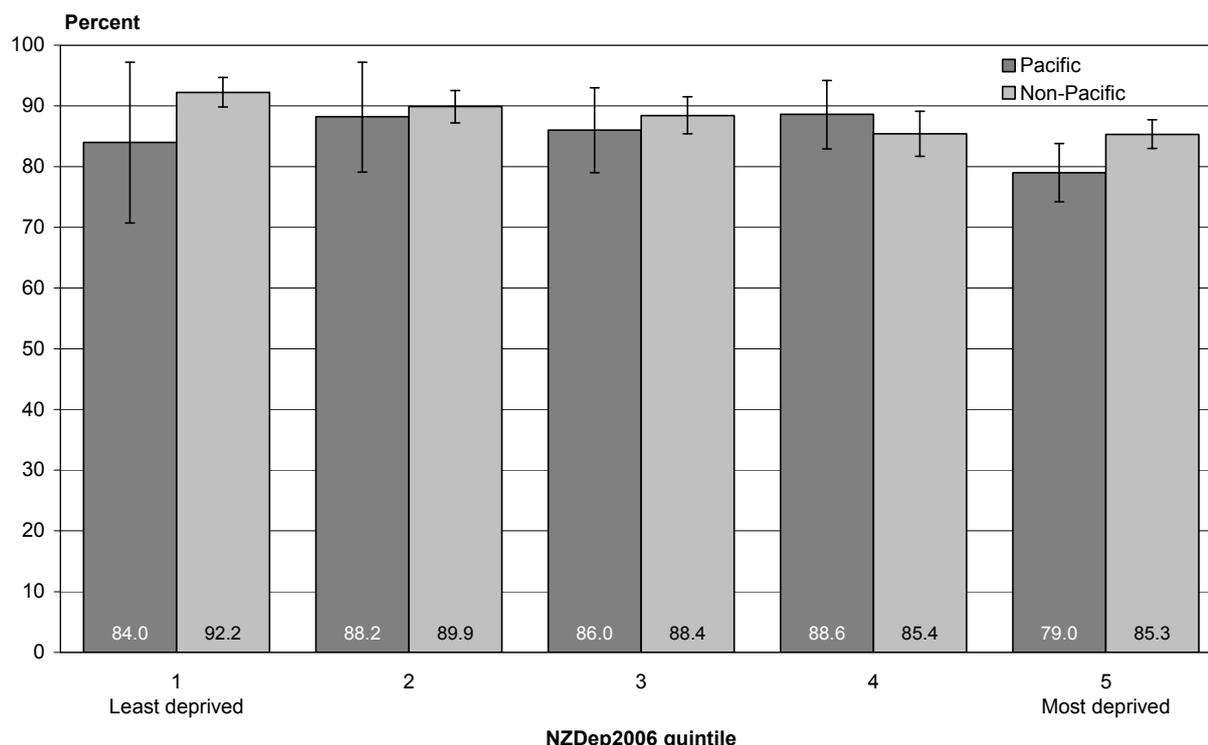
Source: 2006/07 New Zealand Health Survey

Ever breastfed, by neighbourhood deprivation

Among Pacific children there were no differences in the prevalence of ever having been breastfed by neighbourhood deprivation. However, non-Pacific children living in NZDep2006 quintiles 4 and 5 were less likely to have ever been breastfed compared with those living in quintile 1 (Figure 65).

There were no differences within NZDep2006 quintiles between Pacific and non-Pacific children, apart from in quintile 5, where Pacific children were less likely to have ever been breastfed than non-Pacific children living in the same quintile (p-value = 0.02).

Figure 65: Ever breastfed children, Pacific and non-Pacific children, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Age breastfeeding stopped

For Pacific children aged less than five years who had ceased breastfeeding and who had ever been breastfed, the mean age at which breastfeeding was stopped was 9.9 months (8.3–11.5 months). There was no significant difference between Pacific and non-Pacific children (8.5 months, 7.9–9.0 months) in the age of breastfeeding cessation.

One in six Pacific children aged 2–5 years (15.7%, 9.8–23.3) were still breastfed at two years of age. Pacific children were significantly more likely to still be breastfed at two years of age compared with non-Pacific children (7.8%, 5.4–10.3; p-value = 0.02).

Exclusive breastfeeding

At six weeks, 74.7% (67.6–81.8) of Pacific and 72.7% (69.6–75.7) of non-Pacific children were exclusively breastfed. At three months 58.3% (50.3–66.2) of Pacific and 55.5% (51.7–59.2) of non-Pacific children were exclusively breastfed. At six months of age 10.3% (6.3–15.6) of Pacific and 7.2% (5.4–9.0) of non-Pacific children were exclusively breastfed.

There were no significant differences between Pacific and non-Pacific exclusive breastfeeding rates.

Solids before four months of age

Overall, the mean age of introduction of solids was 6.1 (5.4–6.8) months for Pacific children and 5.3 (5.2–5.5) months for non-Pacific children. Pacific children had a later mean age of introduction of solids compared with non-Pacific children (p-value = 0.03).

One in seven Pacific (14.6%, 9.3–19.9) and one in 10 non-Pacific (9.9%, 7.7–12.0) children less than 5 years of age were given solids before four months. There was no significant difference in the prevalence of 'given solids before four months' between Pacific and non-Pacific children, after adjusting for age.

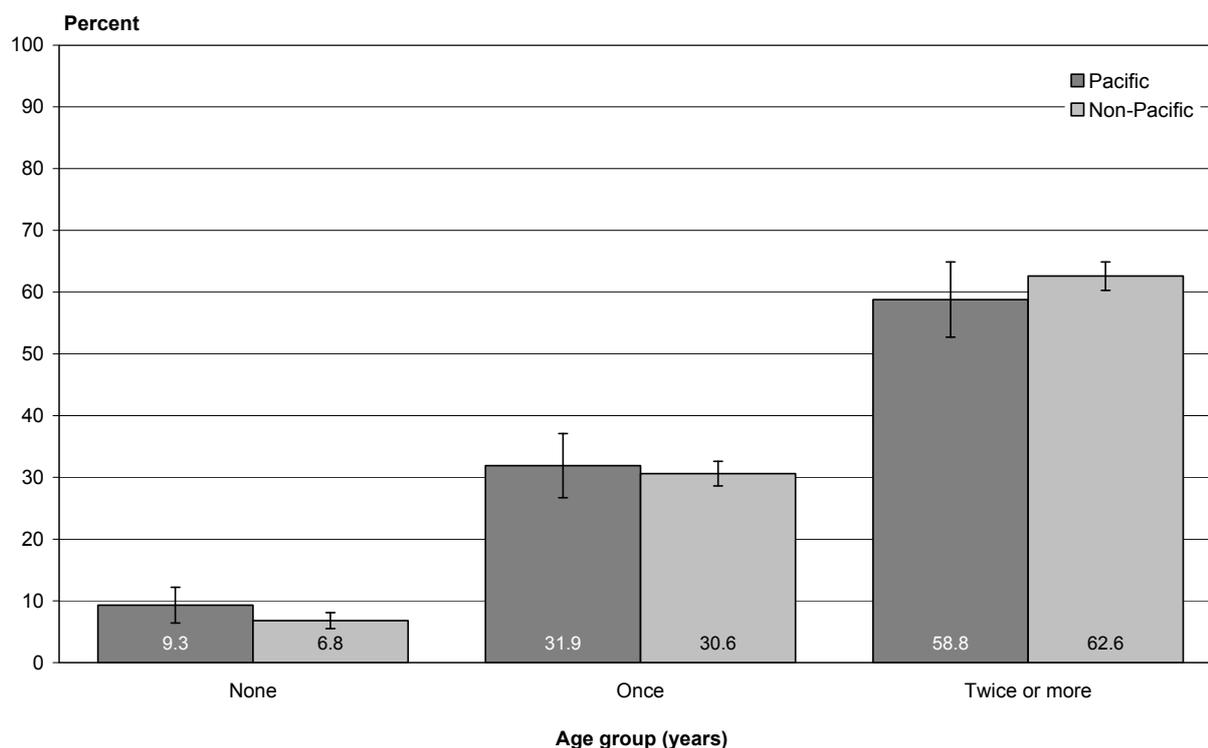
Daily teeth-brushing

The Ministry of Health recognises that oral health is an important part of general good health (Ministry of Health 2006). Oral health conditions include tooth decay, abscesses and infections in the mouth, and gum disease. Poor oral health can lead to pain as well as difficulty eating and speaking. In New Zealand, oral health is strongly correlated with the fluoridation of water supplies, with people living in areas where the water supply is fluoridated having (on average) better oral health than those in non-fluoridated areas. Other modifiable risk factors for poor oral health include poor diet, teeth-brushing less than twice a day, and cigarette smoking (Ministry of Health 2006).

This subsection focuses on the prevalence of regular teeth-brushing among New Zealand children.

Three in five Pacific (58.9%, 52.9–64.9) and non-Pacific (62.6%, 60.3–64.9) children aged 2–14 years had brushed their teeth at least twice in the previous day. After adjusting for age, there was no significant difference in the proportion of Pacific and non-Pacific children who had brushed their teeth at least twice in the previous day (Figure 66).

Figure 66: Teeth brushing in the previous day, Pacific and non-Pacific children aged 2–14 years (age standardised)



Source: 2006/07 New Zealand Health Survey

Brushed teeth at least twice in the previous day, by age group

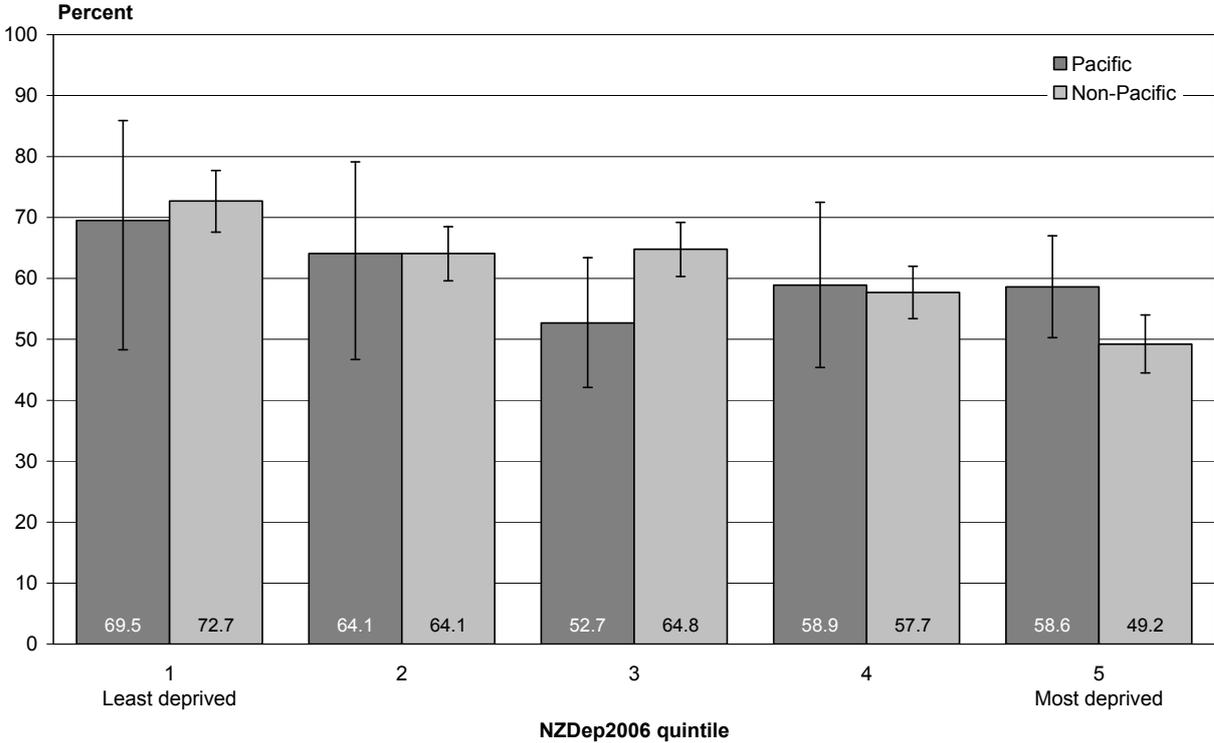
There was no significant difference in the prevalence of ‘brushed teeth at least twice in the previous day’ for Pacific or non-Pacific children by age group. There was also no difference between Pacific and non-Pacific children within age groups (graph not shown).

Brushed teeth at least twice in the previous day, by neighbourhood deprivation

Non-Pacific children living in the least deprived neighbourhoods (NZDep2006 quintile 1) were more likely to have brushed their teeth at least twice in the previous day compared with non-Pacific children living in the more deprived neighbourhoods (Figure 67). There was no obvious difference among Pacific children due to wide confidence intervals.

Within NZDep2006 quintiles, the only significant difference between Pacific and non-Pacific children was in quintile 3, where Pacific children were less likely to have brushed their teeth at least twice in the previous day compared with non-Pacific children (p-value = 0.04).

Figure 67: Brushed teeth at least twice in the previous day, Pacific and non-Pacific children aged 2–14 years, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Breakfast at home every day

Eating breakfast at home every day is a proxy measure of good nutritional intake and healthy behaviour. Research shows that children who do not eat breakfast at home are more likely to consume unhealthy snack foods such as meat pies, chocolate and candies, and soft drink, and are less likely to eat lunch (Utter et al 2007). The 2002 National Children’s Nutrition Survey found that just over half of Pacific children usually had something to eat before they left home in the morning for school (Ministry of Health 2003b).

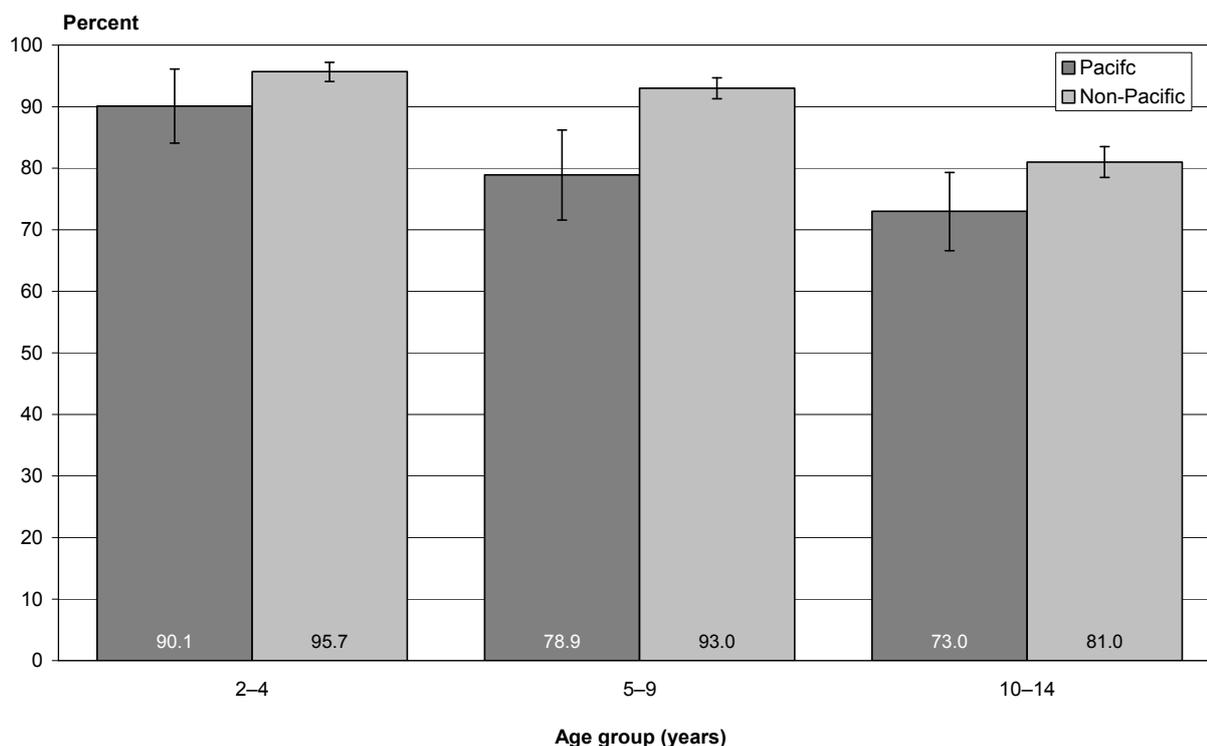
In the 2006/07 New Zealand Health Survey parents of children aged 2–14 years were asked how many times their child had eaten breakfast at home in the past seven days. Eight out of ten Pacific children (79.5%, 75.4–83.6) and nine out of ten (88.9% (87.6–90.1) non-Pacific children aged 2–14 years ate breakfast at home every day in the past seven days. After adjusting for age, Pacific children were significantly less likely to have eaten breakfast at home every day, compared with non-Pacific children.

After adjusting for age, significantly more Pacific children (15.7%, 11.7–19.6) had eaten breakfast at home less than five days in the past week than non-Pacific children (6.2%, 5.3–7.1).

Breakfast at home every day, by age group

For both Pacific and non-Pacific children, the prevalence of having breakfast at home every day decreased with age (Figure 68). Pacific children aged 5–9 years and 10–14 years were significantly less likely to have eaten breakfast at home every day in the past seven days than non-Pacific children in the same age groups (p-values < 0.02).

Figure 68: Breakfast at home every day in the past seven days, Pacific and non-Pacific children aged 2–14 years, by age group (unadjusted)

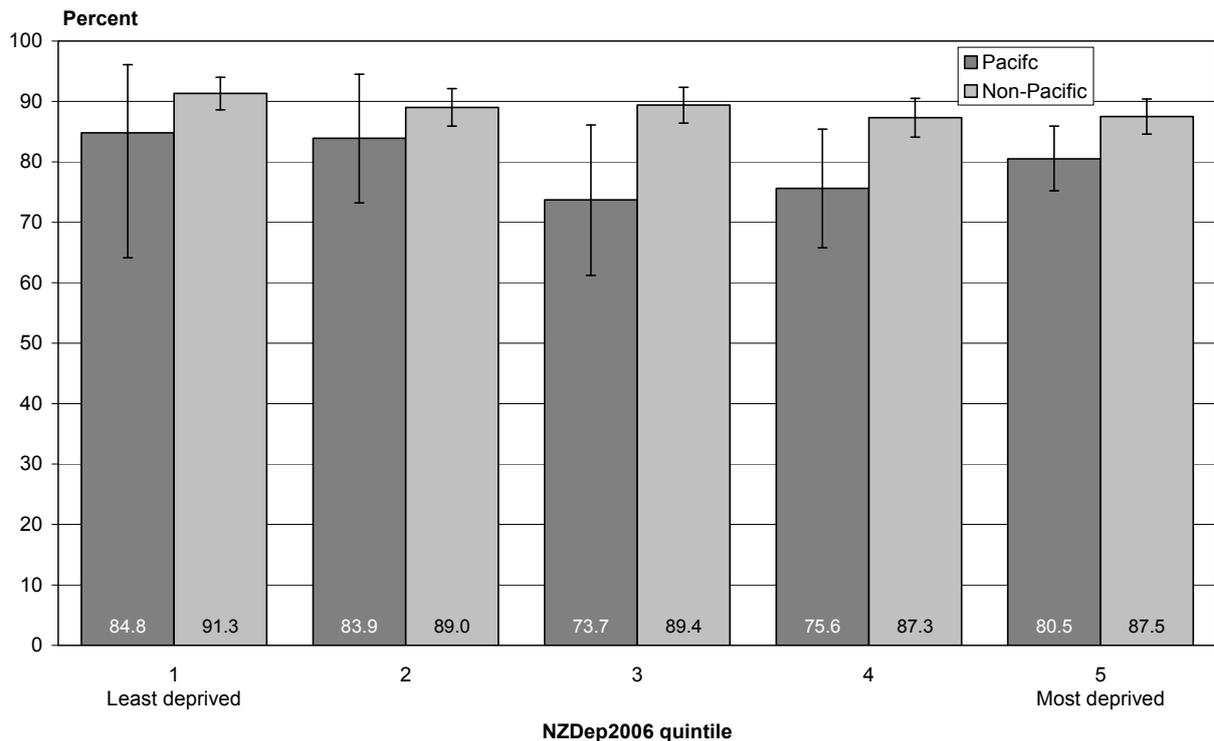


Source: 2006/07 New Zealand Health Survey

Breakfast at home every day, by neighbourhood deprivation

There was no significant difference in the prevalence of having eaten breakfast at home every day by NZDep2006 quintile for Pacific or non-Pacific children (Figure 69). Pacific children living in NZDep2006 quintiles 3, 4 and 5 were significantly less likely to have eaten breakfast at home every day in the past seven days compared with non-Pacific children living in the same neighbourhoods (p-values < 0.03).

Figure 69: Breakfast at home every day in the past seven days, Pacific and non-Pacific children aged 2–14 years, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Fizzy drink intake

There is a strong association between drinking fizzy drinks and increased risk of obesity (Taylor et al 2005; Vartanian et al 2007; World Cancer Research Fund and American Institute for Cancer Research 2007) as well as type 2 diabetes (Taylor et al 2005; Vartanian et al 2007). In addition, fizzy drinks contain acids that can dissolve tooth enamel, contributing to poor oral health (Ministry of Health 1997).

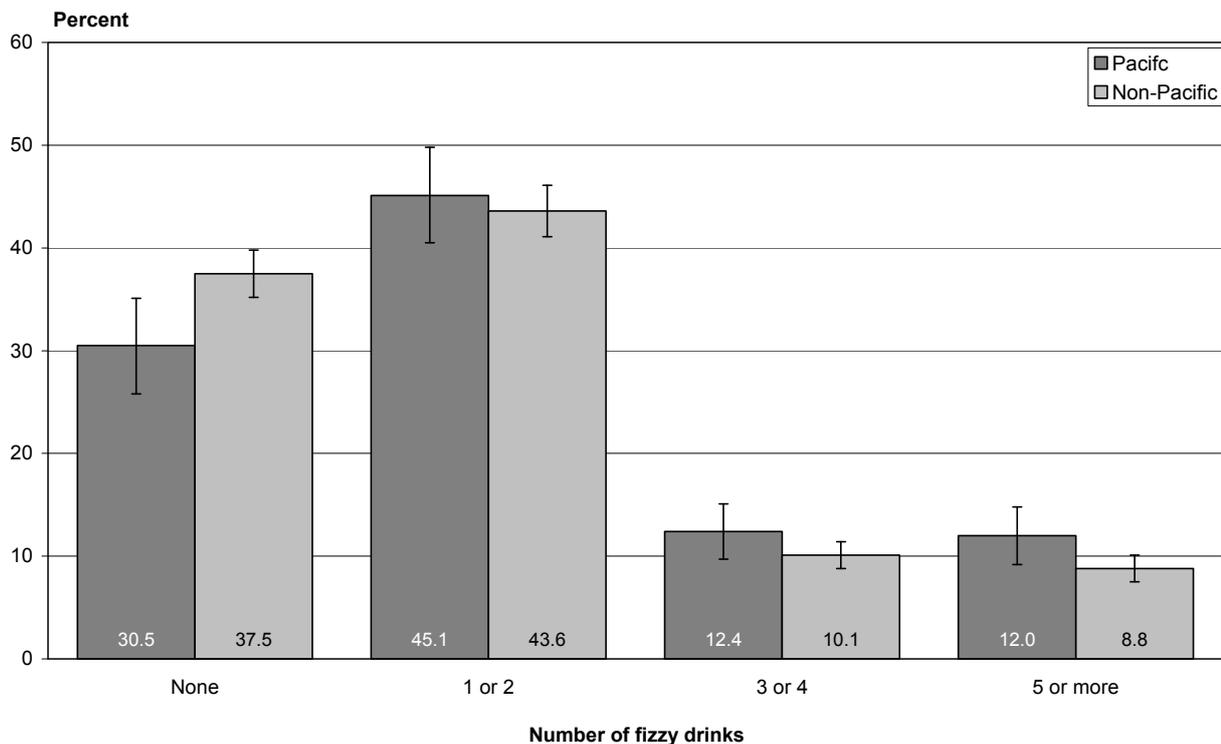
Full-sugar carbonated drinks and energy drinks of all types are recommended as ‘treat foods’ for children aged 2–12 years by the Ministry of Health, to be given at special times only, such as birthday parties (Ministry of Health 1997). Fizzy drinks are not recommended for children under the age of two years (Ministry of Health 2008d).

Parents and caregivers of children aged 2–14 years in the 2006/07 New Zealand Health Survey were asked if in a typical week their child would usually have a fizzy or soft drink, such as cola or lemonade. The definition of fizzy drink includes diet (artificially sweetened) drinks and energy drinks, but does not include powdered drinks made up with water, and does not include fruit juice.

Overall, one in two Pacific (52.8%, 47.6–57.9) and three out of seven non-Pacific (44.6%, 42.3–46.8) children had a fizzy drink in a typical week. After adjusting for age, Pacific children were more likely than non-Pacific children to consume fizzy drink in a typical week.

The majority of both Pacific and non-Pacific children had had one or more fizzy drinks in the previous week (Figure 70). Pacific children were significantly less likely than non-Pacific children not to have had any fizzy drink in the previous week. They were also more likely to have consumed fizzy drink five or more times in the previous week compared with non-Pacific children (p-value = 0.04).

Figure 70: Number of fizzy drinks consumed in the past seven days, Pacific and non-Pacific children aged 2–14 years (age standardised)



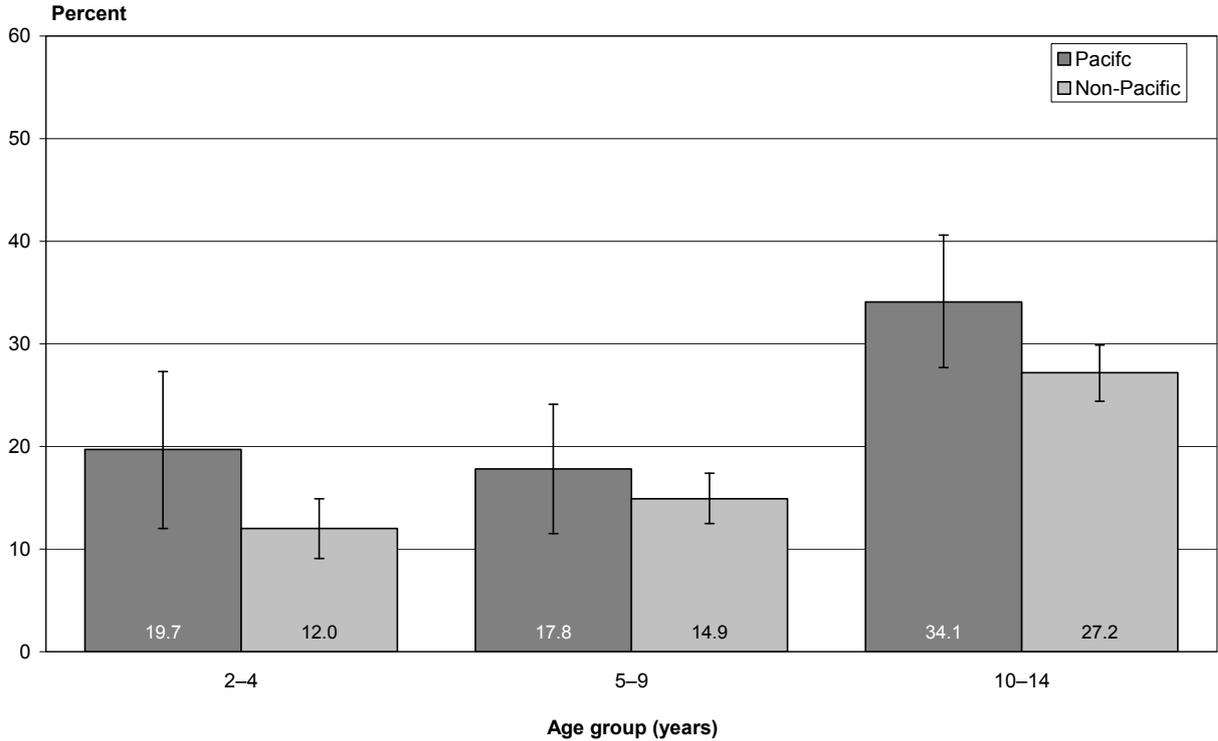
Source: 2006/07 New Zealand Health Survey

Approximately one in four Pacific (24.4%, 20.8–28.0) and one in five non-Pacific (18.9%, 17.2–20.5) children aged 2–14 years had three or more fizzy drinks in the preceding week, after adjusting for age.

Fizzy drink intake, by age group

Among both Pacific and non-Pacific children, 10–14-year-olds were more likely to have consumed three or more fizzy drinks the previous week than younger age groups (Figure 71). There were no significant differences in the prevalence of drinking three or more fizzy drinks in the previous week between Pacific and non-Pacific children within each age group.

Figure 71: Three or more fizzy drinks consumed in the past seven days, Pacific and non-Pacific children aged 2–14 years, by age group (unadjusted)

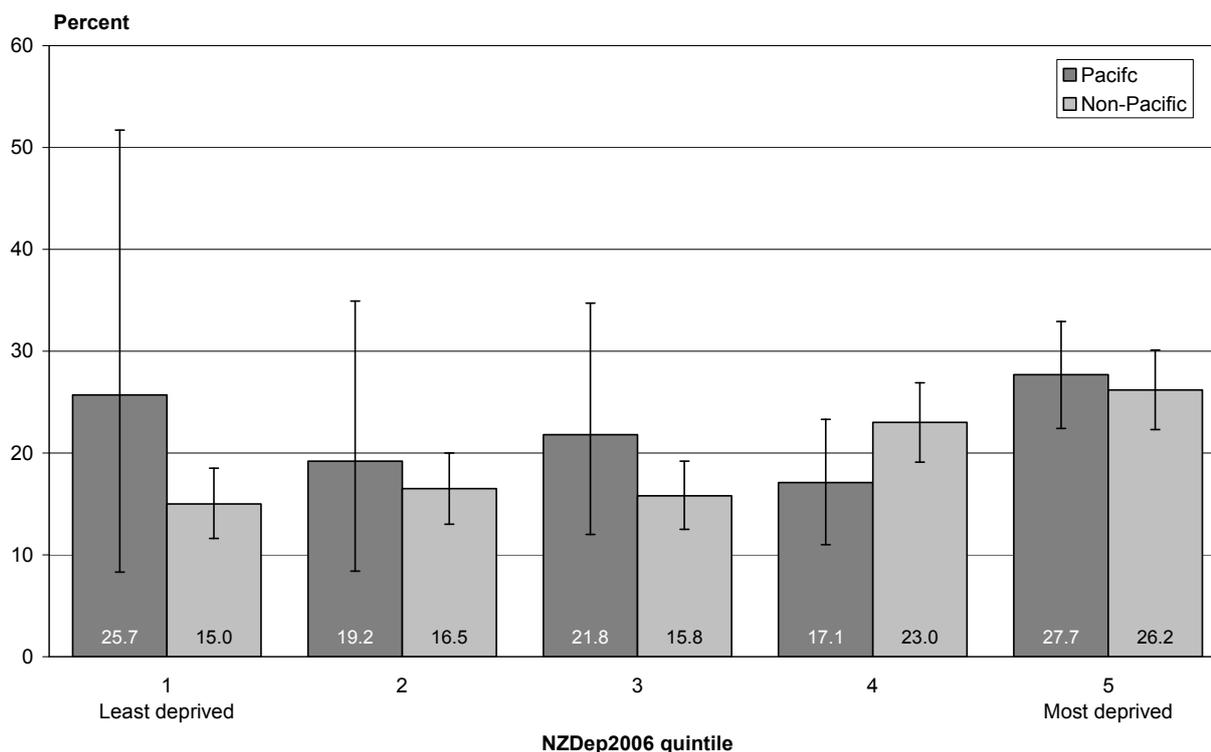


Source: 2006/07 New Zealand Health Survey

Fizzy drink intake, by neighbourhood deprivation

Among Pacific children there was no significant difference in the prevalence of having consumed fizzy drink three or more times in the past week by neighbourhood deprivation. In comparison, for non-Pacific children the prevalence of having consumed fizzy drink three or more times in the past week was significantly higher in quintiles 4 and 5 (most deprived) than in quintile 1 (least deprived). There was no difference in the prevalence of consuming three or more fizzy drinks between Pacific and non-Pacific children within NZDep2006 quintiles.

Figure 72: Three or more fizzy drinks consumed in the past seven days, Pacific and non-Pacific children aged 2–14 years, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

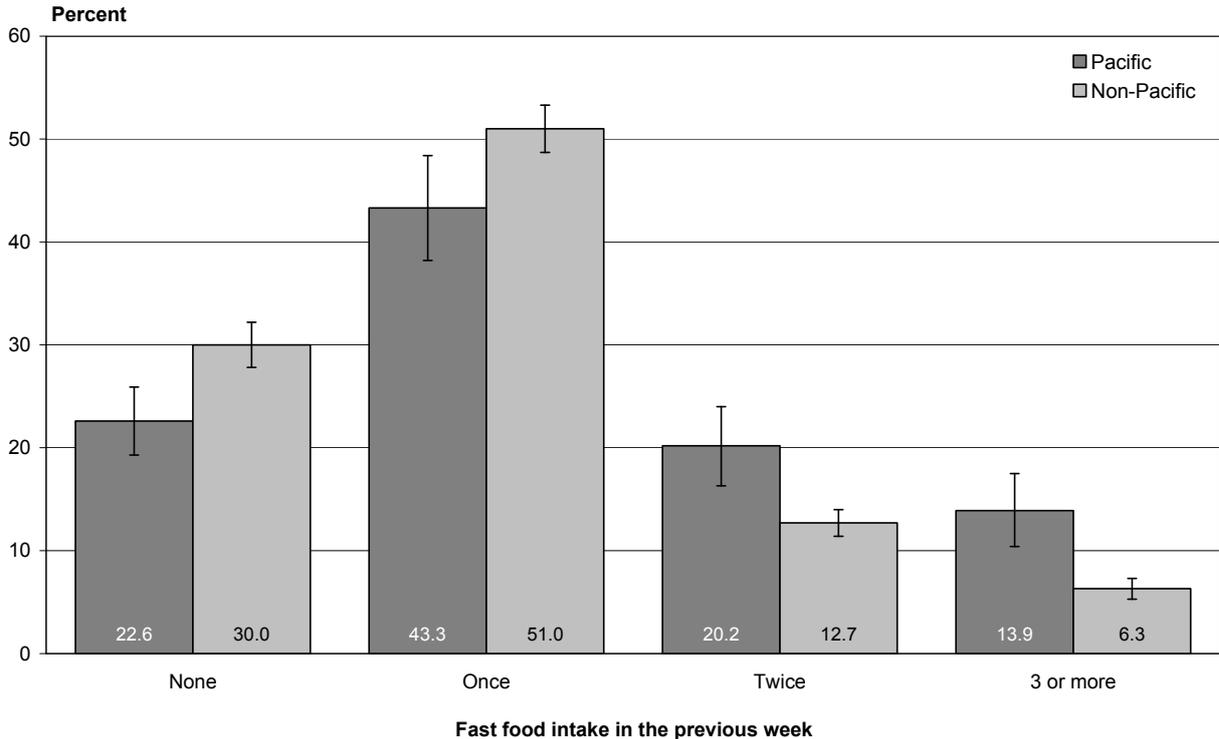
Fast food intake

Evidence suggests that eating fast food more than twice a week is associated with an increased risk of weight gain, overweight and obesity (World Cancer Research Fund and American Institute for Cancer Research 2007). In addition, fast food is generally high in fat, salt and sugar, and low in fibre (Ministry of Health 1997). Diets that are high in fat and salt and low in fibre are associated with heart disease and hypertension (Ministry of Health 1997).

In the 2006/07 New Zealand Health Survey, parents of children aged 2–14 years were asked whether their child had consumed any food from a fast food place or takeaway shop in the previous week, and if so, how often their child ate this type of food. Three out of four Pacific (73.5%, 69.4–77.5) and three in five non-Pacific (62.1%, 59.7–64.4) children usually had fast food in a typical week. After adjusting for age, Pacific children were more likely to have fast food in a typical week than non-Pacific children.

Non-Pacific children were more likely than Pacific children not to have had any fast food in the previous week (Figure 73). Non-Pacific children were also more likely to have had fast food only once in the previous week. Pacific children were more likely to have had fast food two or more times in the previous week.

Figure 73: Fast food intake in the past seven days, Pacific and non-Pacific children aged 2–14 years (age standardised)



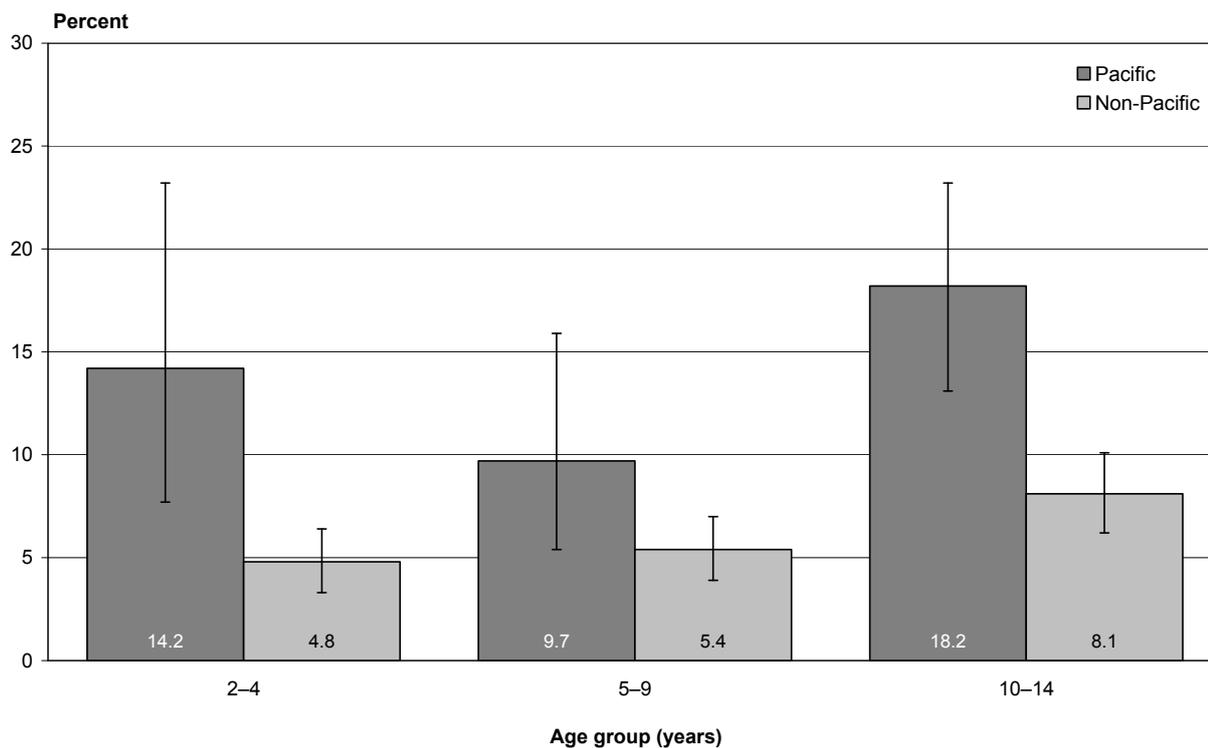
Source: 2006/07 New Zealand Health Survey

Fast food intake, by age group

Pacific children aged 10–14 years were more likely to consume fast food three or more times a week than Pacific children aged 5–9 years (p-value = 0.02) (Figure 74). In comparison, non-Pacific children aged 10–14 years were more likely to have eaten fast food three or more times in the previous week than both 5–9 and 2–4-year-old non-Pacific children (p-values < 0.03).

Pacific children aged 2–4 years and 10–14 years were significantly more likely to have eaten fast food three or more times in the previous week compared with non-Pacific children in the same age groups.

Figure 74: Fast food intake three or more times in the past seven days, Pacific and non-Pacific children aged 2–14 years, by age group (unadjusted)

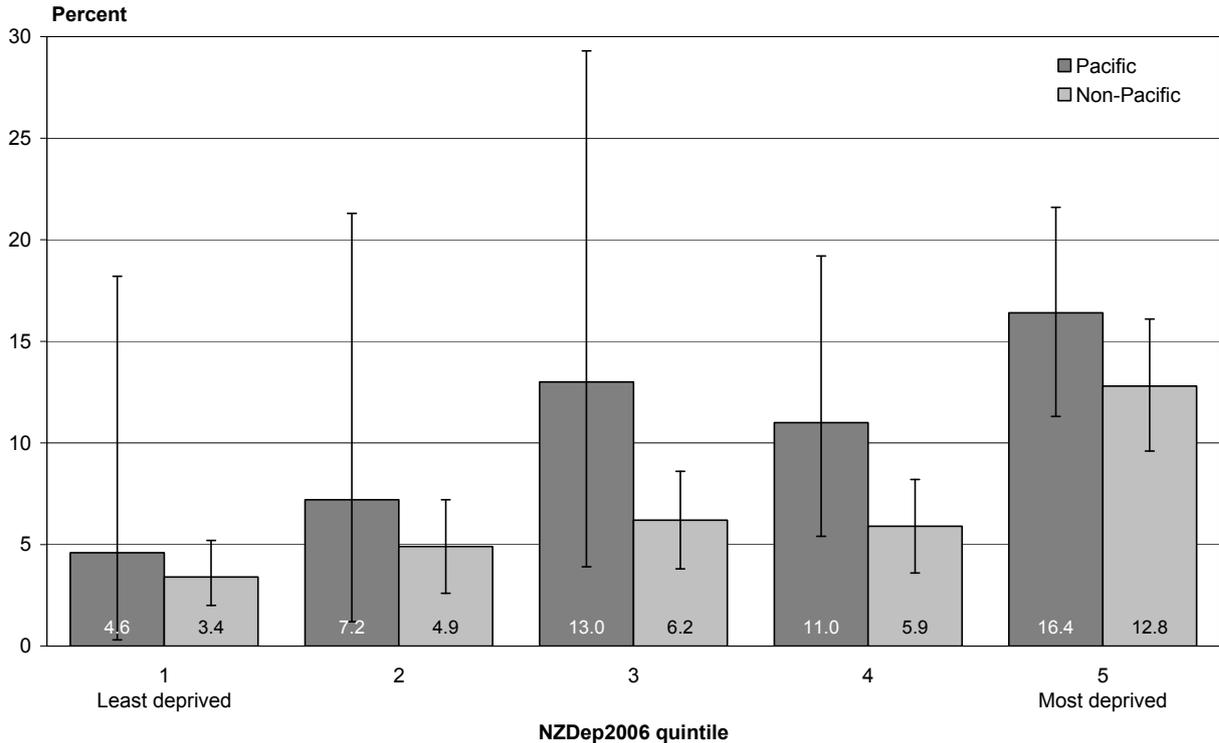


Source: 2006/07 New Zealand Health Survey

Fast food intake, by neighbourhood deprivation

Among Pacific children the prevalence of consuming fast food at least three times in the previous week increased with increasing deprivation, but the differences were not significant due to wide confidence intervals (Figure 75). This pattern was also apparent among non-Pacific children, and was statistically significant.

Figure 75: Fast food intake three or more times in the past seven days, Pacific and non-Pacific children aged 2–14 years, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Active transport to and from school

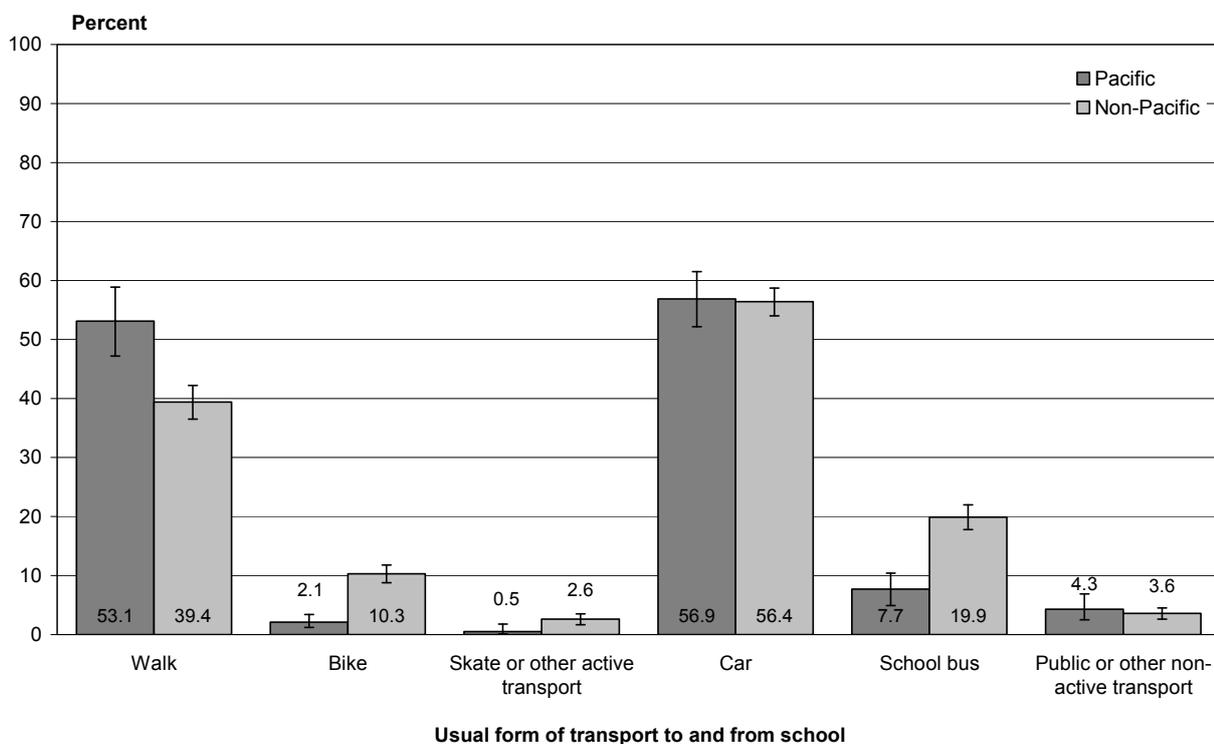
Regular physical activity promotes children’s physical development, coordination, bone density and energy balance. There is also some evidence for a positive association between physical activity habits and self-esteem in children and young adults (US Department of Health and Human Services 1996). Active transport to and from school (eg, walking, biking or skating) provides an opportunity for children to take part in physical activity on a regular basis.

In the 2006/07 New Zealand Health Survey parents and caregivers of children aged 5–14 years were asked how their child usually gets to and from school. Multiple responses could be given (eg, in cases where a child walks to the bus stop and then takes the bus to school). For those children who did not usually use active transport to and from school, parents and caregivers were asked what prevents this from happening.

Over half of Pacific children (53.8%, 48.1–59.6) and almost half of non-Pacific children (46.0%, 43.1–48.9) aged 5–14 years usually used active transport to school (eg, walk, bike or skate). After adjusting for age, Pacific children were more likely to usually use active transport to school than non-Pacific children (p-value = 0.02).

Walking was the most common form of active transport for both Pacific and non-Pacific children, with Pacific children more likely to walk to and from school than non-Pacific children (Figure 76). Non-Pacific children were more likely to bike or use a school bus than Pacific children.

Figure 76: Usual form of transport to and from school, Pacific and non-Pacific children aged 5–14 years (age standardised)



Source: 2006/07 New Zealand Health Survey

Active transport to and from school, by age group

Among both Pacific and non-Pacific children the prevalence of using active transport to and from school increased with age, with 10–14-year-old children in both groups more likely to use active transport compared with 5–9-year-olds. Pacific children aged 10–14 years (61.2%, 53.4–69.0) were more likely to use active transport than non-Pacific children (49.0%, 45.5–52.5) in the same age group. There was no difference in the prevalence of using active transport to and from school between 5–9-year-old Pacific (47.0%, 38.7–55.3) and non-Pacific (42.9%, 39.1–46.6) children.

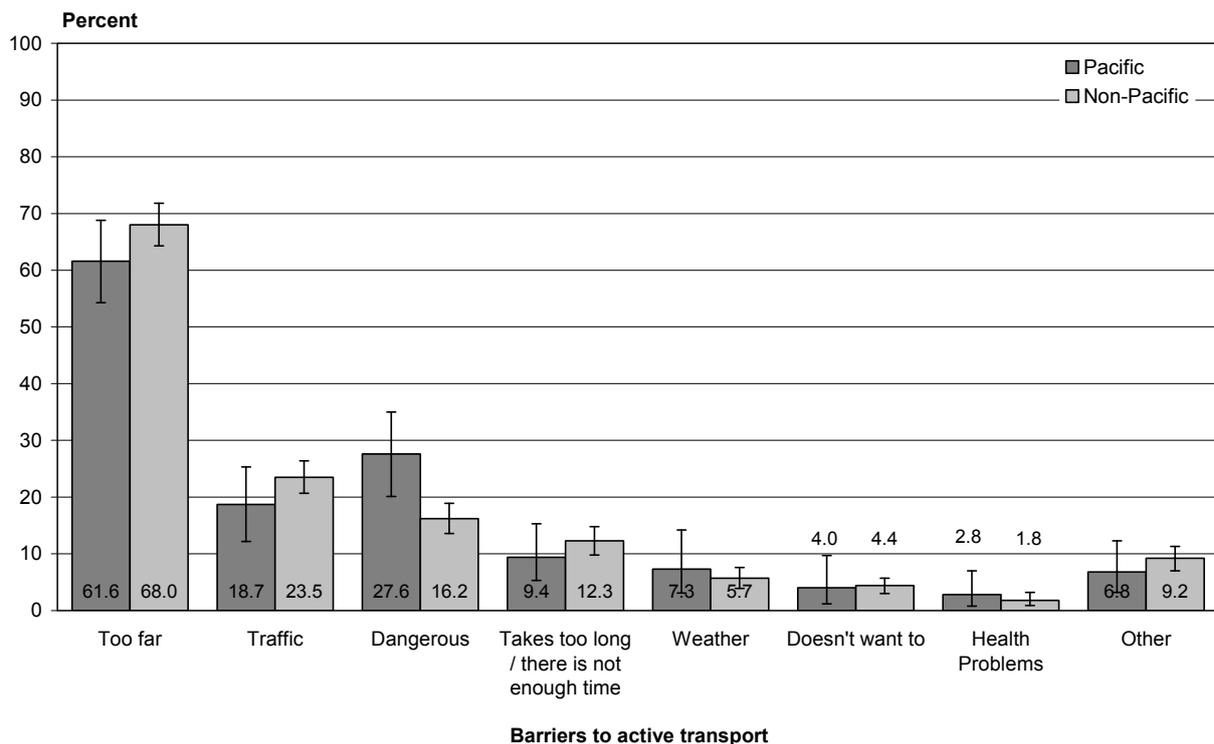
Active transport to and from school, by neighbourhood deprivation

For both Pacific and non-Pacific children there were no significant differences in the use of active transport to and from school by neighbourhood deprivation.

Barriers to active transport to and from school

The main reason given by parents of both Pacific and non-Pacific children for inactive transport to and from school was distance to school (Figure 77). Parents of Pacific children were more likely than parents of non-Pacific children to report that dangers associated with active transport to and from school stopped their children from using active transport. There were no other significant differences in the barriers to active transport to and from school for Pacific and non-Pacific children.

Figure 77: Barriers to active transport to and from school, Pacific and non-Pacific children aged 5–14 years (age standardised)



Source: 2006/07 New Zealand Health Survey

Television watching

Watching television is a very sedentary behaviour, which displaces opportunities for more active pursuits. Many studies have found that watching two or more hours of television per day in childhood increases the risk of obesity in both childhood and adulthood (Scragg et al 2006; World Cancer Research Fund and American Institute for Cancer Research 2007). Watching television has also been associated with increased consumption of energy-dense foods and drinks (Utter et al 2006) and poor behavioural outcomes and low social skills (Mistry et al 2007).

The Ministry of Education and Sport and Recreation New Zealand (SPARC) recommend that 5–18-year-olds spend less than two hours a day out of school time in front of television, computers and game consoles (Ministry of Education 2007).

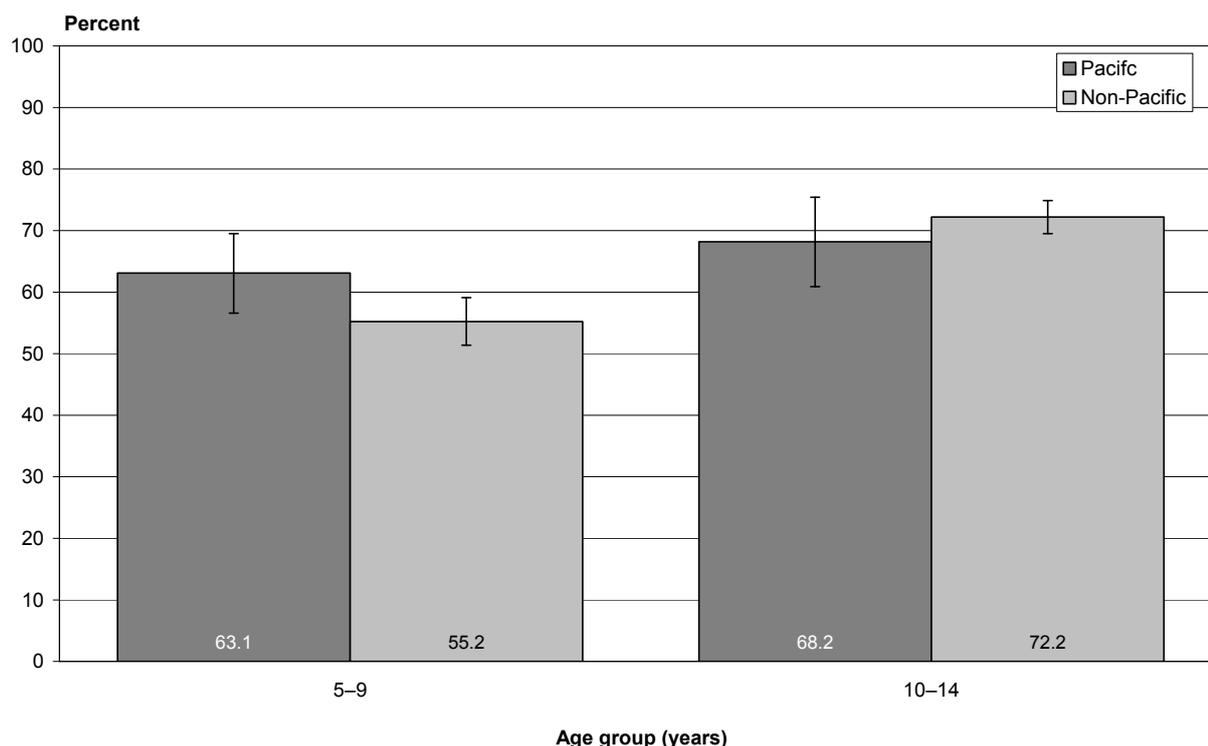
One in three Pacific (34.5%, 29.4–39.5) and non-Pacific (36.1%, 33.8–38.5) children aged 5–14 years watched less than two hours of television per day. Approximately two-thirds of Pacific (65.5%, 60.5–70.6) and non-Pacific (63.9%, 61.5–66.2) children in this age group usually watched two or more hours of television a day. After adjusting for age, there were no significant differences in the proportions of Pacific and non-Pacific children watching two or more hours of television a day.

Television watching, by age group

Among non-Pacific children there was a significant increase in the prevalence of watching two or more hours of television a day from the 5–9 years age group to the 10–14 years age group. For Pacific children there was no difference between the two age groups (Figure 78).

Within age groups, Pacific children aged 5–9 years were more likely to watch two or more hours of television a day compared with non-Pacific children in the same age group (p-value = 0.04).

Figure 78: Television watching two or more hours a day, Pacific and non-Pacific children aged 5–14 years, by age group (unadjusted)

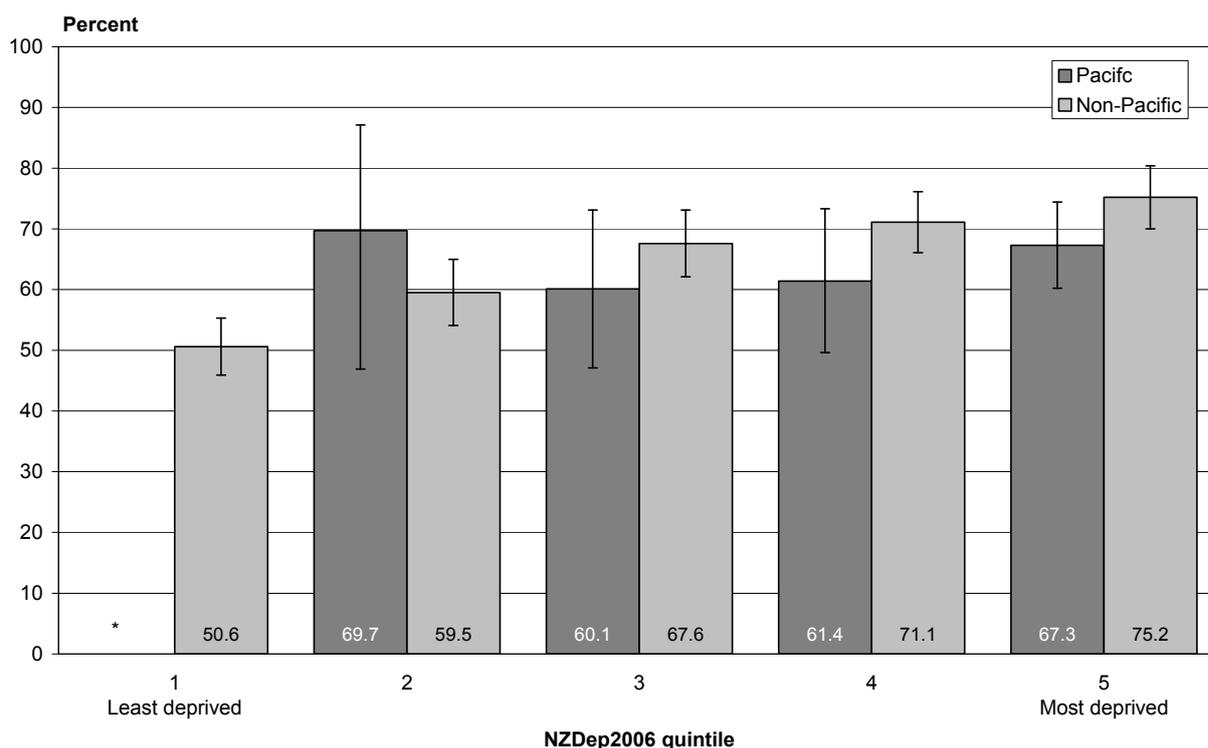


Source: 2006/07 New Zealand Health Survey

Television watching, by neighbourhood deprivation

Among Pacific children, the prevalence of watching two or more hours of television a day remained stable across deprivation quintiles. In contrast, this prevalence increased significantly among non-Pacific children between quintile 1 (least deprived) and quintile 5 (most deprived) (Figure 79). There were no significant differences within NZDep2006 quintiles between Pacific and non-Pacific children.

Figure 79: Television watching two or more hours a day, Pacific and non-Pacific children aged 5–14 years, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Notes: * Numbers of Pacific people in the least deprived areas were too low for reliable estimation.

Health outcomes

This subsection outlines key health outcomes among Pacific children, including health status and the presence of health conditions. Health status is represented by a parental rating of their child's general health status. The Child Health Questionnaire Parent Form 28 (CHQ-PF28) is not included here because factor analysis found that the instrument is not a good measure of health-related quality of life for Pacific children (Tobias et al 2009). A health condition is defined in this report as a doctor-diagnosed physical or mental illness that has lasted, or is expected to last, for more than six months. The symptoms may come and go or be present all the time.

This subsection presents the most common health conditions among Pacific and non-Pacific children, focusing on asthma and eczema (two of the most common health conditions among children). Body size (obesity) and oral health (presence of fillings and removal of teeth due to decay, abscess or infection) are also included in this subsection as health outcomes.

It is important to note that the definition of a health condition as a *doctor-diagnosed* physical or mental illness may influence the apparent prevalence for the priority group because it depends on access to care. Therefore, the prevalence of health conditions presented here may underestimate the true prevalence.

General health summary

The parents of child participants in the 2006/07 New Zealand Health Survey were asked whether they considered their child's health to be *excellent*, *very good*, *good*, *fair* or *poor*. This internationally used question, known as the general health self-rated health summary, is simple, encompassing both mental and physical health status.

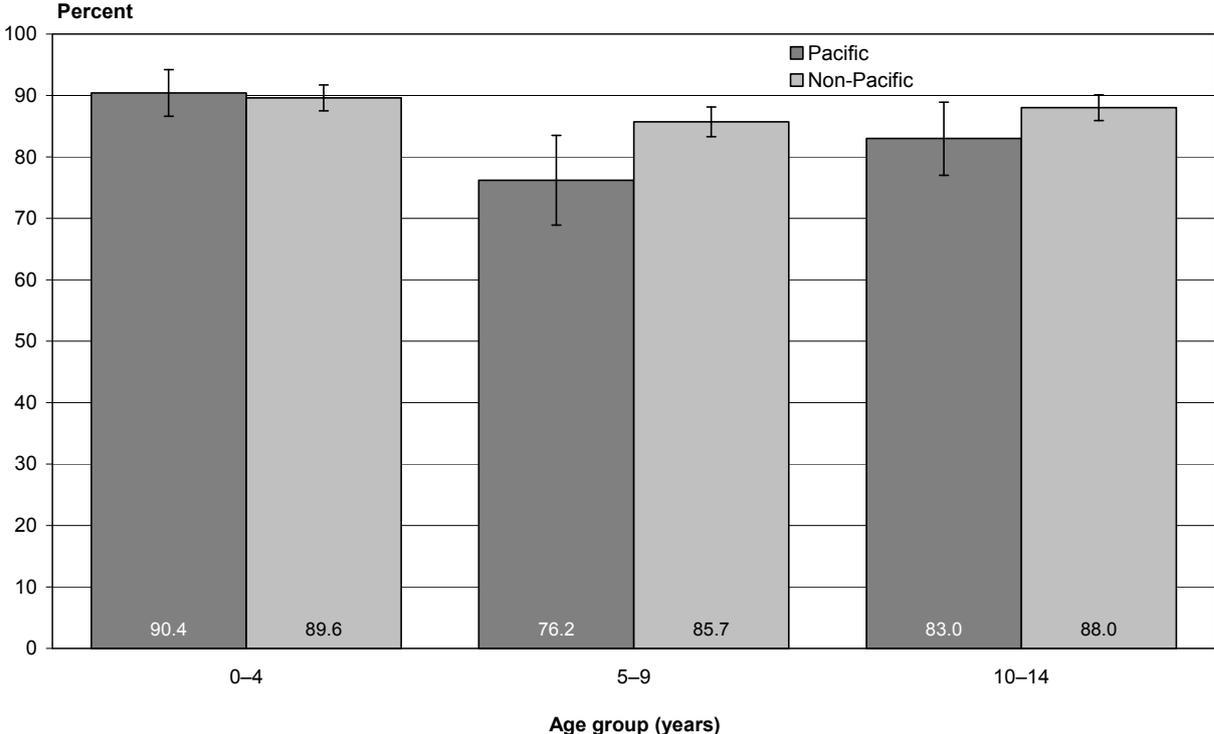
Overall, 83.3%, (80.2–86.5) of parents of Pacific children and 87.8%, (86.5–89.1) of parents of non-Pacific children rated their child's health as 'excellent or very good'. After adjusting for age, parents of Pacific children were less likely than parents of non-Pacific children to rate their child's health as 'excellent or very good' (p-value = 0.01).

General health summary, by age group

Among both Pacific and non-Pacific people, parents of children aged 5–9 years were less likely to rate their child's health as 'excellent or very good' compared with parents of children aged 0–4 years (Figure 80). Among Pacific children, parents of children aged 10–14 years were also less likely to rate their child's health as 'excellent or very good' compared with parents of children aged 0–4 years (p-value = 0.04).

Within the 5–9-year-old age group, parents of non-Pacific children were more likely to rate their child's health as 'excellent or very good' than parents of Pacific children in the same age group (p-value = 0.02).

Figure 80: Parent-rated general health 'excellent or very good', Pacific and non-Pacific children, by age group (unadjusted)



Source: 2006/07 New Zealand Health Survey

General health summary, by neighbourhood deprivation

There was no significant difference in the prevalence of parental rating of children’s health as ‘excellent or very good’ by NZDep2006 quintile for either Pacific or non-Pacific children. Within each NZDep2006 quintile there was no difference between Pacific and non-Pacific children.

Any health condition

Just over a third of Pacific (38.6%, 33.7–43.4) and non-Pacific (36.2%, 34.0–38.3) children had been diagnosed by a doctor with any chronic health condition. After adjusting for age, there was no significant difference in the prevalence of any diagnosed chronic health condition between Pacific and non-Pacific children.

Prevalence of common health conditions

Table 4 presents the common health conditions diagnosed for Pacific and non-Pacific children. A health condition is defined as a doctor-diagnosed physical or mental illness that has lasted, or is expected to last, for more than six months.

Table 4: Common health conditions, Pacific and non-Pacific children (age standardised)

Health condition	Prevalence for Pacific children (95% CI)	Prevalence for non-Pacific children (95% CI)
Medicated asthma (2–14-year-olds)	14.6% (11.5–17.7)	14.8% (13.3–16.2)
Medicated eczema	16.7% (13.4–20.0)	10.3% (9.1–11.4)
Allergy (all types)	4.0% (2.0–5.9)	6.4% (5.4–7.4)
Birth conditions ¹	2.4% (1.3–4.1)	4.1% (3.1–5.1)
Permanent hearing problems	1.2% (0.5–2.5)	1.2% (0.8–1.6)
Mental health or behavioural disorders ² (5–14-year-olds)	1.0% (0.3–2.4)	2.9% (2.2–3.6)
Vision problems that cannot be corrected with glasses	0.7% (0.2–1.8)	0.8% (0.4–1.2)
Epilepsy	0.2% (0.0–0.8)	0.5% (0.3–0.8)

Source: 2006/07 New Zealand Health Survey

1 Birth conditions include spina bifida, congenital heart defects, intellectual impairment from birth, and Down syndrome.

2 Mental health or behavioural disorders include anxiety disorders, depression, attention deficit hyperactivity disorder, autism/Asperger's syndrome and disruptive disorders.

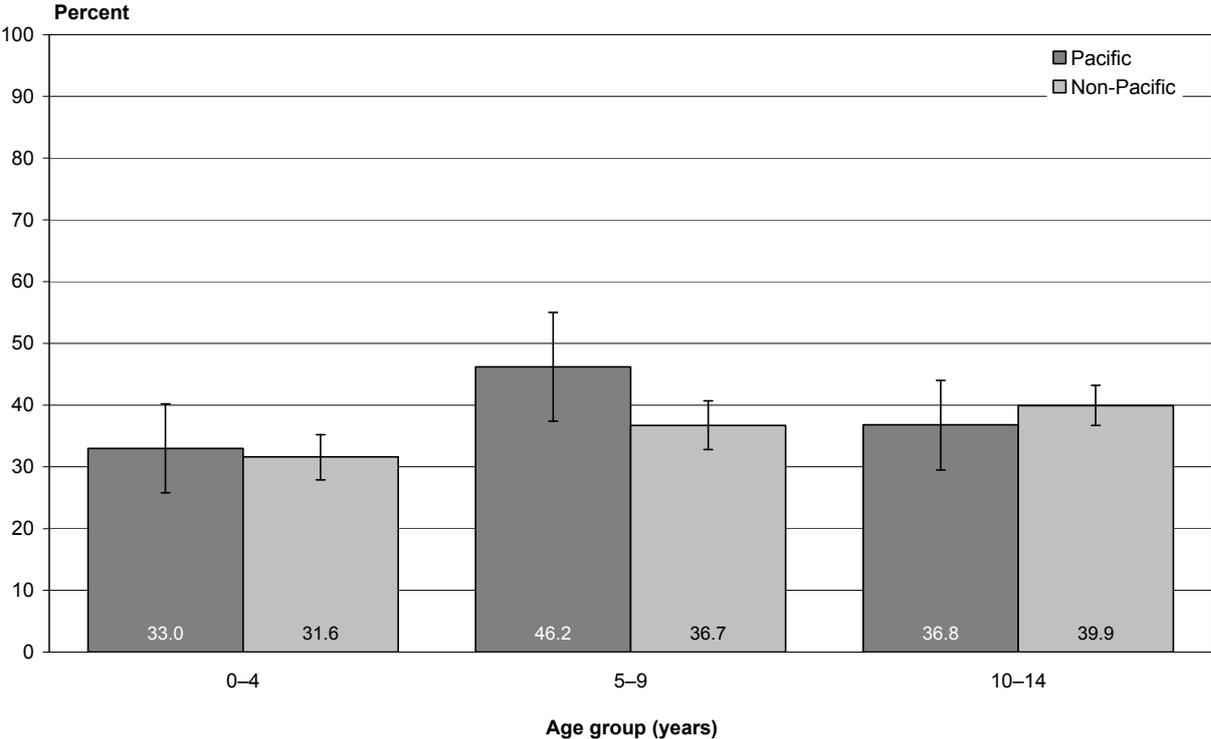
After adjusting for age, medicated asthma and eczema were the most common health conditions for both Pacific and non-Pacific children. While the prevalence of medicated asthma was similar for both groups, Pacific children were significantly more likely to have medicated eczema than non-Pacific children.

Pacific children were significantly less likely to experience allergy, birth conditions, and mental health or behavioural disorders than non-Pacific children (p-values < 0.05).

Any health condition, by age group

Pacific children aged 5–9 years were more likely to have a chronic health condition than Pacific children aged 0–4 years (p-value = 0.02) (Figure 81). There was no significant difference between Pacific children with chronic health conditions aged 5–9 years and 10–14 years. This pattern across age groups was comparable to non-Pacific children. There was no significant difference in the prevalence of chronic health conditions within age groups between Pacific and non-Pacific children.

Figure 81: Any health condition, Pacific and non-Pacific children, by age group (unadjusted)

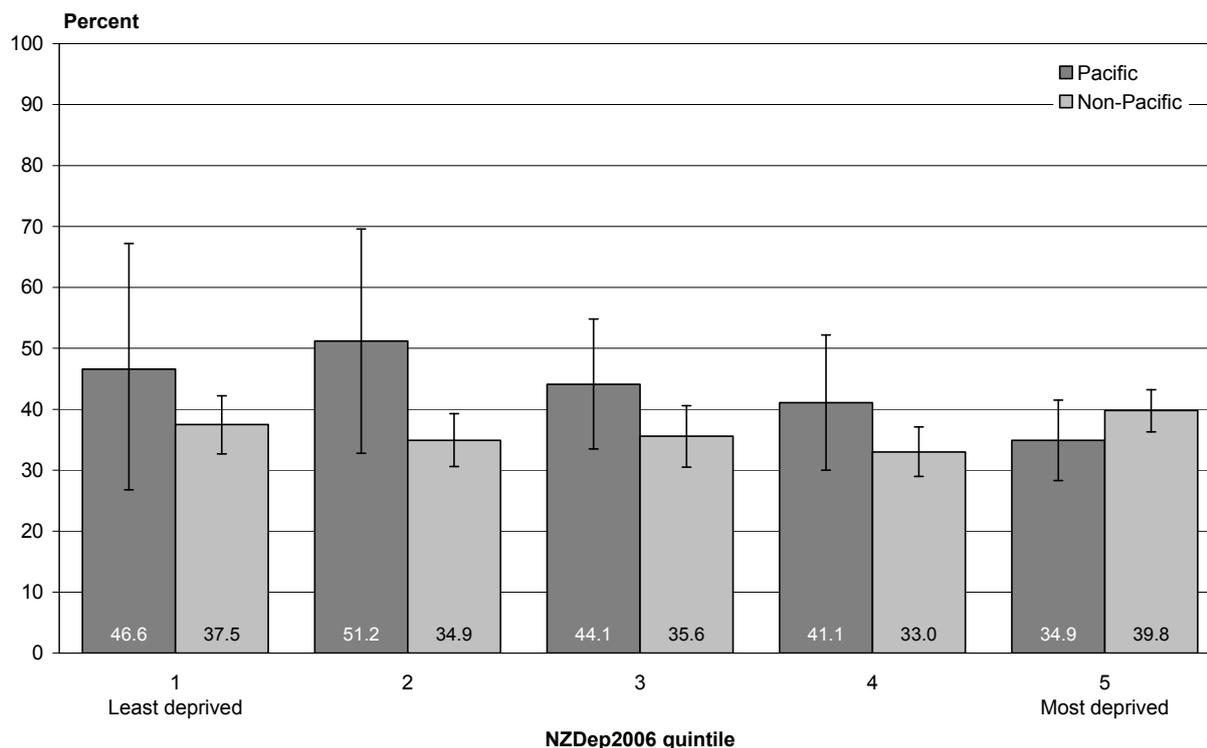


Source: 2006/07 New Zealand Health Survey

Any health condition, by neighbourhood deprivation

For both Pacific and non-Pacific children there were no significant differences in the prevalence of health conditions by neighbourhood deprivation (Figure 82). There was also no significant difference between Pacific and non-Pacific children within NZDep2006 quintiles.

Figure 82: Any health condition, Pacific and non-Pacific children, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Asthma (2–14 years)

Asthma is an inflammatory disorder of the airways that causes reversible restriction of air flow into and out of the lungs. It is the most common chronic health condition in New Zealand children (Ministry of Health 2008a). Asthma is rarely diagnosed in children under 12 months of age. The asthma data presented in this report are therefore for children aged 2 years and over. Only children currently taking medication have been included in the remainder of this subsection, in order to exclude children who may have been diagnosed with asthma in the past but no longer experience symptoms. Medication, such as inhalers, aerosols or tablets, may be taken every day or only when required for the relief of symptoms.

One in seven Pacific (14.7%, 11.5–17.8) and non-Pacific (14.8%, 13.3–16.3) children were currently taking medication for asthma. After adjusting for age, there was no difference in the prevalence of taking medication for asthma between Pacific and non-Pacific children.

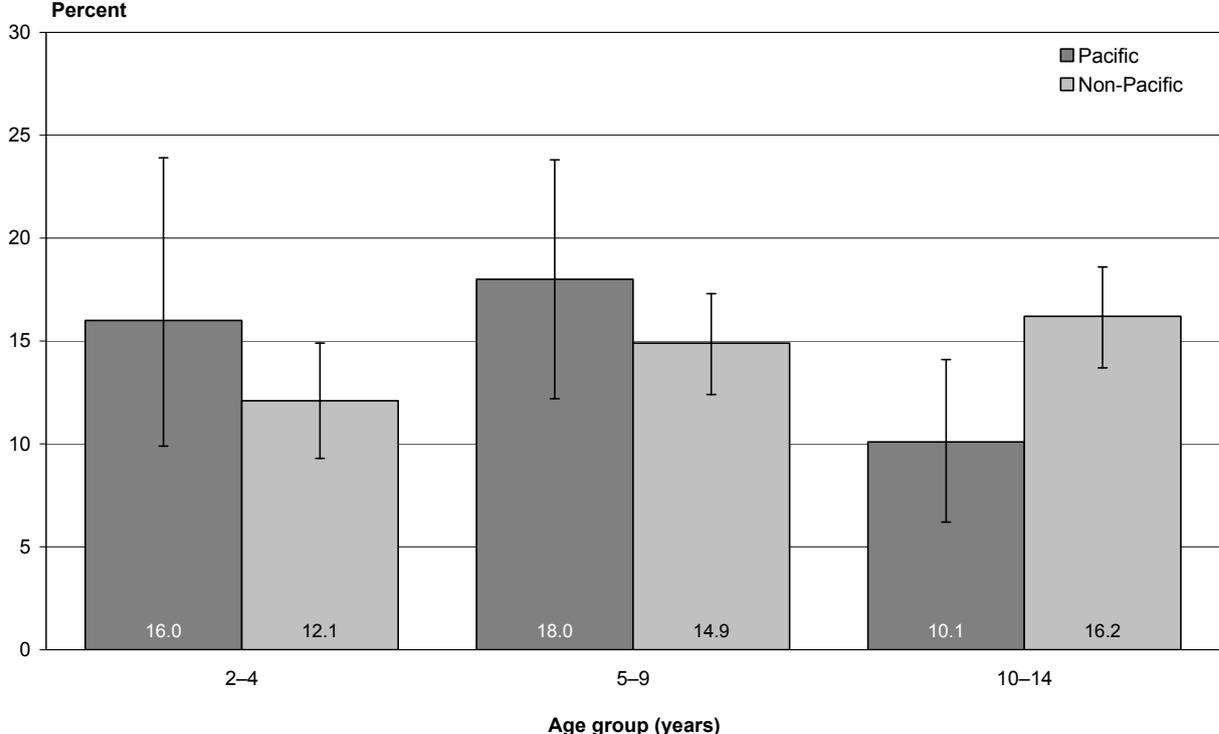
Among Pacific children aged 2–14 years with medicated asthma, 85.0% (76.9–93.1) were using a bronchodilator and 33.9% (20.9–46.8) were using a preventive inhaler. Among non-Pacific children aged 2–14 years with medicated asthma, 83.3% (79.0–87.5) were using a bronchodilator and 39.6% (33.6–45.7) were using a preventive inhaler. After adjusting for age, there was no difference between Pacific and non-Pacific children with medicated asthma in the prevalence of currently being treated with bronchodilator or preventive inhalers.

A further 6.4% (3.7–9.0) of Pacific children had had wheezing or whistling in their chest in the last 12 months but had never been diagnosed as having asthma by a doctor. The prevalence was similar for non-Pacific children (6.1%, 4.8–7.4), with no difference after adjusting for age.

Prevalence of medicated asthma, by age group

Among Pacific children, the prevalence of medicated asthma decreases with age: 10–14-year-old children have a lower prevalence of asthma than 5–9-year-olds (p-value = 0.03). In contrast, the prevalence of medicated asthma increases with age among non-Pacific children, with 10–14-year-olds having a significantly higher prevalence of asthma than 2–4-year-olds (p-value = 0.03) (Figure 83).

Figure 83: Medicated asthma, Pacific and non-Pacific children aged 2–14 years, by age group (unadjusted)



Source: 2006/07 New Zealand Health Survey

Prevalence of medicated asthma, by neighbourhood deprivation

For both Pacific and non-Pacific children there were no significant differences in the prevalence of medicated asthma by neighbourhood deprivation. There was also no significant difference between Pacific and non-Pacific children within NZDep2006 quintiles.

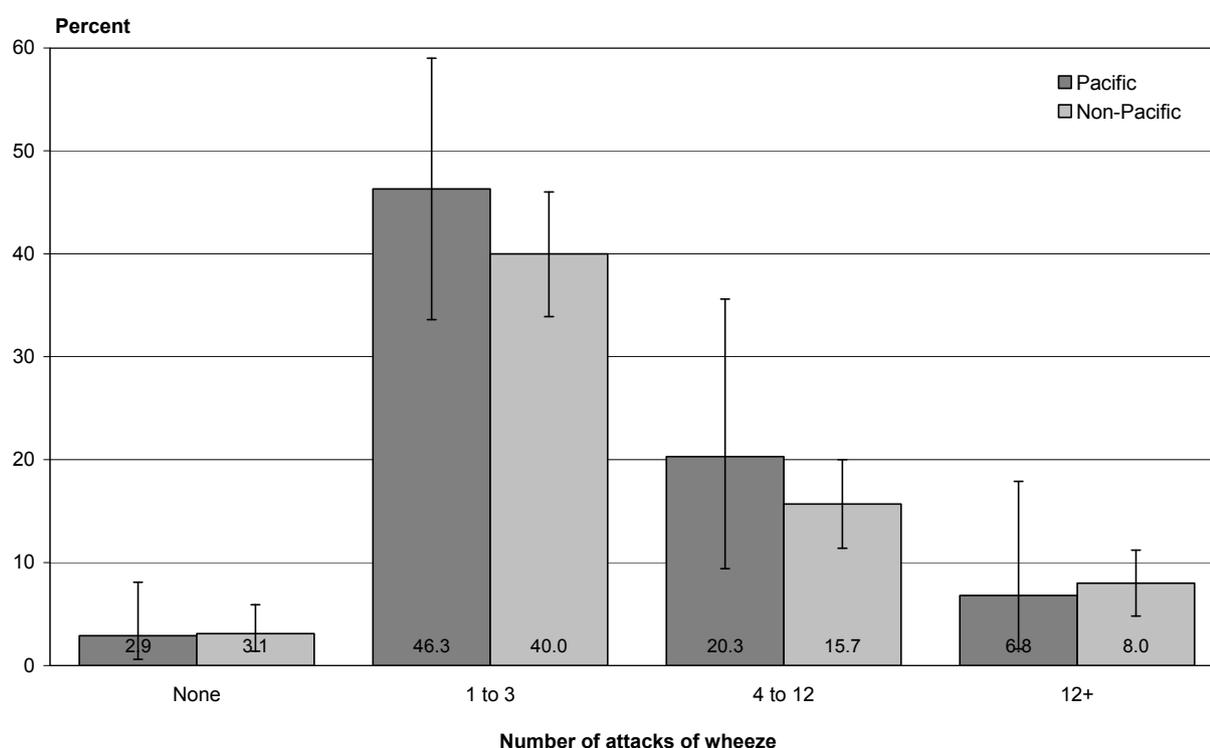
Severity of medicated asthma

Attacks of wheeze in last 12 months for children aged 5–14 years taking medication for asthma

Almost all children aged 5–14 years who had medicated asthma had had one or more attack(s) of 'wheezing or whistling in the chest at any time' in the previous year. There was no significant difference in the number of attacks of wheeze in the previous year between Pacific and non-Pacific children (Figure 84).

The most common number of attacks of wheeze in the previous year was one to three times, with 46.3% (33.6–59.0) of Pacific and 40.0% (33.9–46.0) of non-Pacific children having had between one and three attacks of wheeze in the previous year (Figure 84).

Figure 84: Attacks of wheeze in the past 12 months, Pacific and non-Pacific children aged 5–14 years with medicated asthma (age standardised)



Source: 2006/07 New Zealand Health Survey

Speech limited due to wheeze in last 12 months for children aged 5–14 years taking medication for asthma

One in four Pacific children (24.5%, 13.1–39.3) and one in six non-Pacific children (15.7%, 10.8–20.5) with medicated asthma had at least one episode of wheeze in the past year severe enough to limit speech to one or two words at a time. After adjusting for age, there was no significant difference in the prevalence of speech-limited episodes of wheeze between Pacific and non-Pacific children.

There was also no significant difference in the prevalence of speech-limited episodes of wheeze for Pacific or non-Pacific children by age group, and no significant differences between Pacific and non-Pacific children within age groups. Small numbers prevented analysis by NZDep2006 quintile.

Eczema

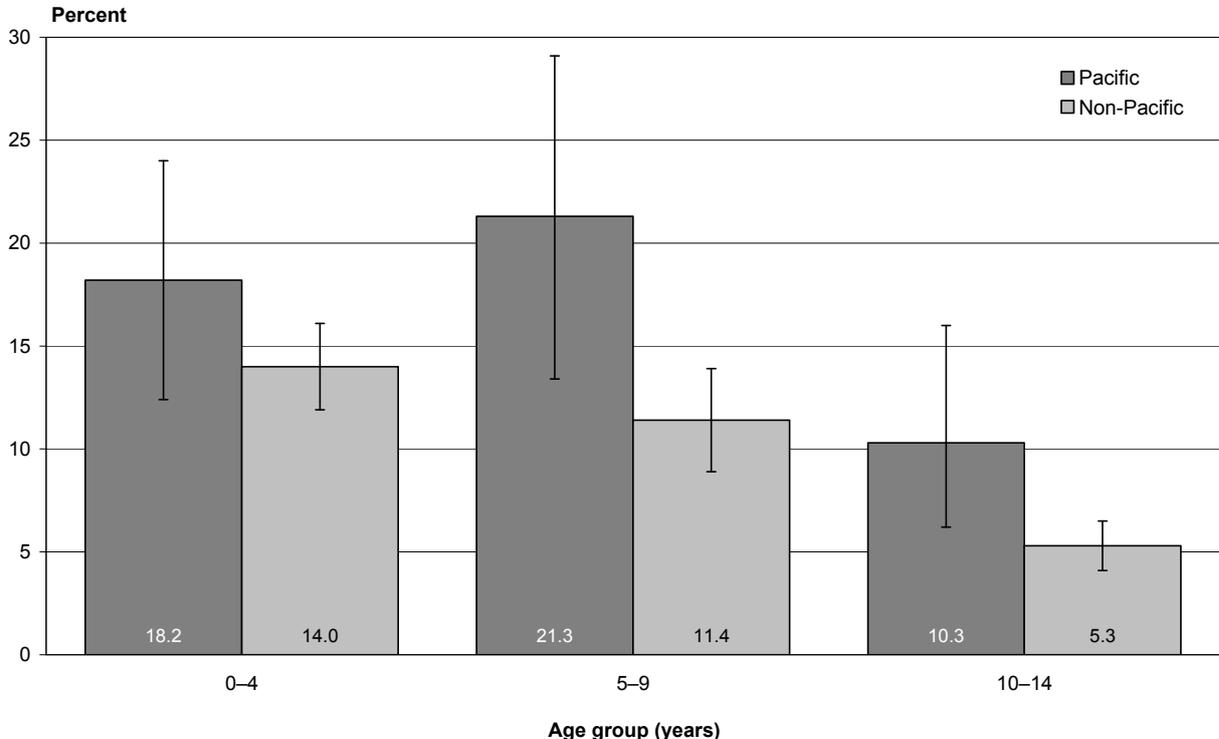
Eczema is an inflammatory skin condition characterised by patches of itchy, dry, red skin. In children it is generally either atopic (allergy) or contact dermatitis (allergy or irritant). Eczema is the most common chronic health condition for Pacific children and the second most common for non-Pacific children.

One in six Pacific (16.8%, 13.4–20.1) and one in ten non-Pacific (10.1%, 9.0–11.3) children were currently taking medication for eczema (topically or orally). After adjusting for age, Pacific children were significantly more likely to be using medication for eczema compared with non-Pacific children.

Medicated eczema, by age group

Medicated eczema decreases with age, with 10–14-year-old children less likely to have medicated eczema than younger age groups, for both Pacific and non-Pacific children (p-values < 0.04) (Figure 85). Pacific children aged 5–9 and 10–14 years were more likely to have medicated eczema than non-Pacific children in the same age groups (p-values < 0.04).

Figure 85: Medicated eczema, Pacific and non-Pacific children, by age group (unadjusted)



Source: 2006/07 New Zealand Health Survey

Medicated eczema, by neighbourhood deprivation

There was no difference in the prevalence of medicated eczema by NZDep2006 quintile for Pacific or non-Pacific children. There was also no significant difference between Pacific and non-Pacific children within NZDep2006 quintiles.

Body size

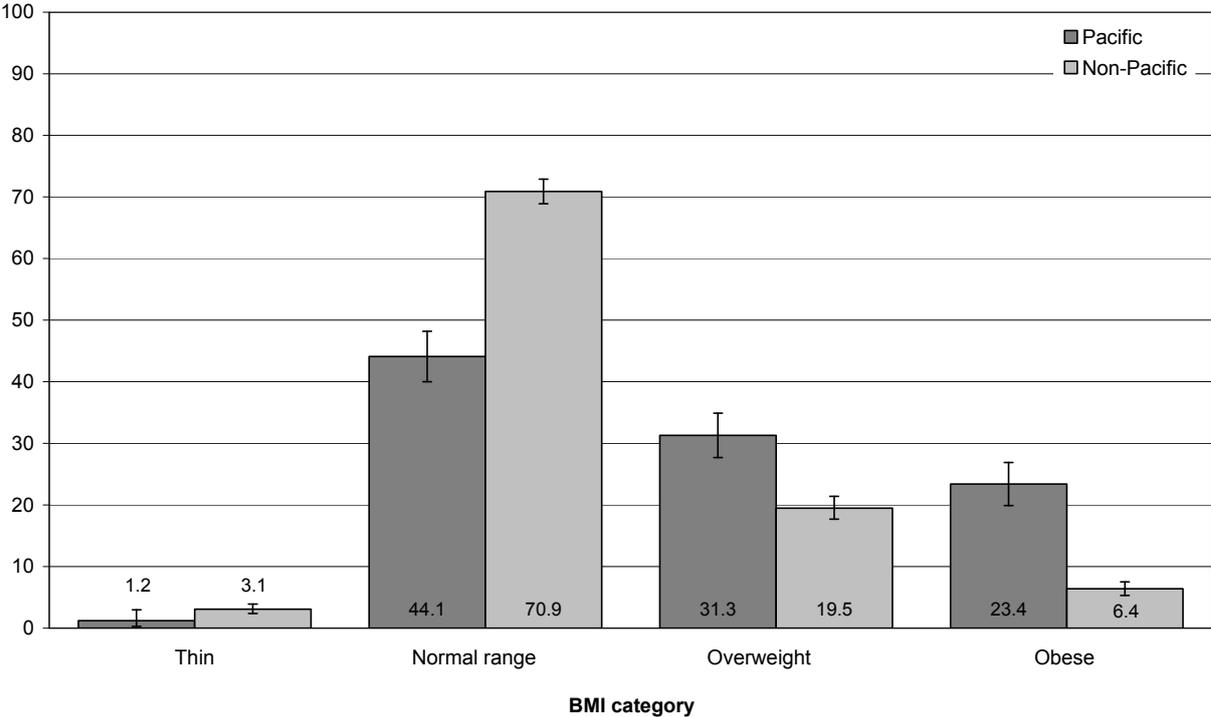
A healthy body size is increasingly recognised as important for good health and wellbeing. Obese children are at greater risk of short-term and long-term health consequences. The long list of long-term health consequences of obesity include: cardiovascular disease, various types of cancer, type 2 diabetes, reproductive disorders, and psychological and social problems (World Health Organization 2000).

For children aged 2–14 years, sex- and age-specific body mass index (BMI) cut-off points developed by the International Obesity Taskforce (IOTF) were used to define thinness, overweight and obesity (Cole et al 2000; Cole et al 2007). BMI is a measure of weight adjusted for height, and is calculated by dividing weight in kilograms by height in metres squared (kg/m^2). It is important to note that although BMI cut-off points have been used to define overweight and obesity, the risk of health conditions increases as BMI increases in all population groups, even within the 'normal' range.

Two thirds of non-Pacific (70.9%, 69.0–72.9) and just under half of Pacific (44.1%, 40.0–48.2) children aged 2–14 years had a BMI in the normal range. One in five non-Pacific (19.6%, 17.7–21.4) and one-third of Pacific (31.4%, 27.8–35.0) children were overweight. One in 16 non-Pacific (6.4%, 5.3–7.5) and one in four Pacific (23.3%, 19.8–26.8) children were obese.

After adjusting for age, Pacific children were significantly less likely to have a body size in the normal range and more likely to be overweight or obese than non-Pacific children (Figure 86).

Figure 86: BMI distribution, Pacific and non-Pacific children aged 2–14 years (age standardised)



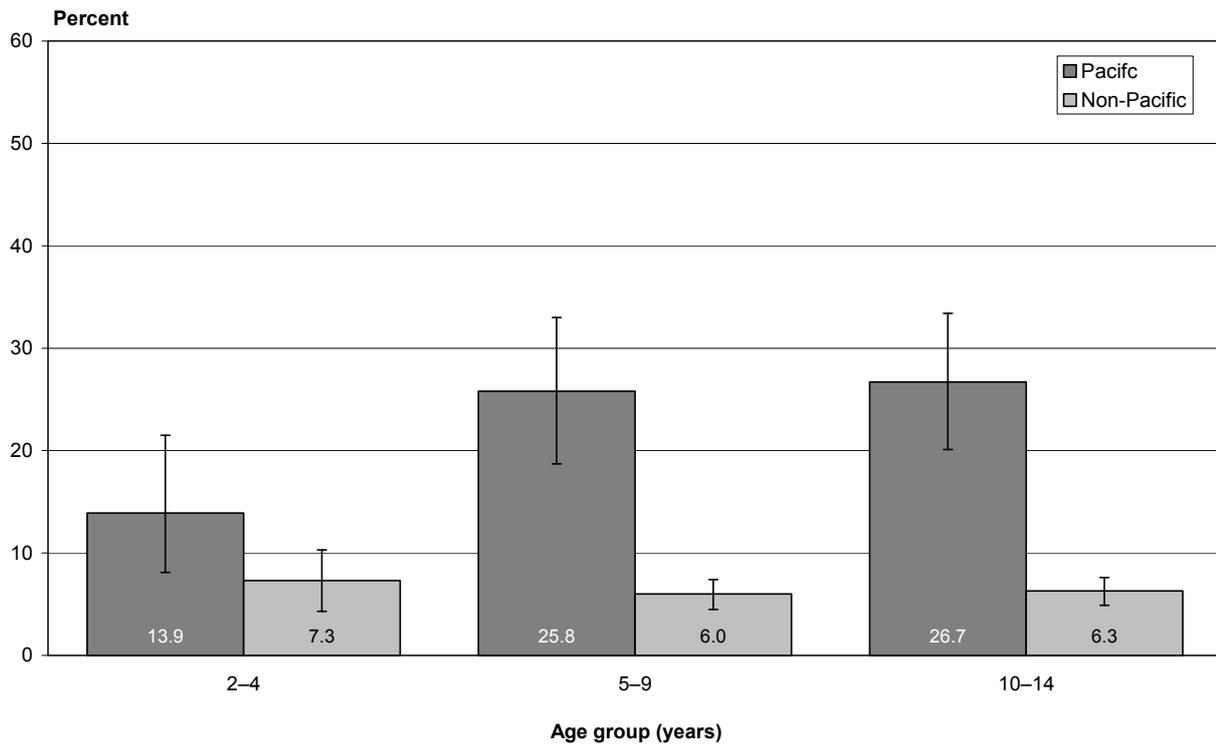
Source: 2006/07 New Zealand Health Survey

The remainder of this subsection focuses on obesity in Pacific and non-Pacific children.

Obesity, by age group

The prevalence of obesity was higher for 5–9- and 10–14-year-old Pacific children than 2–4-year-olds, whereas for non-Pacific children the prevalence remained stable throughout the age groups (Figure 87). There was no significant difference in the prevalence of obesity between Pacific and non-Pacific children aged 2–4 years, but Pacific children in the 5–9 years and 10–14 years age groups were significantly more likely to be obese than non-Pacific children of the same ages (Figure 87).

Figure 87: Obesity, Pacific and non-Pacific children aged 2–14 years, by age group (unadjusted)

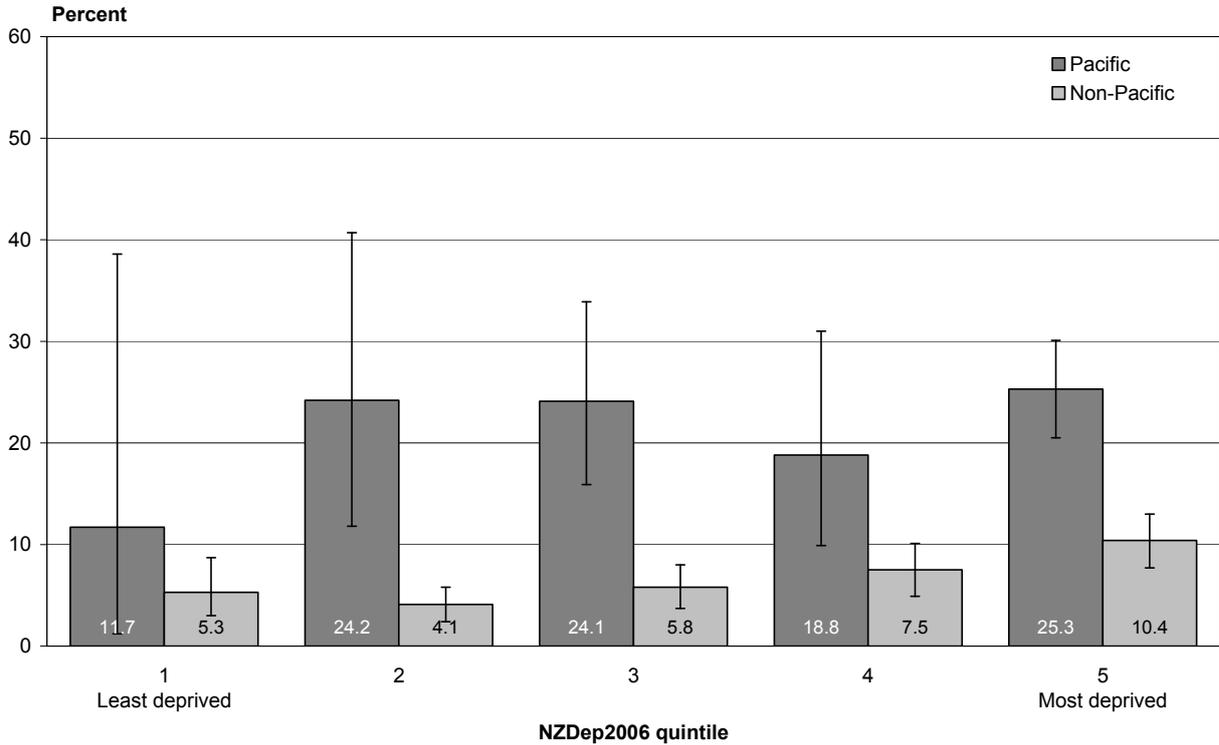


Source: 2006/07 New Zealand Health Survey

Obesity, by neighbourhood deprivation

Non-Pacific children living in NZDep2006 quintile 5 were more likely to be obese than non-Pacific children living in quintile 1 (p-value = 0.01) (Figure 88). There was no significant difference by NZDep2006 quintile for Pacific children. With the exception of NZDep2006 quintile 1, Pacific children were more likely to be obese than non-Pacific children who lived in the same NZDep2006 quintile (Figure 88).

Figure 88: Obesity, Pacific and non-Pacific children aged 2–14 years, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Oral health conditions

Good oral health contributes to general wellbeing by enabling an individual to eat, speak and socialise without discomfort, pain or embarrassment (Ministry of Health 2006). Oral health conditions include tooth decay, abscesses and infections in the mouth, and gum disease. They are caused by an interplay of social, behavioural, cultural and economic factors. These factors include fluoridation of water supplies, teeth-brushing less than twice a day, and poor diet (Ministry of Health 2006). Pacific children are a priority population of the Oral Health Strategy because they have poorer oral health than the total child population (Ministry of Health 2006).

Oral health conditions included in this subsection are the presence of fillings and the removal of teeth due to decay, abscess or infection.

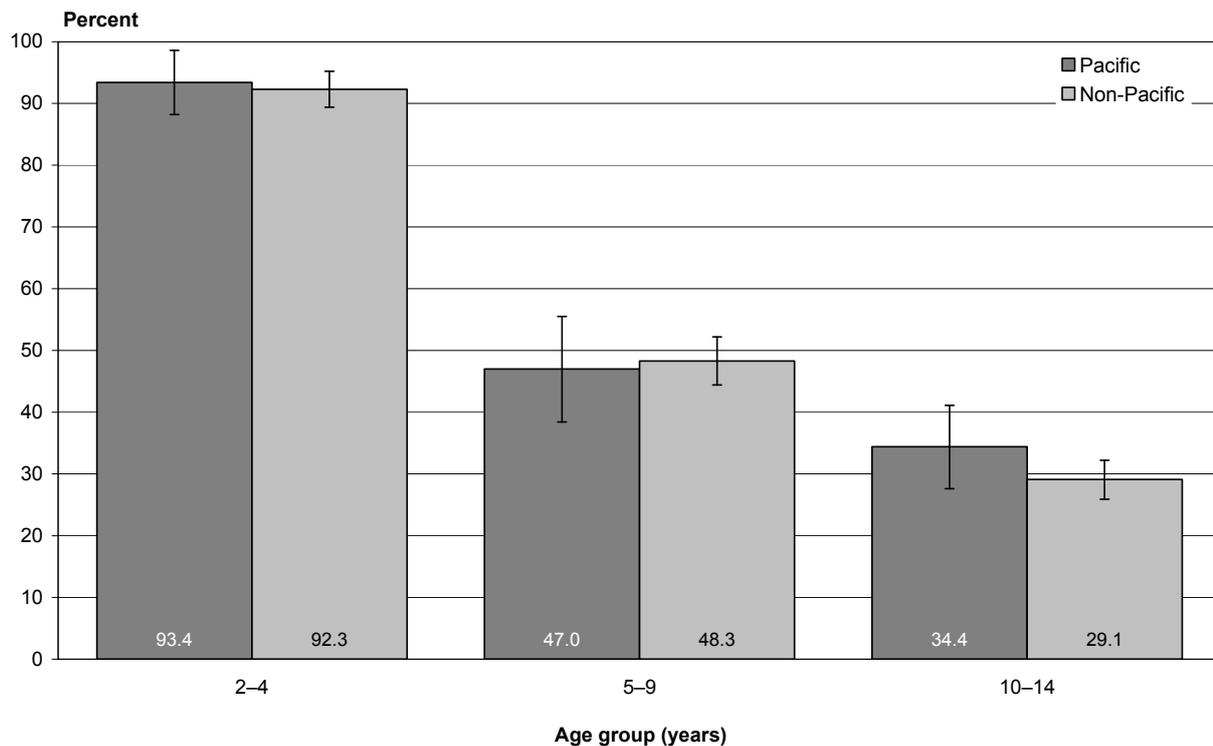
Never had a filling

Overall, just over half of Pacific (53.7%, 49.1–58.3) and non-Pacific (50.5%, 48.5–52.6) children aged 2–14 years had never had a filling in their teeth. After adjusting for age, there was no significant difference in the prevalence of never having had a filling between the two groups.

Never had a filling, by age group

For both Pacific and non-Pacific children, the prevalence of never having had a filling decreased significantly with each increase in age group (p-values < 0.02) (Figure 89). There was no significant difference between Pacific and non-Pacific children within any age group.

Figure 89: Never had a filling, Pacific and non-Pacific children aged 2–14 years, by age group (unadjusted)

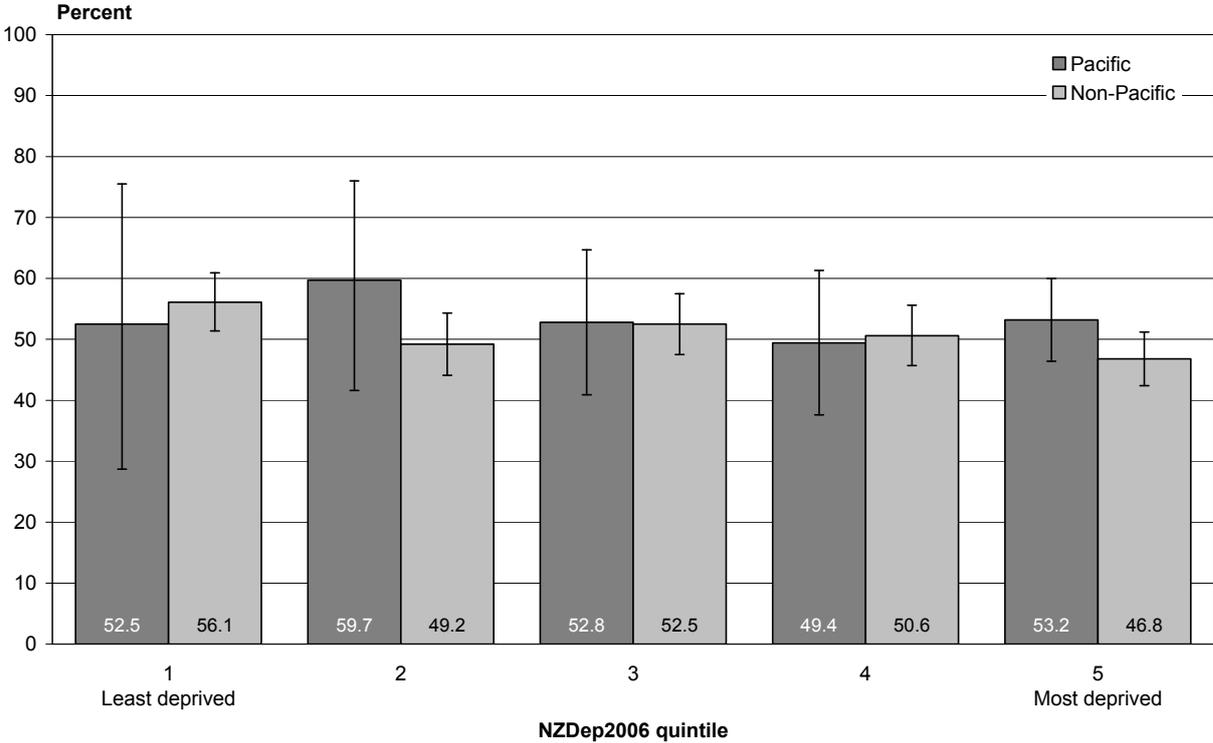


Source: 2006/07 New Zealand Health Survey

Never had a filling, by neighbourhood deprivation

Non-Pacific children living in NZDep2006 quintile 1 (least deprived) were more likely to have never had a filling than non-Pacific children living in quintile 5. There was no change in the prevalence of never having had a filling by NZDep2006 quintile for Pacific children (Figure 90). There were no differences between Pacific and non-Pacific children within NZDep2006 quintiles.

Figure 90: Never had a filling, Pacific and non-Pacific children aged 2–14 years, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

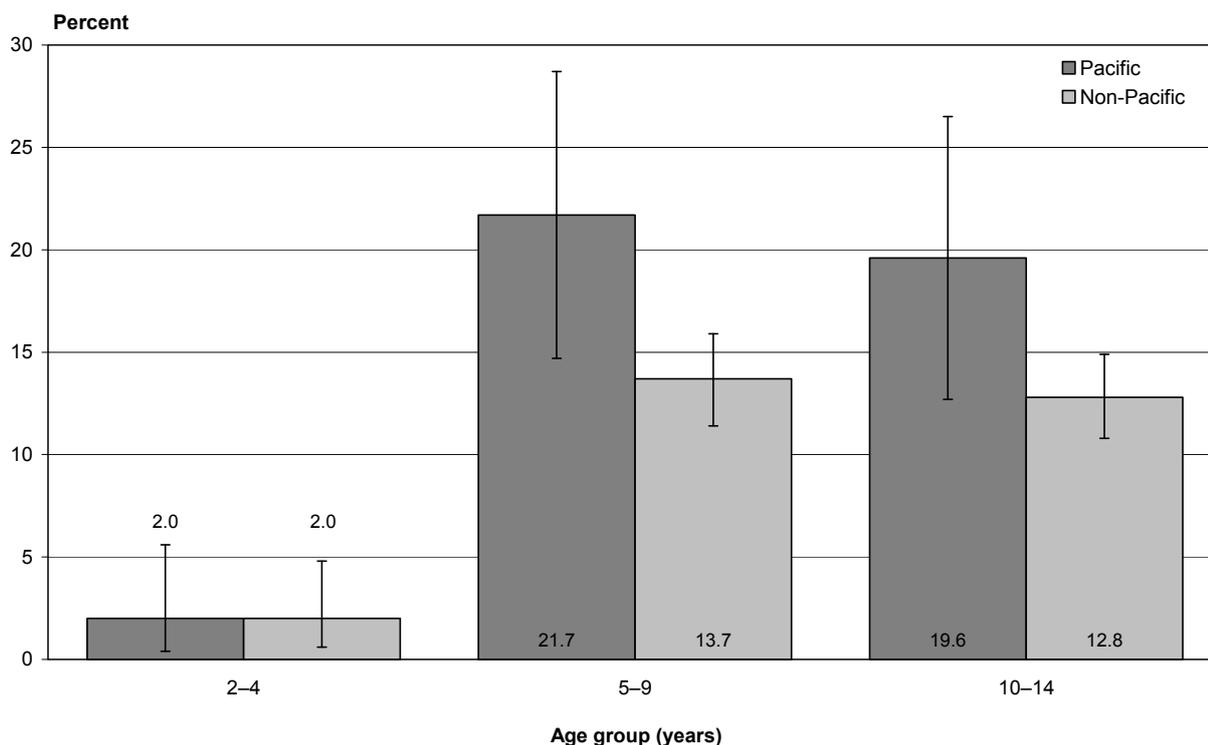
Teeth removed due to decay, abscess or infection

One in six Pacific (16.2%, 12.5–19.8) and one in nine non-Pacific (10.7%, 9.5–11.9) children aged 2–14 years had had one or more teeth removed due to decay, abscess or infection. After adjusting for age, Pacific children were more likely to have had a tooth removed due to decay, abscess or infection compared with non-Pacific children.

Teeth removed due to decay, abscess or infection, by age group

The prevalence of having had a tooth removed due to decay, abscess or infection was significantly higher for 5–9- and 10–14-year-old children than 2–4-year-old children among both Pacific and non-Pacific children (Figure 91). There were no significant differences between Pacific and non-Pacific children within age groups.

Figure 91: Teeth removed due to decay, abscess or infection, Pacific and non-Pacific children aged 2–14 years, by age group (unadjusted)

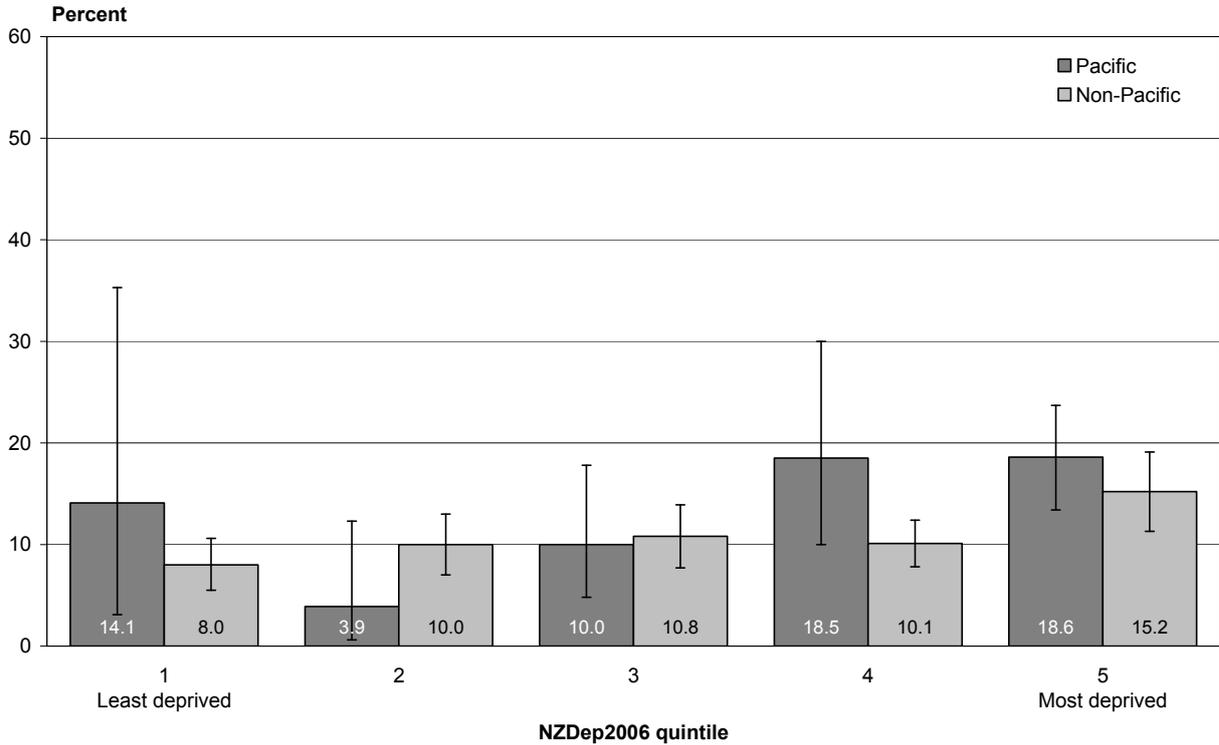


Source: 2006/07 New Zealand Health Survey

Teeth removed due to decay, abscess or infection, by neighbourhood deprivation

Pacific children living in NZDep2006 quintile 5 were more likely to have had teeth removed due to decay, abscess or infection than Pacific children living in NZDep2006 quintile 2 (Figure 92). Non-Pacific children living in NZDep2006 quintile 5 were more likely to have had teeth removed due to decay, abscess or infection than non-Pacific children living in NZDep2006 quintile 1. There were no differences within NZDep2006 quintile in the prevalence of having had teeth removed due to decay, abscess or infection between Pacific and non-Pacific children.

Figure 92: Teeth removed due to decay, abscess or infection, Pacific and non-Pacific children aged 2–14 years, by NZDep2006 quintile (age standardised)



Source: 2006/07 New Zealand Health Survey

Primary health care use

‘Primary health care’ refers to the professional health care that people receive in the community and it is usually their first point of contact with the health care system. A strong primary health care system is central to improving the health of all New Zealanders and reducing health inequalities between different groups.

Realigning the way primary health care is delivered and improving access to primary health care are key components of the Primary Health Care Strategy (Minister of Health 2001). In addition, primary health care remains a priority under the Ministry of Health’s *Statement of Intent 2009–12* (Ministry of Health 2009), with a focus on the delivery of more services locally in the community and in primary care.

This subsection presents findings for Pacific and non-Pacific children, looking at access to general practitioners, oral health practitioners and Well Child nurses.

General practitioners

The local doctor or general practitioner (GP) is often the first point of contact with the health care system for New Zealanders. GPs operate private businesses and set their own fees for consultations and other services. As part of the Primary Health Care Strategy, funding has been provided by the Government in order to lower the cost of GP visits for people enrolled in primary health organisations (PHOs) and to encourage free GP consultations for children under six years of age.

Nearly all Pacific (98.5%, 97.3–99.6) and non-Pacific (97.8%, 97.2–98.3) children had a primary health care provider (a GP clinic, after-hours accident and medical centre or nurse clinic) that they go to first when feeling unwell or injured. After adjusting for age, there was no difference between Pacific and non-Pacific children in the proportion who had a primary health care provider. For most Pacific (98.4%, 97.1–99.6) and non-Pacific (98.5%, 98.1–99.0) children with a usual primary health care provider, this provider was a GP.

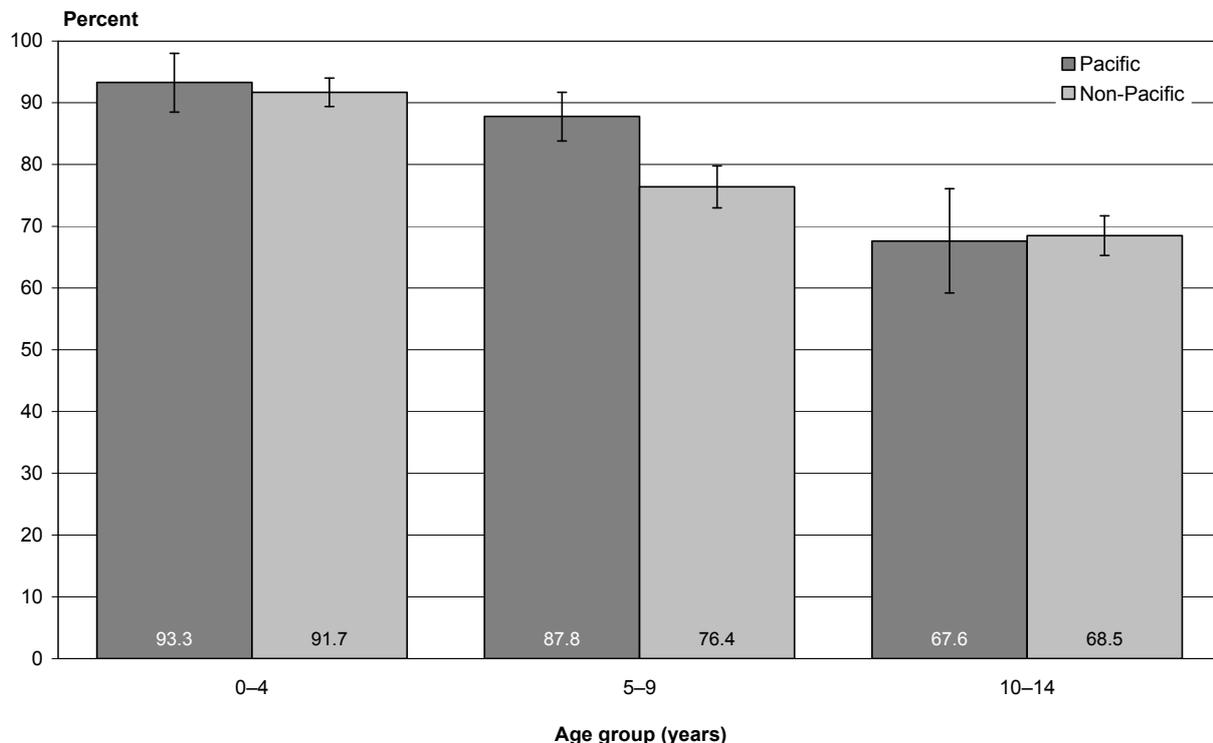
Saw a GP in the previous 12 months

Four out of five Pacific (83.5%, 80.0–86.9) and non-Pacific (78.6%, 76.9–80.3) children had seen a GP in the previous 12 months. After adjusting for age, Pacific children were slightly more likely to have seen a GP in the previous 12 months compared with non-Pacific children (p-value = 0.04).

Saw a GP in the previous 12 months, by age group

For both Pacific and non-Pacific children the proportion who had seen a GP in the previous year decreased by age group (Figure 93). Pacific children aged 5–9 years were significantly more likely to have seen a GP in the past year than non-Pacific children aged 5–9 years. There were no other significant differences between Pacific and non-Pacific children by age group.

Figure 93: Saw a GP in the past 12 months, Pacific and non-Pacific children, by age group (unadjusted)



Source: 2006/07 New Zealand Health Survey

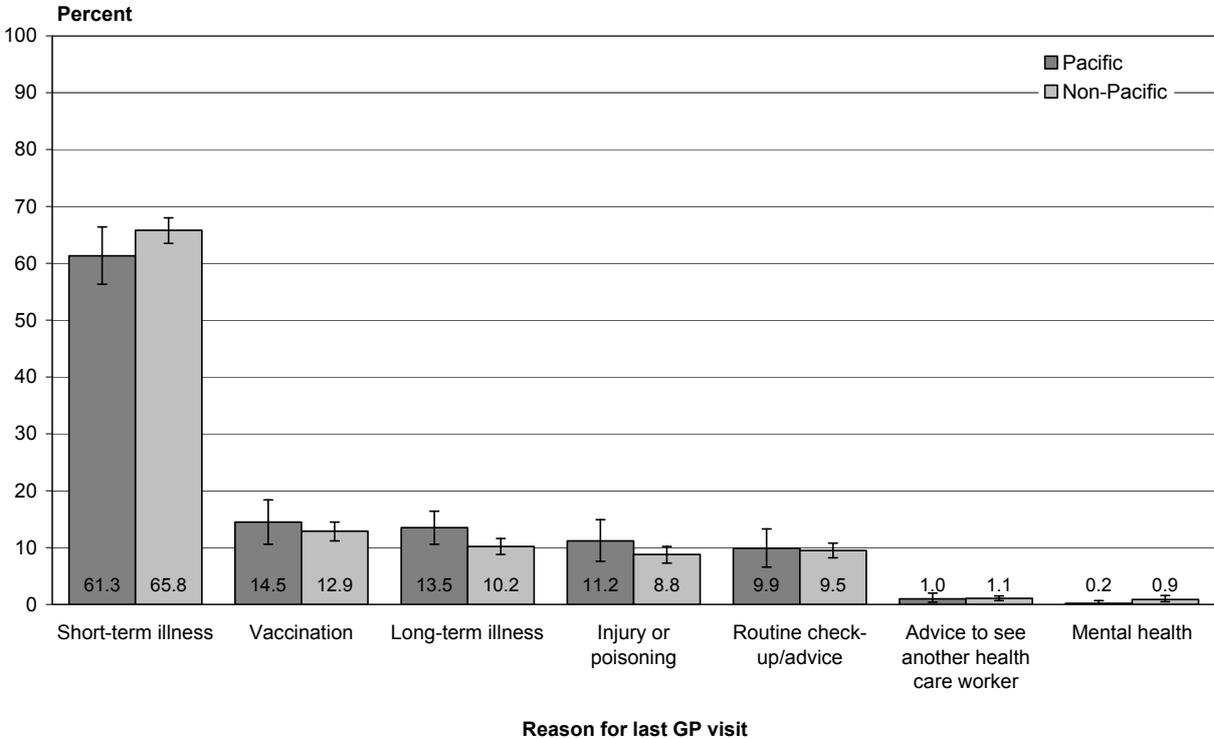
Saw a GP in the previous 12 months, by neighbourhood deprivation

There were no significant differences in having seen a GP in the previous 12 months for Pacific and non-Pacific children between or within NZDep2006 quintiles (graph not shown).

Reason for last GP visit

The reasons for the last GP visit were similar for both Pacific and non-Pacific children. For Pacific children, the most common reason for their last visit to a GP was for a short-term health condition, followed by vaccination and a long-term illness (Figure 94). Pacific children were more likely to have seen their GP on their last visit for a long-term illness¹⁰ (p-value = 0.04), and less likely to have seen their GP for mental health concerns (p-value = 0.02), compared with non-Pacific children.

Figure 94: Reason for last visit to GP, Pacific and non-Pacific children (age standardised)



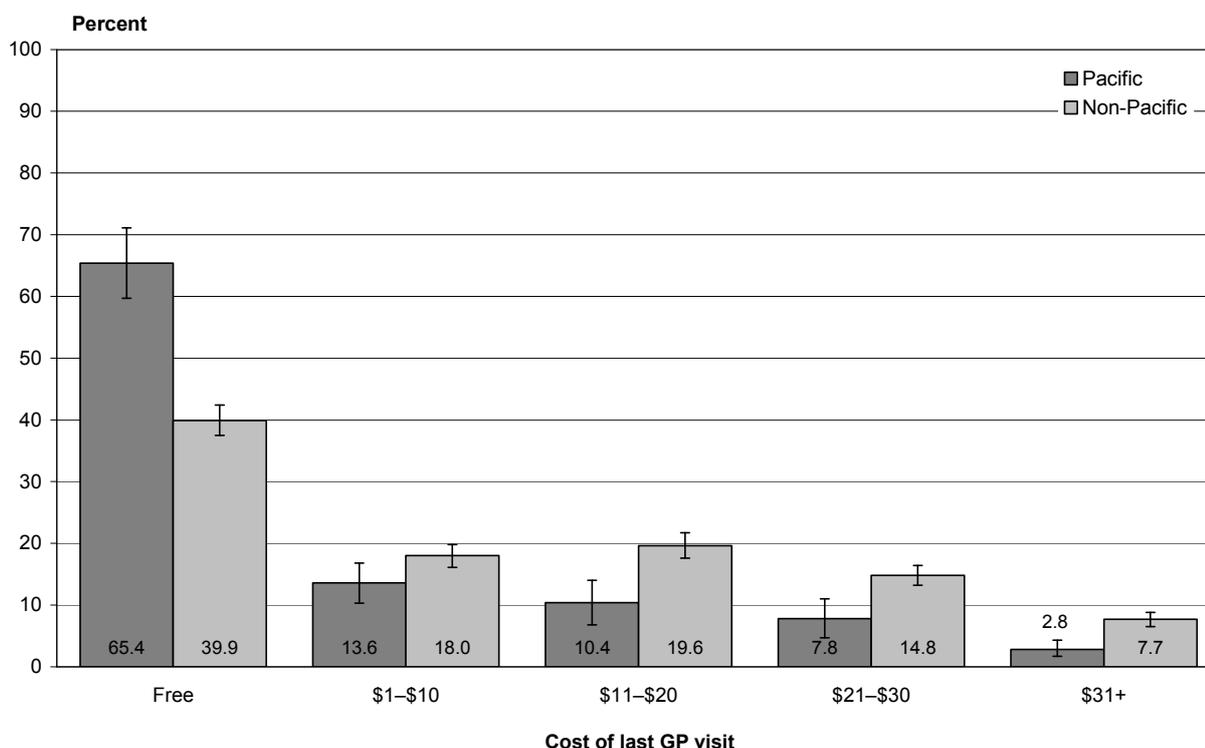
Source: 2006/07 New Zealand Health Survey

¹⁰ Long-term illnesses were generally considered as those that persist for more than six months (eg, diabetes, birth conditions and allergies that persist for this time). In contrast, short-term health conditions could include viral or bacterial infections such as influenza and the common cold, or other temporary ailments not elsewhere defined.

Cost of last visit to GP for children aged 0–14 years

Two in three Pacific children (65.4%, 59.7–71.1) were not charged for their last visit to a GP, while the cost for a further 13.6% (10.3–16.8) was \$10 or less. Pacific children were more likely not to have been charged, or to have been charged less, for their last visit compared with non-Pacific children (Figure 95).

Figure 95: Cost of last visit to GP, Pacific and non-Pacific children (age standardised)



Source: 2006/07 New Zealand Health Survey

Cost of last visit to GP for under-six-year-olds

There are no formal guidelines for the cost of visiting a GP for children. However, through government subsidies, practices are encouraged to provide free access for children under six years. The last GP visit was free for four in five Pacific children (83.8%, 78.0–89.6) and two-thirds of non-Pacific children (64.5%, 61.2–67.8) aged less than six years. After adjusting for age, Pacific children aged less than six years were more likely than non-Pacific children of the same age not to have been charged for their last GP visit.

Unmet need for GP services in past 12 months

Nearly all Pacific (96.0%, 94.4–97.5) and non-Pacific (95.9%, 95.2–96.7) children were able to see a GP in the previous 12 months 'when they needed to'. However, 4.0% (2.5–5.6) of Pacific and 4.1% (3.3–4.8) of non-Pacific children needed to see a GP in the last 12 months but were unable to (and therefore experienced unmet need for GP services).

After adjusting for age, there was no significant difference between the prevalence of unmet need for Pacific and non-Pacific children. There was also no significant difference by age group or NZDep2006 quintile for Pacific children with unmet need for GP services.

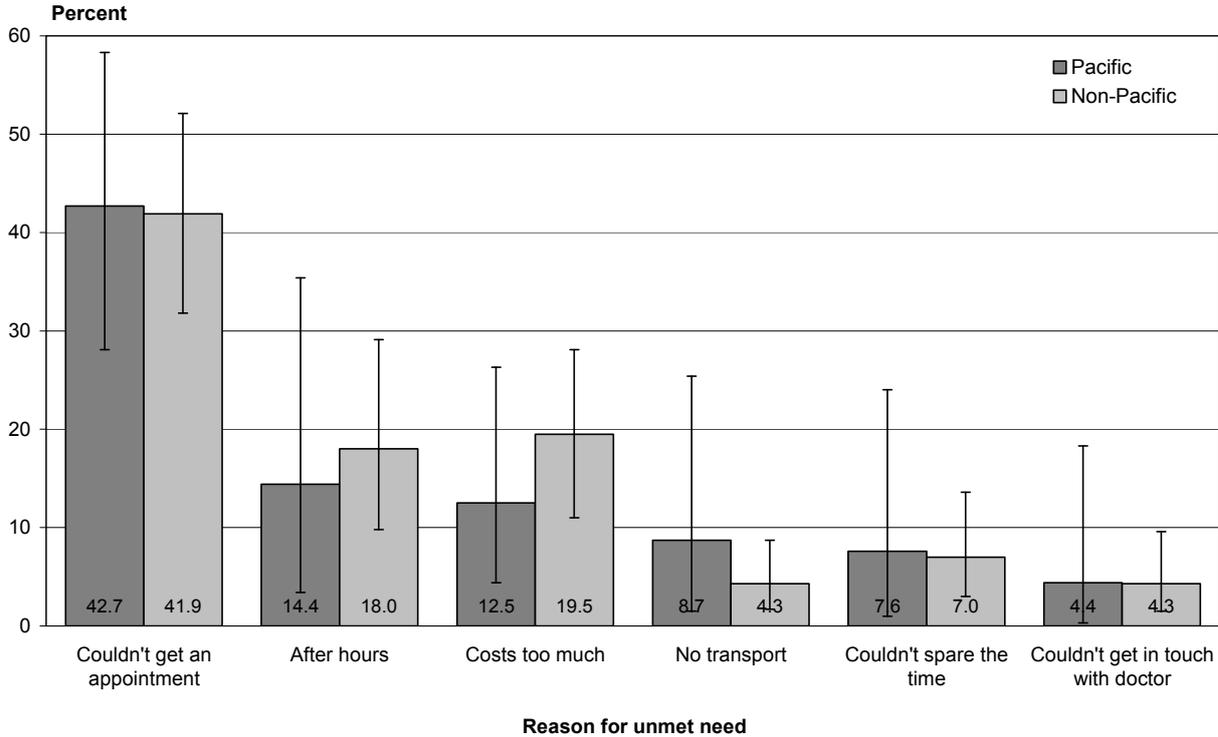
Number of times of unmet need for GP services

Most Pacific children with unmet need for GP services had been unable to see a GP when they needed to once (50.4%, 28.5–72.2) or twice (41.7%, 22.4–63.0) in the past 12 months. Most non-Pacific children also had unmet need for GP services once (56.2%, 46.9–65.4), or twice (27.8%, 19.4–36.3). After adjusting for age, there was no significant difference in the number of times Pacific and non-Pacific children had unmet need for GP services.

Reason for unmet need for GP services

The main reasons given by parents of both Pacific and non-Pacific children for their child not seeing a GP when they needed to were that they ‘couldn’t get an appointment’ at a suitable time, followed by ‘it was after hours’ and ‘costs too much’ (Figure 96). There were no statistically significant differences in the reason for unmet need for GP services between parents of Pacific and non-Pacific children (Figure 96).

Figure 96: Reason for unmet need for GP services in the past 12 months, Pacific and non-Pacific children (age standardised)



Source: 2006/07 New Zealand Health Survey

Uncollected prescriptions

GPs are the most common prescribers of medicine for both Pacific and non-Pacific children. Overall, 96.1% (94.2–98.0) of Pacific and 96.8% (96.0–97.6) of non-Pacific children who had a prescription in the previous 12 months received their prescription from a GP.

Of the children who had received a prescription in the previous year, 6.3% (2.5–10.0) of Pacific and 8.1%, (6.9–9.3) of non-Pacific children had one or more prescriptions not collected in the previous year. After adjusting for age, there was no difference between Pacific and non-Pacific children in having uncollected prescriptions.

Uncollected prescriptions, by age group

There were no significant differences in the prevalence of uncollected prescriptions for Pacific or non-Pacific children by age group.

Uncollected prescriptions, by neighbourhood deprivation

Pacific children living in NZDep2006 quintile 5 (8.7%, 3.5–17.4) were significantly more likely to have uncollected prescriptions than Pacific children living in NZDep2006 quintile 4 (1.1%, 0.2–3.4). The confidence limits were too wide among the other quintiles to identify significant differences. The prevalence of uncollected prescriptions among non-Pacific children was stable across deprivation quintiles.

Uncollected prescription due to cost

There was no difference in the prevalence of having an uncollected prescription due to cost between Pacific (1.8%, 0.5–4.4) and non-Pacific (1.1%, 0.7–1.4) children.

Oral health care services

The Ministry of Health has a vision for high-quality oral health services that promote, improve, maintain and restore good oral health, and that are proactive in addressing the needs of those at greatest risk of poor oral health (Ministry of Health 2006). Children and young people in New Zealand are entitled to free basic dental care¹¹ from birth to their 18th birthday (Ministry of Health 2006).

Seen an oral health care worker in the previous 12 months

Most children aged 2–14 years had seen an oral health care worker in the previous 12 months: three in four Pacific (73.7%, 70.3–77.1) and four out of five non-Pacific children (81.3%, 79.6–83.1). A further 9.4% (6.9–11.9) of Pacific and 9.4% (8.0–10.9) of non-Pacific children had visited an oral health care worker more than one year but less than two years ago.

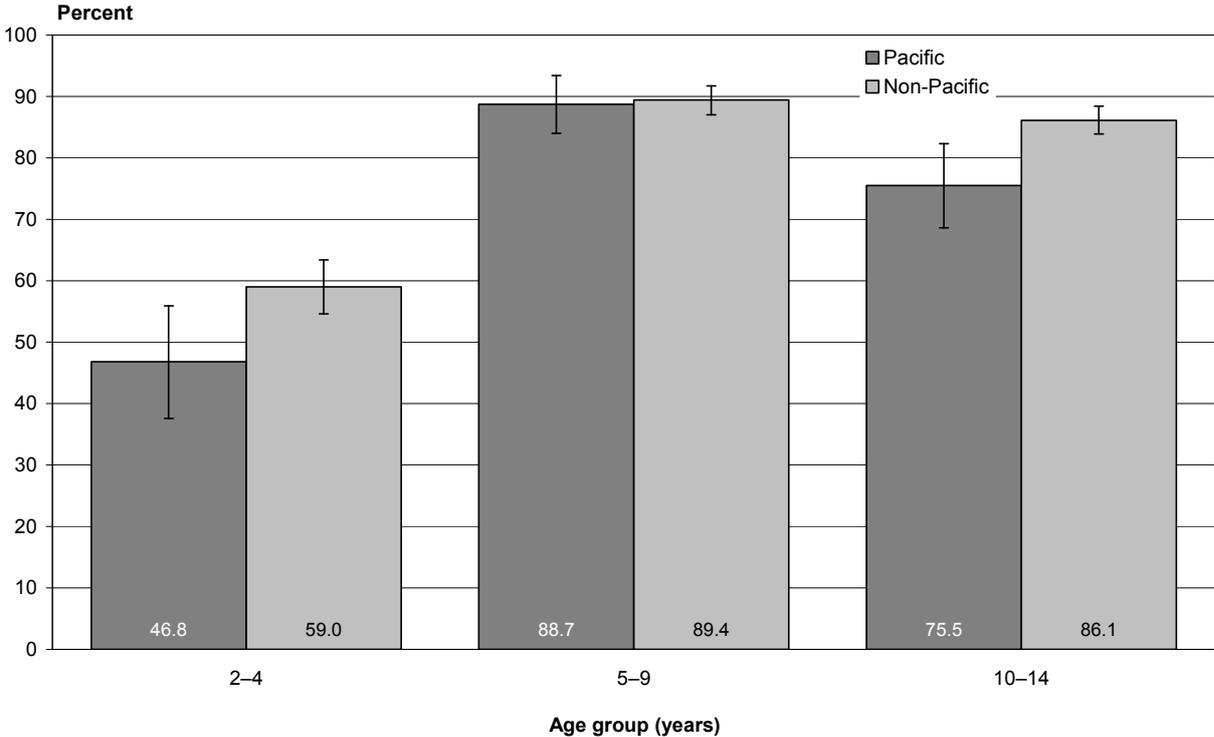
¹¹ Basic dental care includes the provision of dental examinations, fillings, extraction of primary teeth, applications of fluorides, placement of fissure sealants, and oral health education and promotion (see <http://www.healthysmiles.org.nz/>).

After adjusting for age, Pacific children aged 2–14 years were significantly less likely to have seen an oral health care worker in the past 12 months than non-Pacific children aged 2–14 years. One in seven Pacific (14.0%, 10.9–17.1) and one in twelve non-Pacific (8.2%, 7.2–9.2) children aged 2–14 years had never seen an oral health care worker. After adjusting for age, Pacific children were more likely to have never seen an oral health care worker compared to non-Pacific children.

Seen an oral health care worker, by age group

Children aged 5–9 years and 10–14 years were more likely to have seen an oral health care worker in the previous year than 2–4-year-olds, with 5–9-year-olds having the highest prevalence (Figure 97). Pacific children aged 10–14 years were less likely than 5–9 year olds to have seen an oral health care worker in the previous year. Pacific children aged 2–4 and 10–14 years were less likely to have seen an oral health care worker in the previous 12 months than non-Pacific children (p-values < 0.02).

Figure 97: Seen an oral health care worker in the past 12 months, Pacific and non-Pacific children aged 2–14 years, by age group (unadjusted)



Source: 2006/07 New Zealand Health Survey

Seen an oral health care worker, by neighbourhood deprivation

There were no differences in the proportion of Pacific and non-Pacific children who had seen an oral health care worker in the previous 12 months by NZDep2006 quintile.

Unmet need for oral health care services

Only a small proportion of Pacific (2.3%, 1.3–3.7) and non-Pacific (3.6%, 2.9–4.2) children aged 2–14 years were unable to see an oral health care worker when they needed to in the previous 12 months (ie they had an unmet need for oral health services). After adjusting for age, Pacific children were less likely to have unmet need for oral health care services compared with non-Pacific children (p-value < 0.05).

There were no significant differences by age group or NZDep2006 quintile for Pacific or non-Pacific children who were unable to see an oral health care worker.

No comparison of reasons for unmet need for oral health care services was possible due to the low number of Pacific children reporting unmet need.

Well Child (Tamariki Ora) nurses

Well Child nurses include Plunket nurses as well as other community workers who provide support services for the development, health and wellbeing of children under five years of age. The Well Child-Tamariki Ora service providers are required to provide culturally appropriate services to all children and their families. They are also required to provide services in a way that recognises the needs of identified priority groups, including Pacific children (Ministry of Health 2002).

Half of Pacific (53.6%, 44.9–62.2) and non-Pacific (54.9%, 51.3–58.5) children aged under five years had seen a Well Child nurse (eg, Plunket nurse, Karitane nurse) in the previous 12 months. After adjusting for age, there was no significant difference between Pacific children and non-Pacific children in the prevalence of having seen a Well Child nurse in the past year.

5 Key Findings

The 2006/07 New Zealand Health Survey has identified a number of differences between Māori and Pacific children and their non-Māori and non-Pacific counterparts in terms of health outcomes, exposure to risk and protective factors, and the use of health services.

Only results for health indicators where there were statistically significant differences between the priority groups and their comparison groups are discussed here. This does not mean that real differences do not exist for other indicators, but rather that they may have been masked by the small sample sizes, or the inclusion of Pacific children in the non-Māori sample and Māori children in the non-Pacific sample. As Māori and Pacific children are both groups with poor indicator outcomes, their inclusion in the comparison groups may reduce any differences observed between the two priority groups and their comparisons.

Māori children

This section summarises the key areas in which Māori children experience disparities in health indicators compared with non-Māori children. These key areas are asthma, body size, nutrition and physical activity, oral health and oral health service use, primary health care use, and family support. Any disparities in risk and health behaviour identified in these key areas which contribute to these disparities are also discussed.

Asthma

The most common health conditions among both Māori and non-Māori children were asthma and eczema, with both conditions significantly higher among Māori children. In particular, Māori were 55% more likely than non-Māori children to have asthma. In addition to having a higher prevalence, Māori were also more likely to have more severe (speech-limiting) episodes of asthma than non-Māori.

Risk factors for asthma can be endogenous (eg, genetic) and/or environmental. Examples of environmental risk factors include allergens, obesity, exposure to second-hand smoke, and duration of breastfeeding (Barnes 2008).

Although Māori children have had a good start to life, with the majority ever having been breastfed, they were twice as likely as non-Māori children to be given solids before four months of age (16.3% versus 8.7%). In addition, Māori children were more likely to be exposed to second-hand smoke in the home than non-Māori children (18.9% versus 6.9%). Exposure to second-hand smoke was significantly higher in the most deprived areas than in the least deprived areas for both ethnic groups. Although there were no significant ethnic differences in the least-deprived areas, Māori were significantly more likely than non-Māori children in the most deprived areas to be exposed to second-hand smoke. Māori children were also more likely to be obese than non-Māori (discussed below).

Children with poorly controlled asthma are more likely to have days off school (Diette et al 2000), which is likely to have long term implications into adulthood for these children. Good access to appropriate primary health care services, later introduction of solid food (ie after four months of age), and the promotion of supportive environments (eg, smoke-free homes) are essential for the treatment of asthma. Primary health care practitioners, in particular the Well Child providers, are well placed to provide support to mothers. For example, Well Child assessments at three and five months of age should continue to support parents and promote the later introduction of solids and smoke-free environments through encouragement and consistent advice.

With regard to reducing exposure to second-hand smoke, government policies on this important initiative should continue; for example, supporting smokers to quit and the smoke-free cars campaign, as well as a number of other initiatives.

Body size, nutrition and physical activity

The 2006/07 New Zealand Health Survey found that Māori children had a significantly higher prevalence of obesity than non-Māori children, and that this disparity was highest among 10–14-year-olds, and increased with age. In contrast to non-Māori children, where obesity increased with deprivation, there was no significant difference in the prevalence of obesity for Māori children by deprivation. This suggests that factors independent of neighbourhood deprivation may be driving the higher prevalence of obesity among Māori.

Fizzy drink and fast food consumption and television watching are factors that are associated with an increased risk of obesity, and Māori children (in particular 10–14-year-olds) were more likely to be exposed to these behaviours compared to non-Māori children. Māori children were more likely than non-Māori children to consume fizzy drinks (51.7% versus 43.7%) and fast food (74.5% versus 60.1%) in a typical week.

The consumption of fizzy drink and fast food was also significantly higher in the most deprived areas than the least deprived areas. There were no ethnic differences within deprivation quintiles, suggesting that the differential consumption of fizzy drink and fast food observed for Māori children may be attributed to factors associated with deprivation rather than ethnicity.

Insufficient physical activity and sedentary behaviour are associated with obesity. Active transport (eg, walking, biking or skating) to and from school provides an opportunity for children to undertake regular physical activity. In contrast, watching television is a very sedentary behaviour, which displaces other pursuits and has been shown to increase the risk of obesity (Scragg et al 2006; World Cancer Research Fund and American Institute for Cancer Research 2007).

There was no significant difference between Māori and non-Māori children in the use of active transport to and from school. However, among children aged 5–9 and 10–14 years, Māori were significantly more likely than non-Māori to watch two or more hours of television a day. Although children living in the most deprived areas were significantly more likely to watch two or more hours a day than those in the least deprived areas, the difference observed between Māori and non-Māori remained, even when taking

neighbourhood deprivation into account, suggesting that deprivation is not the only factor influencing the ethnic differences in television watching.

Oral health and oral health service use

The findings from this survey confirm Māori children as a priority population in the Oral Health Strategy. Overall, Māori children were less likely to have never had a filling and more likely to have had one or more teeth removed due to decay, abscess or infection compared with non-Māori children.

Barriers to the utilisation of oral health care also need to be addressed. In New Zealand, children and young people are entitled to free basic dental care from birth to their 18th birthday. This care includes dental check-ups and fillings (Ministry of Health 2006). Māori and non-Māori children were equally likely to have seen an oral health care worker in the previous year (79.3% and 80.4% respectively). However, Māori were slightly more likely to experience unmet need for an oral health care worker than non-Māori children. The primary reason for unmet need noted for both ethnic groups was the inability to get an appointment at a suitable time. Māori were also less likely to have never had a filling and more likely to have had one or more teeth removed due to decay, abscess or infection than non-Māori children. This higher prevalence of poor oral health might suggest that Māori children do not have appropriate access to services relative to their level of need and that this need is not identified soon enough. As a result, teeth are required to be pulled rather than filled.

Investigation of and research into the use of alternative approaches to improving the use of oral health services for Māori is important for improving oral health among this ethnic group.

Primary health care use

Many of the health outcomes reported in the 2006/07 New Zealand Health Survey were measured as 'doctor diagnosed' or 'medicated' health conditions. Monitoring health outcomes in this way means that the prevalence of a health outcome may be underestimated if access to the health service required for diagnosis is inadequate.

Although access to and use of primary health care was similar among Māori and non-Māori children, Māori children were more likely to experience unmet need for GP services than non-Māori children. The inability to get an appointment at an appropriate time, cost, and the need occurring 'after hours' were the main reasons for unmet need among both ethnic groups. Although Māori were also significantly more likely to report lack of transport as a reason than non-Māori, they were less likely to report insufficient time. It is important to note that these ethnic differences in unmet need remain even though Māori were more likely not to be charged for their last visit than non-Māori children, suggesting that further work in improving access to primary health care for Māori may be required.

Utilisation of Well Child services in the past year was not as good as utilisation of GP services. Among both Māori and non-Māori children only half of children aged under five years had seen a Well Child nurse in the past year. This primary health care

service is important for the health of Māori children. Well Child nurses are able to support Māori families with the key long-term health outcomes of concern: obesity, eczema and asthma. All of these conditions are common in Māori children aged under five years.

Family support

Family is an important social structure that is crucial to the health and wellbeing of individuals, especially children, who depend on their family for most of their needs for physical and emotional development (Ministry of Social Development 2004b). It is important to note that although we looked at family cohesion by ethnic group, the ethnic group analyses do not represent the family unit; that is, these analyses do not describe, for example, 'Māori families'.

Parents of Māori children were significantly less likely to report their family's ability to get along with one another as 'excellent or very good' than parents of non-Māori children. Family cohesion decreased with age for both groups, but there was no significant difference by neighbourhood deprivation. Risks to family cohesiveness and methods for improving it need to be explored further, with a particular focus on Māori families with school-aged children. This approach is consistent with the Ministry's commitment to working towards and promoting strengthened whānau capabilities (Ministry of Health 2009).

Discipline that excludes physical punishment has been found to be better for the parent-child relationship and is more effective when the methods used are consistent, supportive and authoritative (not authoritarian) (Smith et al 2004). The most common types of discipline used by primary caregivers of both Māori and non-Māori children were 'telling them off' and 'explaining why they should not do something'.

Physical punishment was the least used form of discipline in the previous four weeks for both ethnic groups, but primary caregivers of Māori children were more likely to utilise it than those of non-Māori children (14.0% versus 9.3%). Of the group of children who experienced physical punishment, the primary caregivers of Māori children were less likely to report it as an effective discipline strategy than their non-Māori counterparts. The recognition that physical punishment is not the most effective means of discipline, combined with the continued disparity observed between ethnic groups for the use of physical punishment, suggests that factors other than 'effectiveness' may be driving this disparity. Further research to tease out these factors, combined with the promotion of effective alternatives, may be useful next steps.

Pacific children

This section summarises the key areas in which Pacific children experience disparities in health indicators compared with non-Pacific children. These key areas are body size, nutrition and physical activity, oral health and oral health service use, primary health care use, and family support. Any disparities in risk and health behaviour identified in these key areas, which contribute to these disparities, are also discussed.

Body size, nutrition and physical activity

Obesity is an area where there are large health inequalities between Pacific and non-Pacific children with one-quarter of Pacific children aged 2–14 years being obese compared with one in sixteen non-Pacific children. Whereas non-Pacific children had a stable rate of obesity throughout the age groups, the prevalence of obesity nearly doubled between 2–4-year-old and 5–9-year-old Pacific children.

Fizzy drink and fast food consumption and television watching are factors that are associated with an increased risk of obesity, and Pacific children (in particular 10–14-year-olds) were more likely to be exposed to these behaviours compared with non-Pacific children. Pacific children were more likely than non-Pacific children to consume fizzy drinks (52.8% versus 44.6%) and fast food in a typical week (73.5% versus 62.1%). Among children aged 5–9 years, Pacific children were significantly more likely than non-Pacific children to watch two or more hours of television a day. In contrast, Pacific children were more likely to use active transport to and from school than non-Pacific children.

The 2006/07 New Zealand Health Survey also found that nearly two-thirds of Pacific adults were obese (Ministry of Health 2008a). Obesity is therefore a key health issue for Pacific families and communities, and any initiatives that aim to reduce obesity for this ethnic group need to take the cultural and social environment into account.

The observed differences in patterns of obesity, particularly by age, suggest that the best place to target health initiatives may differ for Pacific and non-Pacific children. For example, specific initiatives to reduce obesity among Pacific children may need to be directed at school-entry age. However, further work looking at childhood obesity and the environmental factors that influence obesity are needed to understand the observed differences and inform culturally appropriate nutritional and physical activity initiatives.

Oral health and oral health service use

Although there was no difference between Pacific and non-Pacific children in the prevalence of never having had a filling, Pacific children were more likely to have one or more teeth removed due to decay, abscess or infection. The difference in the prevalence of these two related indicators among Pacific children suggests that decay in teeth may be left untreated until a filling is unable to resolve the issue and the tooth needs to be removed.

Pacific children were less likely than non-Pacific children to have seen an oral health care worker in the past year, more likely never to have seen an oral health care worker and, as discussed above, more likely to have had one or more teeth removed for poor oral health. However, they were also significantly less likely to have a parent report unmet need for oral health care services. Further exploration of these seemingly contradictory results may help identify the best approach for targeting oral health promotion programmes to Pacific families. Nevertheless, these findings suggest that access to oral health care services, for reasons other than cost, is an issue for Pacific children, which may be contributing to their higher rates of tooth removal when oral services are accessed.

Primary health care use

Pacific children have good access to GP services. Pacific children were more likely than non-Pacific children to have seen their GP in the past year, most commonly for a short-term illness. The last GP visit was also significantly more likely to have been free for Pacific children, particularly for Pacific children aged six years or less. There was no significant difference between the prevalence of unmet need for Pacific and non-Pacific children. These findings are important and positive for the health of Pacific children.

Utilisation of Well Child services in the past year was not as good as utilisation of GP services. Among both Pacific and non-Pacific children only half of children aged under five years had seen a Well Child nurse in the past year. This primary health care service is important for the health of Pacific children. Well Child nurses are able to support Pacific families with the key long-term health outcomes of concern: obesity and eczema. Both of these conditions are common in Pacific children aged under five years.

Family support

Family is an important social structure, critical to the health and wellbeing of individuals, especially children, who depend on their family for most of their needs for physical and emotional development (Ministry of Social Development 2004b). It is important to note that although we looked at family cohesion by ethnic group, the ethnic group analyses do not represent the family unit; that is, these analyses do not describe, for example, 'Pacific families'.

Almost 80% of parents of Pacific children reported their family's ability to get along with one another as 'excellent or very good', with no difference from parents of non-Pacific children. Family cohesion decreased with age for both groups, but there was no significant difference by neighbourhood deprivation.

Discipline that excludes physical punishment has been found to be better for the parent-child relationship, and is more effective when the methods used are consistent, supportive and authoritative (not authoritarian) (Smith et al 2004). The most common types of discipline used by primary caregivers of both Pacific and non-Pacific children were 'telling them off' and 'explaining why they should not do something'.

Physical punishment was the least-used form of discipline in the previous four weeks for both ethnic groups, but the primary caregivers of Pacific children were significantly more likely to report using it than the primary caregivers of non-Pacific children (16.9% versus 9.6%). Of the group of children identified who experienced physical punishment, only one in three primary caregivers of Pacific children reported it as an effective discipline strategy (no difference from their non-Pacific counterparts). The recognition that physical punishment is not the most effective means of discipline combined with the continued disparity observed between ethnic groups for the use of physical punishment suggests that factors other than 'effectiveness' may be driving this disparity. Further research to tease out these factors, combined with the promotion of effective alternatives, may be useful next steps.

6 Conclusion

The 1998 Child Health Strategy presented a vision of healthy New Zealand children who were 'seen, heard and getting what they need'. All children need to have the same opportunity to reach their highest attainable standard of health, development and wellbeing. This vision is important because healthy children are more likely to become healthy adults. Analysis of the 2006/07 New Zealand Health Survey has found that Māori and Pacific children continue to experience poorer health outcomes than other New Zealand children. These findings support the ongoing prioritisation of these groups in monitoring and policy development.

For Māori, key disparities were found with regard to a higher prevalence of asthma, obesity, poor oral health and differential access to primary health care, including access to oral health services. Māori children were also more likely to be exposed to second-hand smoke in the home, have fast food and fizzy drinks in a typical week, and watch two or more hours of television a day. Pacific children were more likely to be obese compared with non-Pacific children. They were also more likely to experience poorer oral health. In particular, the fact that Pacific children were less likely than non-Pacific children to have seen an oral health care worker in the past year, more likely never to have seen an oral health care worker, and less likely to report unmet need for oral health care services while being more likely to have had one or more teeth removed for poor oral health, suggests that good access to the health care system has a significant role to play in reducing these disparities.

It is important that these disparities in childhood are addressed as evidence suggests that good or poor health in the adult years can be traced back to childhood. When identifying programmes that reduce the disparities between children from different ethnic groups it must be recognised that the indicators cannot be addressed in isolation. In order to reduce the burden of health outcomes experienced by these groups, programmes and policies that create a supportive environment – including the physical environment, and the social and economic environments – must be implemented. In addition to programmes and policies aimed at reducing the exposure of children to the identified risk factors, and to address the differences in health outcomes identified between the priority and comparison groups, a responsive health system is essential.

This report shows a consistent gradient between increasing deprivation and poorer health outcomes. Working upstream (influencing the social and economic environment) is challenging, not only because it relies on collaborative efforts with the wider sector (not just the health system), but also because it is dependent on changing social values and attitudes as well as acknowledging historical events. As a result, any sustainable reduction in disparities requires a collaborative approach that addresses the interconnectedness of health, education, housing, justice, welfare, employment, culture and lifestyle.

Appendix 1: Interpretation of CHQ-PF28 domain scores

Code	Domain	Low score interpretation	High score interpretation
PF	Physical functioning	Child is limited a lot in performing all physical activities, including self-care, due to health	Child performs all types of physical activities, including the most vigorous, without limitations due to health
RP	Role/social – physical	Child is limited a lot in school work or activities with friends as a result of physical health	Child has no limitations in school work or activities with friends as a result of physical health
GH	General health perceptions	Parent believes child's health is poor and likely to get worse	Parent believes child's health is excellent and will continue to be so
BP	Bodily pain	Child has extremely severe, frequent and limiting bodily pain	Child has no pain or limitations due to pain
PT	Parental impact – time	Parent experiences a lot of limitations in time available for personal needs due to child's physical and/or psychosocial health	Parent doesn't experience limitations in time available for personal needs due to child's physical and/or psychosocial health
PE	Parental impact – emotional	Parent experiences a great deal of emotional worry/concern as a result of child's physical and/or psychosocial health	Parent doesn't experience feelings of emotional worry/concern as a result of child's physical and/or psychosocial health
REB	Role/social – emotional/behavioural	Child is limited a lot in school work or activities with friends as a result of emotional or behavioural problems	Child has no limitations in school work or activities with friends as a result of emotional or behavioural problems
SE	Self esteem	Child is very dissatisfied with abilities, looks, family/peer relationships and life overall	Child is very satisfied with abilities, looks, family/peer relationships and life overall
MH	Mental health	Child has feelings of anxiety and depression all of the time	Child feels peaceful, happy and calm all of the time
BE	Behaviour	Child very often exhibits aggressive, immature, delinquent behaviour	Child never exhibits aggressive, immature, delinquent behaviour

Note: A four-week recall period is used in all domains, except GH, which uses an 'in general' recall period.

Source: *A Portrait of Health: Key results of the 2006/07 New Zealand Health Survey* (Ministry of Health 2008a)

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