

Oral health conditions

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, tooth-brushing less than twice a day, and cigarette smoking (Ministry of Health 2006b).

What were the survey questions?

In the 2006/07 New Zealand Health Survey the parents of child participants aged 1–14 years were asked if their child had ever had any teeth removed due to decay, abscess, infection or gum disease. This does not include teeth removed for other reasons such as injury, crowded mouth or orthodontics. Information was also collected on whether children had ever had a filling, ever experienced pain in their mouth that had kept them awake at night, and the number of times their child brushed their teeth yesterday.

Adult participants in the survey were asked if they had ever had any teeth removed due to decay, abscess, infection or gum disease.

Results on the use of oral health care services by children and adults are reported in Chapter 6 of this report.

Data presented here are for children aged two years and over, and adults.

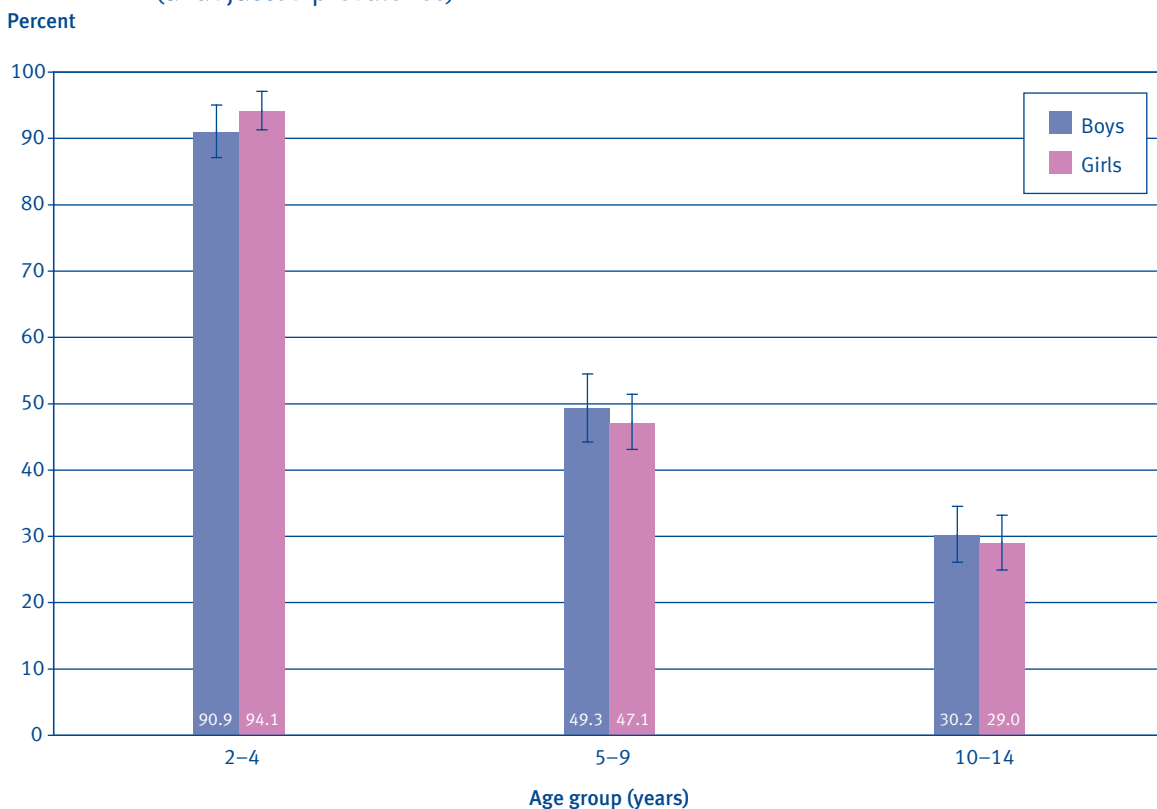
Children who have never had a filling

Half of children aged 2–14 years (50.9%, 49.0–52.9) had never had a filling in their teeth. There was no difference between boys and girls in the age standardised rate of never having had a filling.

Never had a filling, by age group

Nearly all children aged 2–4 years had never had a filling (92.4%, 89.8–95.0), but this decreased to half of children aged 5–9 years (48.2%, 44.6–51.8), and then to one in three children aged 10–14 years (29.6%, 26.7–32.5). There were no differences between boys and girls within age groups in the proportion of children who had never had a filling (Figure 3.22).

Figure 3.22: Children aged 2–14 years who have never had a filling, by gender and age group (unadjusted prevalence)

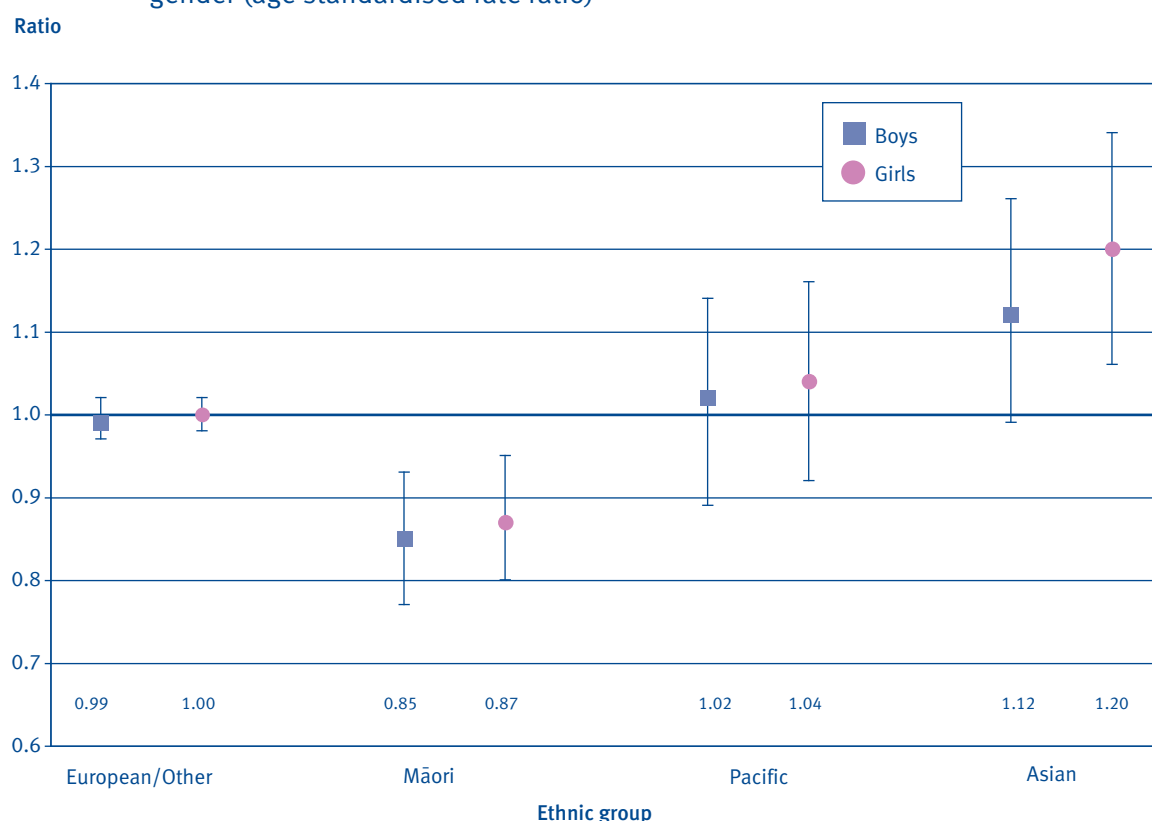


Source: 2006/07 New Zealand Health Survey

Never had a filling, by ethnic group

Once adjusted for age, Māori boys and girls were significantly less likely to have never had a filling, while Asian girls were 20% more likely to have never had a filling, compared to all boys and girls in the total population. There were no other differences by ethnic group (Figure 3.23).

Figure 3.23: Children aged 2–14 years who have never having had a filling, by ethnic group and gender (age standardised rate ratio)



Source: 2006/07 New Zealand Health Survey

Notes: Age standardised to the WHO world population. Reference group, with a rate ratio of 1.00 (indicated by the bold line), is the total male or female population aged from 2–14 years. Total response standard output for ethnic groups has been used.

Never had a filling, by neighbourhood deprivation

There were no significant differences by NZDep2006 quintile in the proportion of children who had never had a filling.

Never had a filling, by DHB area

Oral health of children varies by DHB area. Children aged 2–14 years living in Wairarapa / Hutt Valley / Capital and Coast DHB areas, Waitemata and Auckland DHB areas were significantly more likely to have never had a filling in their teeth. Children aged 2–14 years living in the South Island DHBs (excluding Canterbury), Northland / Tairāwhiti / Hawke’s Bay / Lakes / Whanganui, and Bay of Plenty / Taranaki / MidCentral DHB areas were significantly less likely to have never had a filling in their teeth compared to the national rate (Table 3.15).

Table 3.15: Children aged 2–14 years who have never had a filling, by DHB area (unadjusted)

DHB area	Prevalence in children 2-14 years (95% CI)	Number of children 2-14 years
Northland / Tairāwhiti / Hawke's Bay / Lakes / Whanganui	43.1 (37.9–48.4) –	43000
Waitemata	58.5 (52.8–64.3) +	52500
Auckland	59.2 (53.2–65.2) +	38700
Counties Manukau	51.7 (46.0–57.3)	48900
Waikato	49.9 (43.8–55.9)	33000
Bay of Plenty / Taranaki / MidCentral	45.2 (39.8–50.5) –	39000
Wairarapa / Hutt Valley / Capital and Coast	59.8 (54.4–65.1) +	45200
Canterbury	54.0 (47.0–61.1)	43400
Nelson Marlborough / West Coast / South Canterbury / Otago / Southland	40.6 (33.9–47.4) –	34500
New Zealand total	50.9 (49.0–52.9)	378100

Source: 2006/07 New Zealand Health Survey

Notes: Estimates indicated with a + are significantly higher than the national rate, and estimates indicated with a – are significantly lower than the national rate. Data are based on direct survey estimates and could be confounded by different population characteristics in each DHB. Due to small sample size, some DHB areas have been combined. Survey population is the estimated resident population living in permanent private dwellings at 31 June 2007.

Time trends for children aged 5–14 years who have never had a filling

Time trends in oral health are only available for children aged 5–14 years, because the 2002 National Children's Nutrition Survey did not include under five-year-olds.

There was no significant change between 2002 (35.6, 33.0–38.1) and 2006/07 (38.9, 36.7–41.2) in the proportion of boys and girls aged 5–14 years who had never had a filling, adjusting for age. There was also no significant change when looking only at Māori children between 2002 (25.3, 22.3–28.3) and 2006/07 (29.9, 26.7–32.2).

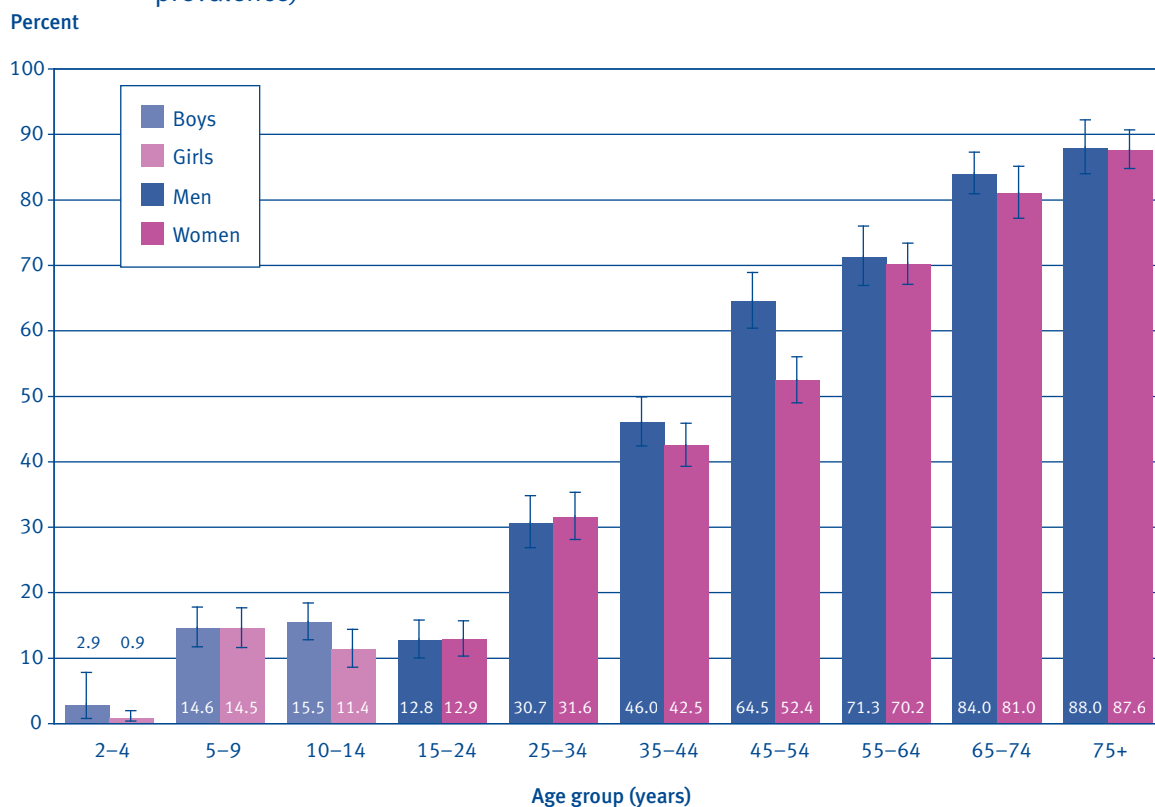
Children and adults with tooth decay, abscess, infection and gum disease

One in nine children aged 2–14 years (11.3%, 10.1–12.5) had one or more teeth removed due to decay, abscess, infection or gum disease. Half of all adults (48.7%, 47.7–49.6) had one or more teeth removed due to decay or gum disease. This equates to 84,000 children and 1,518,300 adults. There was no difference by gender in the age-adjusted prevalence of having had one or more teeth removed, for both children and adults.

Tooth decay, abscess, infection and gum disease, by age group

Approximately 3300 children aged 2–4 years had had a tooth removed due to decay, abscess, infection or gum disease (2.0%, 0.7–4.4). The proportion of children and young people aged 5–24 years who had had a tooth removed was stable at approximately one in seven. After this the likelihood of having teeth removed increased sharply with age, with each 10-year age group in adults being significantly more likely than the prior group to have had one or more teeth removed (Figure 3.24). Men aged 45–54 years, were significantly more likely than women of the same age to have had a tooth removed due to decay, abscess, infection or gum disease.

Figure 3.24: Children and adults who have had one or more teeth removed due to decay, abscess, infection or gum disease, by age group and gender (unadjusted prevalence)



Source: 2006/07 New Zealand Health Survey

Tooth decay, abscess, infection and gum disease, by ethnic group

Table 3.16 gives an indication of the burden of tooth decay, abscess, infection and gum disease for children in New Zealand's main ethnic population groups.

Table 3.16: Children aged 2–14 years who have had one or more teeth removed due to decay, abscess, infection or gum disease, by ethnic group (unadjusted)

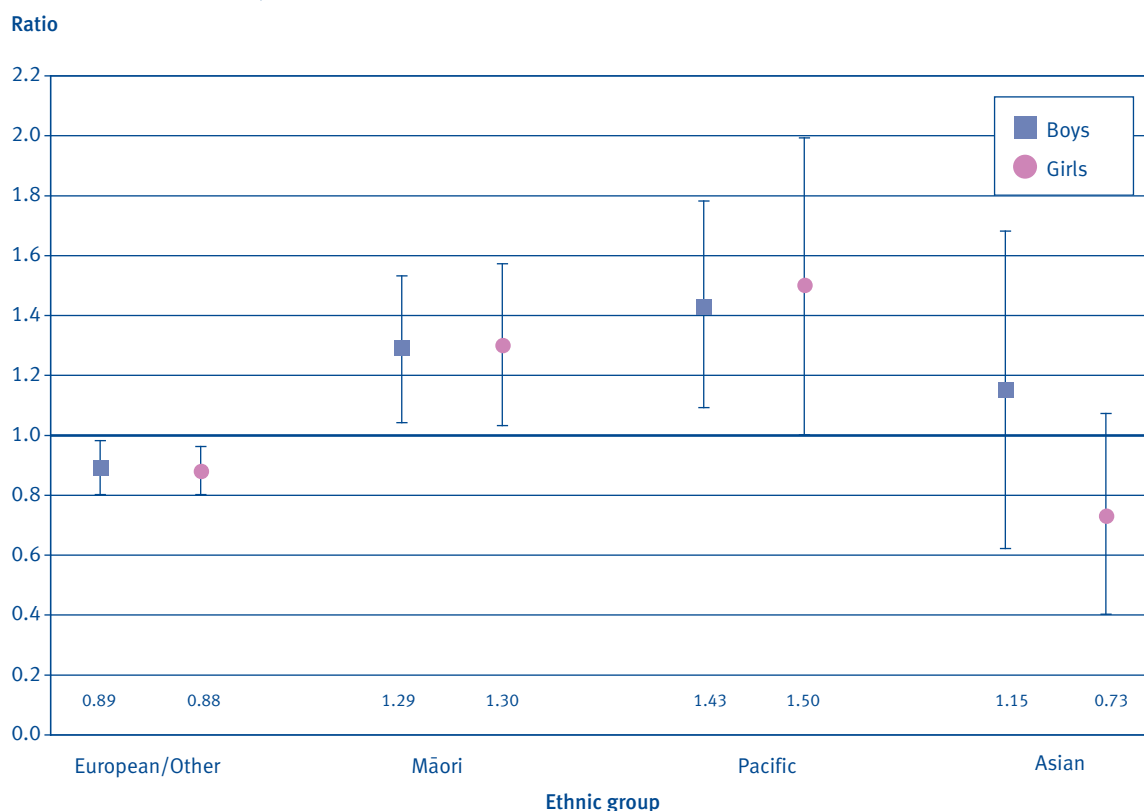
Ethnic group	Prevalence (95% CI)	Number of children
European/ Other	10.1 (8.7–11.5)	56600
Māori	14.5 (12.5–16.5)	24300
Pacific	16.1 (12.5–19.8)	13600
Asian	10.9 (7.7–14.2)	7300

Source: 2006/07 New Zealand Health Survey

Note: Total response standard output for ethnic groups has been used.

Adjusted for age, Māori and Pacific boys and Māori girls were significantly more likely to have had a tooth removed due to decay, abscess, infection or gum disease compared to boys and girls in the total population, whereas European/Other boys and girls were slightly less likely (Figure 3.25).

Figure 3.25: Children aged 2–14 years who have had one or more teeth removed due to decay, abscess, infection or gum disease, by ethnic group and gender (age standardised rate ratio)



Source: 2006/07 New Zealand Health Survey

Notes: Age standardised to the WHO world population. Reference group, with a rate ratio of 1.00 (indicated by the bold line), is the total male or female population aged from 2-14 years. Total response standard output for ethnic groups has been used.

Table 3.17 gives an indication of the burden of tooth decay, abscess, infection and gum disease for adults in New Zealand's main ethnic population groups.

Table 3.17: Adults who have had one or more teeth removed due to decay, abscess, infection or gum disease, by ethnic group (unadjusted)

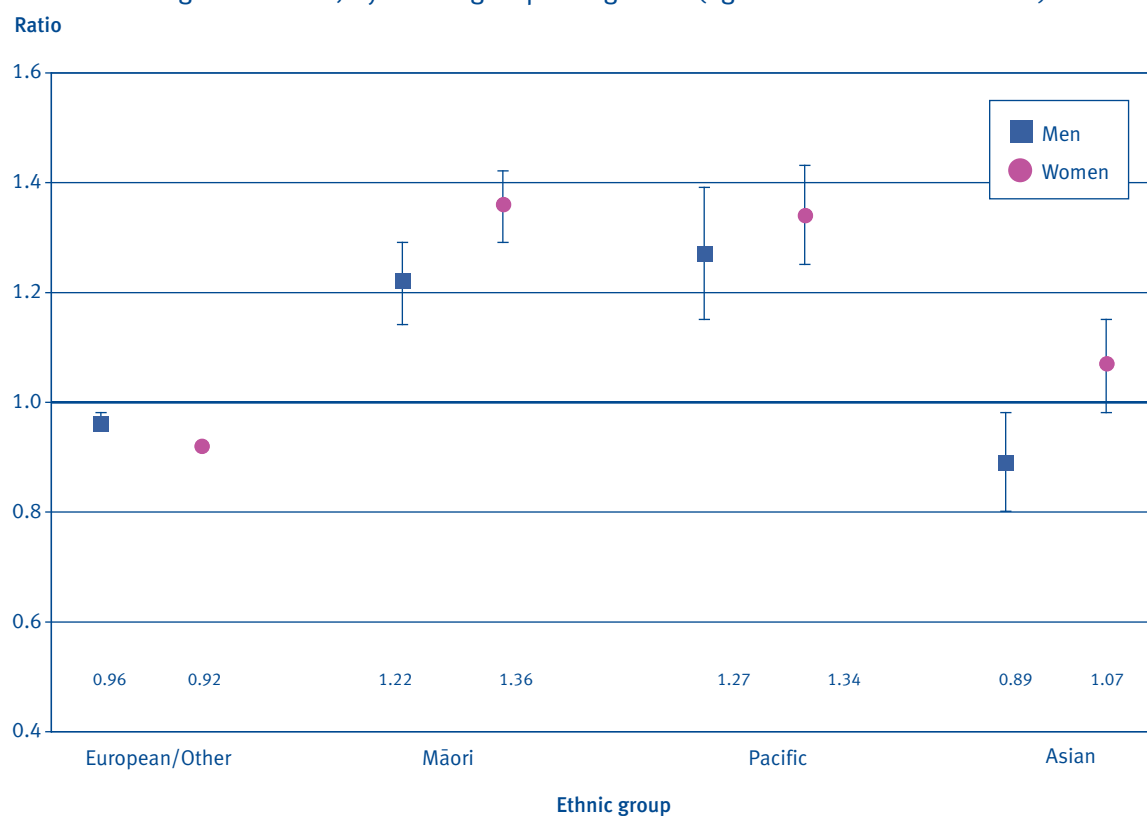
Ethnic group	Prevalence (95% CI)	Number of adults
European/ Other	48.2 (47.1–49.3)	1230300
Māori	52.5 (50.4–54.5)	186400
Pacific	52.6 (48.8–56.4)	86600
Asian	39.0 (36.2–41.8)	108800

Source: 2006/07 New Zealand Health Survey

Note: Total response standard output for ethnic groups has been used.

After adjusting for age, Māori and Pacific men and women were more likely than men and women in the total population to have had one or more teeth removed due to decay, abscess, infection or gum disease, while Asian men and European/Other men and women were significantly less likely (Figure 3.26).

Figure 3.26: Adults who have had one or more teeth removed due to decay, abscess, infection or gum disease, by ethnic group and gender (age standardised rate ratio)



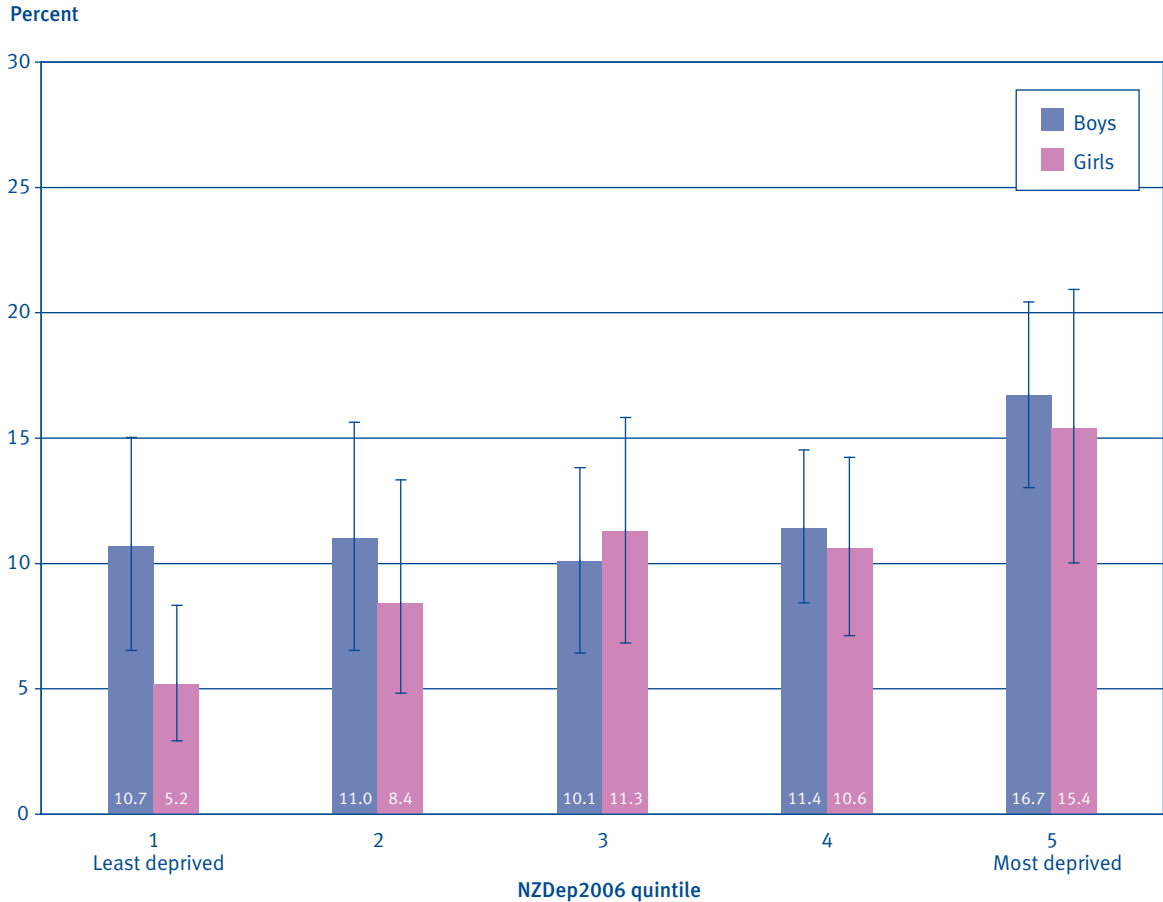
Source: 2006/07 New Zealand Health Survey

Notes: Age standardised to the WHO world population. Reference group, with a rate ratio of 1.00 (indicated by the bold line), is the total male or female population aged 15 years and over. Total response standard output for ethnic groups has been used.

Tooth decay, abscess, infection and gum disease, by neighbourhood deprivation

Girls living in the most deprived neighbourhoods (NZDep2006 quintile 5) were significantly more likely to have had a tooth removed compared to girls in NZDep2006 quintile 1 neighbourhoods (Figure 3.27). This difference was not significant for boys.

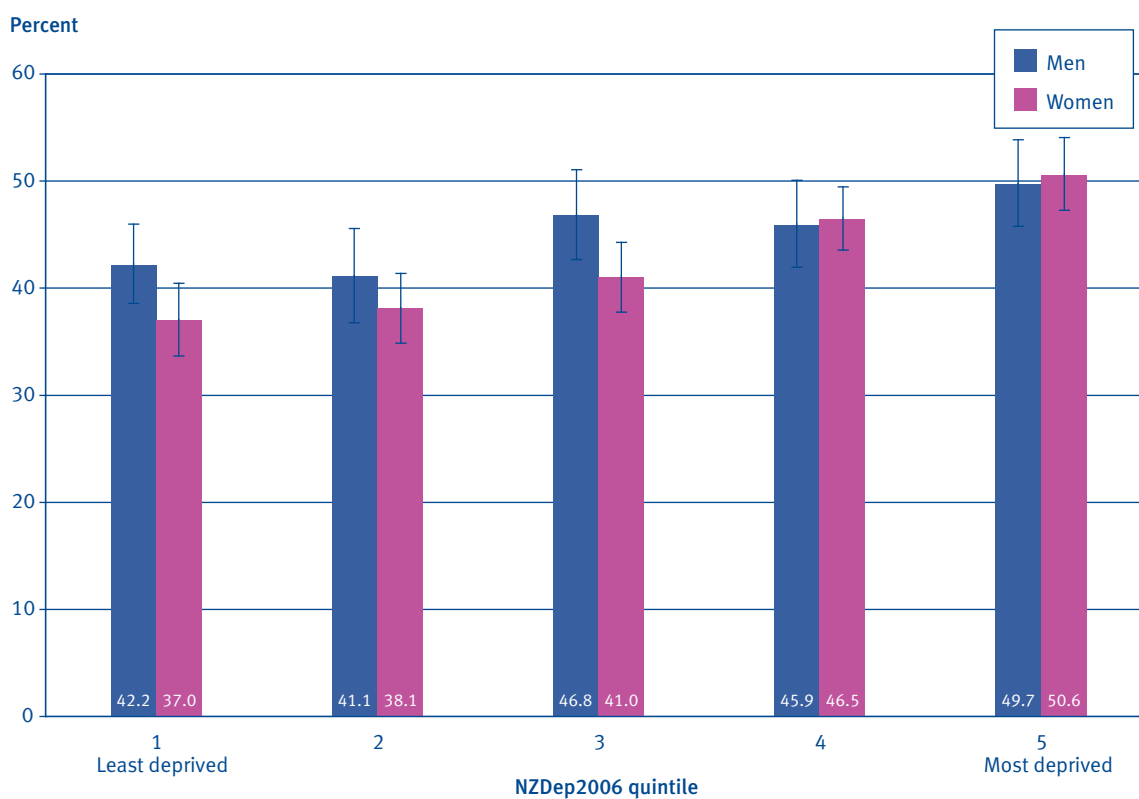
Figure 3.27: Children aged 2–14 years who have had one or more teeth removed due to decay, abscess, infection or gum disease, by NZDep2006 quintile and gender (age standardised prevalence)



Source: 2006/07 New Zealand Health Survey

For adults, having a tooth removed due to tooth decay, abscess, infection or gum disease was more likely in areas of high neighbourhood deprivation for both men and women (Figure 3.28). For women, this relationship was particularly strong, with one in two women living in the most deprived neighbourhoods (NZDep2006 quintile 5) having had a tooth removed, compared to a little over one in three women in the least deprived neighbourhoods (NZDep2006 quintile 1) (Figure 3.28).

Figure 3.28: Adults who have had one or more teeth removed due to decay, abscess, infection or gum disease, by NZDep2006 quintile and gender (age standardised prevalence)



Source: 2006/07 New Zealand Health Survey

Tooth decay, abscess, infection and gum disease, by DHB area

Children living in Northland / Tairāwhiti / Hawke's Bay / Lakes / Whanganui DHB area were significantly more likely than the total child rate to have had a tooth removed due to decay, abscess, infection or gum disease, whereas children living in Waitemata DHB area were less likely to have had a tooth removed (Table 3.18).

For adults, there was a lot of variation in oral health by DHB area. Adults living in Northland / Tairāwhiti / Hawke's Bay / Lakes / Whanganui DHB area and Bay of Plenty / Taranaki / MidCentral DHB area were significantly more likely than the total adult rate to have had a tooth removed due to decay, abscess, infection or gum disease. Adults living in Auckland, Waitemata, Wairarapa / Hutt Valley / Capital and Coast DHB areas were less likely than the national rate to have had a tooth removed (Table 3.18).

Table 3.18: Children aged 2–14 years and adults who have had one or more teeth removed due to decay, abscess, infection or gum disease, by DHB area (unadjusted)

DHB area	Prevalence for children (95% CI)	Number of children	Prevalence in adults (95% CI)	Number of adults
Northland / Tairāwhiti / Hawke's Bay / Lakes / Whanganui	15.1 (11.9–18.3) +	15100	57.1 (54.4–59.8) +	214400
Waitemata	8.5 (5.8–11.1) –	7600	44.0 (40.8–47.2) –	166700
Auckland	8.2 (4.3–12.2)	5300	38.7 (34.7–42.7) –	124700
Counties Manukau	14.1 (10.5–17.7)	13300	49.9 (46.3–53.5)	160800
Waikato	9.3 (5.8–12.7)	6100	49.1 (44.9–53.3)	127200
Bay of Plenty / Taranaki / MidCentral	10.0 (6.6–13.3)	8600	56.6 (53.6–59.7) +	199100
Wairarapa / Hutt Valley / Capital and Coast	10.0 (6.5–13.5)	7600	42.8 (38.8–46.8) –	148300
Canterbury	11.9 (7.2–16.7)	9500	46.6 (43.0–50.1)	172800
Nelson Marlborough / West Coast / South Canterbury / Otago / Southland	12.7 (8.1–17.3)	10800	51.9 (47.6–56.2)	204100
New Zealand total	11.3 (10.1–12.5)	84000	48.7 (47.7–49.6)	1518300

Source: 2006/07 New Zealand Health Survey

Notes: Estimates indicated with a + are significantly higher than the national rate, and estimates indicated with a – are significantly lower than the national rate. Data are based on direct survey estimates and could be confounded by different population characteristics in each DHB. Due to small sample size, some DHB areas have been combined. Survey population is the estimated resident population living in permanent private dwellings at 31 June 2007.

Time trends in having had a tooth removed for children aged 5–14 years

Between 2002 and 2006/07 there was no significant difference in the proportion of children aged 5–14 years who had one or more teeth removed due to decay, abscess, infection or gum disease, adjusted for age. There was also no change when looking only at Māori children.