Asthma prevalence (2–14 years), 2016/17

HIGHLIGHTS:

- **In 2016/17, about 114,000 children aged 2–14 years (14.3%) took medication for asthma. This was a significant decrease in the prevalence from 2015/16 (16.6%).**
- **By ethnic group, Māori children (17.8%) had the highest rate of medicated asthma.**
- **Rates of medicated asthma were highest for children living in the most deprived areas (NZDep2013 quintile 5) (17.0%).**
- **Children living in Whanganui (24.4%), MidCentral (21.9%) and Hutt Valley (20.5%) DHBs had the highest rates of medicated asthma in 2014–17.**

Relevance of asthma to environmental health

Asthma affects a person's airways, and makes it difficult to breathe. Second-hand smoke exposure can increase the risk of having asthma and wheeze in children (US Department of Health and Human Services 2007). Indoor dampness/mould is also associated with asthma onset and exacerbation in children (Jaakkola et al., 2011; Prezant & Douwes, 2011). Additionally, several studies have found an increase in asthma prevalence or incidence associated with exposure to nitrogen dioxide (Guarnieri & Balmes, 2014). Evidence also suggests that transport-related air pollution may increase the incidence of asthma (Orellano et al., 2017). New Zealand has high asthma rates for children compared with other countries (Lai et al., 2009; OECD, 2015). Each year, a small number of children die from asthma; in 2014, four children died from asthma in New Zealand.

Data for this indicator

The data for this indicator come from the New Zealand Health Survey. Child respondents aged 2–14 years were defined as having medicated asthma if the child's parents or caregivers had ever been told by a doctor that the child has asthma, and if the child now take treatments for asthma (inhalers, medicine, tablets or pills) (Ministry of Health, 2018).

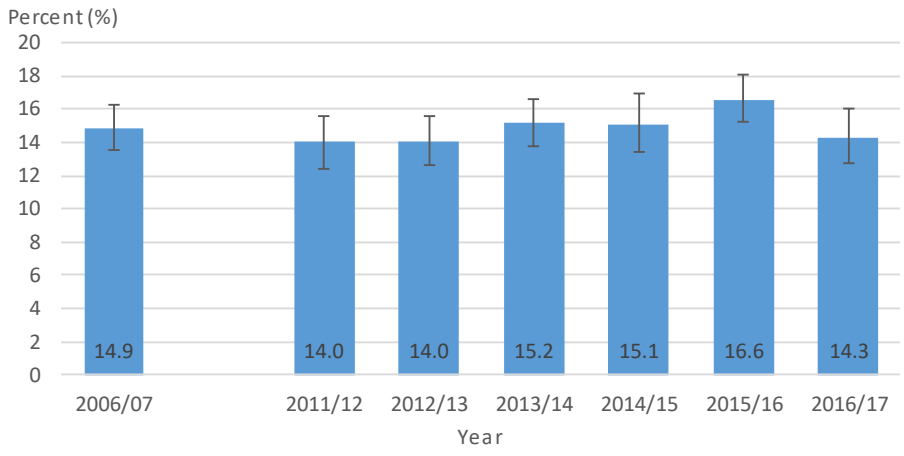
About 114,000 children had medicated asthma in 2016/17

In 2016/17, 14.3% of children aged 2–14 years had medicated asthma (95% confidence interval 12.8–16.0). This is about 114,000 children.

Overall, 17.2% of boys and 11.3% of girls took medication for asthma. Boys were significantly more likely than girls to have medicated asthma, after adjusting for age differences (adjusted rate ratio 1.53, 1.27–1.86).

There has been a significant decrease in the prevalence of medicated asthma from 2015/16 (16.6%) to 2016/17 (14.3%) (Figure 1) (Ministry of Health 2017).

Figure 1 : Medicated asthma in children aged 2–14 years, 2006/07–2016/17 (unadjusted prevalence)



Source: New Zealand Health Survey (2006/07, 2011/12–2016/17)

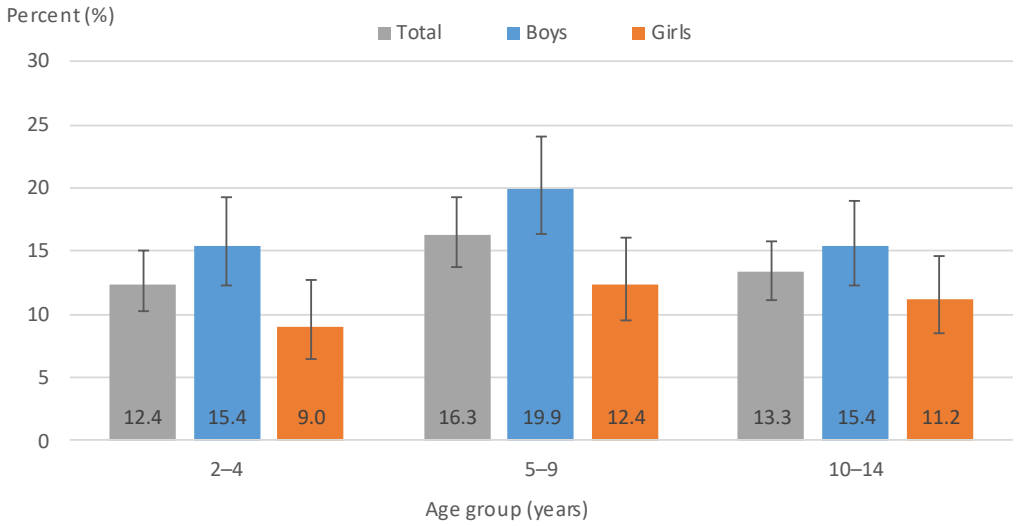
Asthma prevalence (2–14 years), 2016/17

Similar levels of medicated asthma across age groups

In 2016/17, the percentage of children taking medication for asthma was somewhat higher for children aged 5–9 years (16.3%) than for the other two age groups (Figure 2).

Boys generally had higher rates of asthma than girls, particularly among children aged 2–4 years and 5–9 years (Figure 2).

Figure 2: Medicated asthma, children aged 2–14 years, by sex and age group, 2016/17 (unadjusted prevalence)



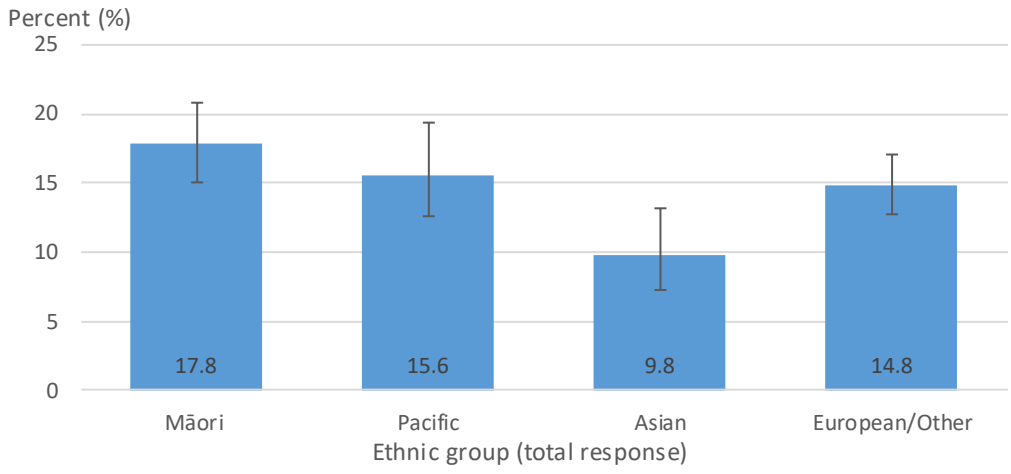
Source: New Zealand Health Survey (2016/17)

Māori children were more likely to have medicated asthma than other children

In 2016/17, the highest rate of medicated asthma was among Māori children (17.8%), followed by Pacific children (15.6%) and European/Other children (14.8%) (Figure 3).

Adjusting for age and sex differences, Māori children were 1.4 times as likely as non-Māori children to have medicated asthma (adjusted rate ratio 1.36, 1.11–1.66). Asian children were significantly less likely to have medicated asthma than other children (adjusted rate ratio 0.66, 0.48–0.91). There were no significant differences between Pacific and non-Pacific children.

Figure 3: Medicated asthma, children aged 2–14 years, by ethnic group, 2016/17 (unadjusted prevalence)



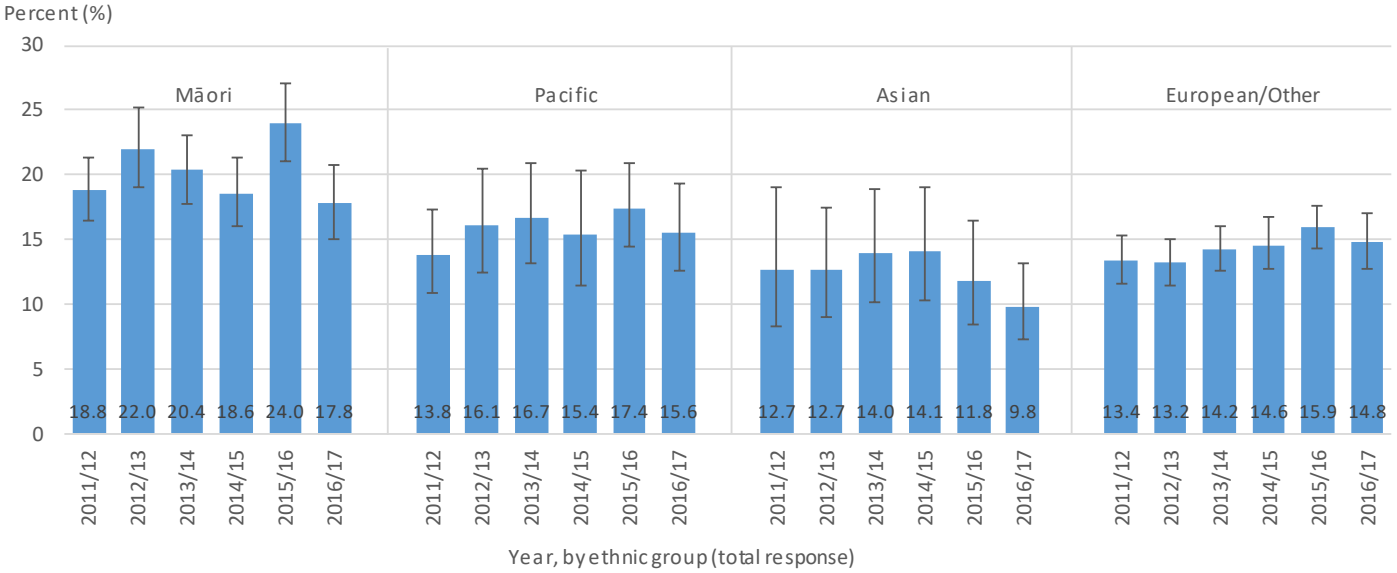
Notes: Total response ethnicity has been used, so children may appear in multiple ethnic groups.
Source: New Zealand Health Survey (2016/17)

Asthma prevalence (2–14 years), 2016/17

Decrease in medicated asthma rates for Māori children from 2015/16 to 2016/17

The rate of medicated asthma significantly decreased for Māori children from 2015/16 to 2016/17, returning back to similar levels as in 2014/15 (Figure 4). There were no other significant changes in rates of medicated asthma between 2006/07 and 2016/17, 2011/12 and 2016/17, or 2015/16 and 2016/17, by ethnic group (Ministry of Health, 2017).

Figure 4: Medicated asthma, children aged 2–14 years, by ethnic group (total response), 2011/12–2016/17 (unadjusted prevalence)



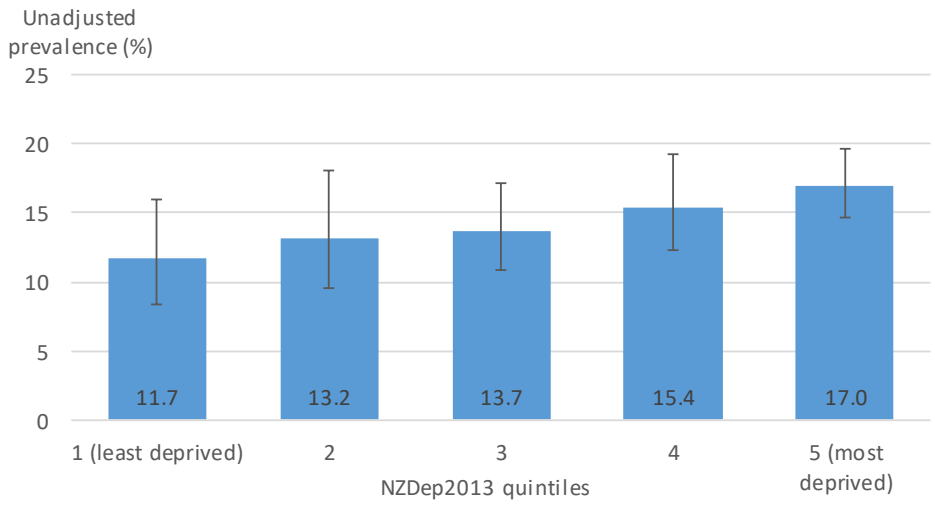
Source: New Zealand Health Survey (2011/12, 2012/13, 2013/14, 2014/15, 2015/16, 2016/17)

Highest rates of medicated asthma in high deprivation areas

In 2016/17, children living in the most deprived areas (NZDep2013 quintile 5) had the highest rates of medicated asthma (17.0%) (Figure 5).

Children living in the most deprived areas were 1.6 times as likely to have medicated asthma as children in the least deprived areas, after adjusting for age, sex and ethnic differences (adjusted rate ratio 1.56, 1.03–2.35).

Figure 5: Medicated asthma, children aged 2–14 years, by NZDep2013 quintiles, 2016/17 (unadjusted prevalence)



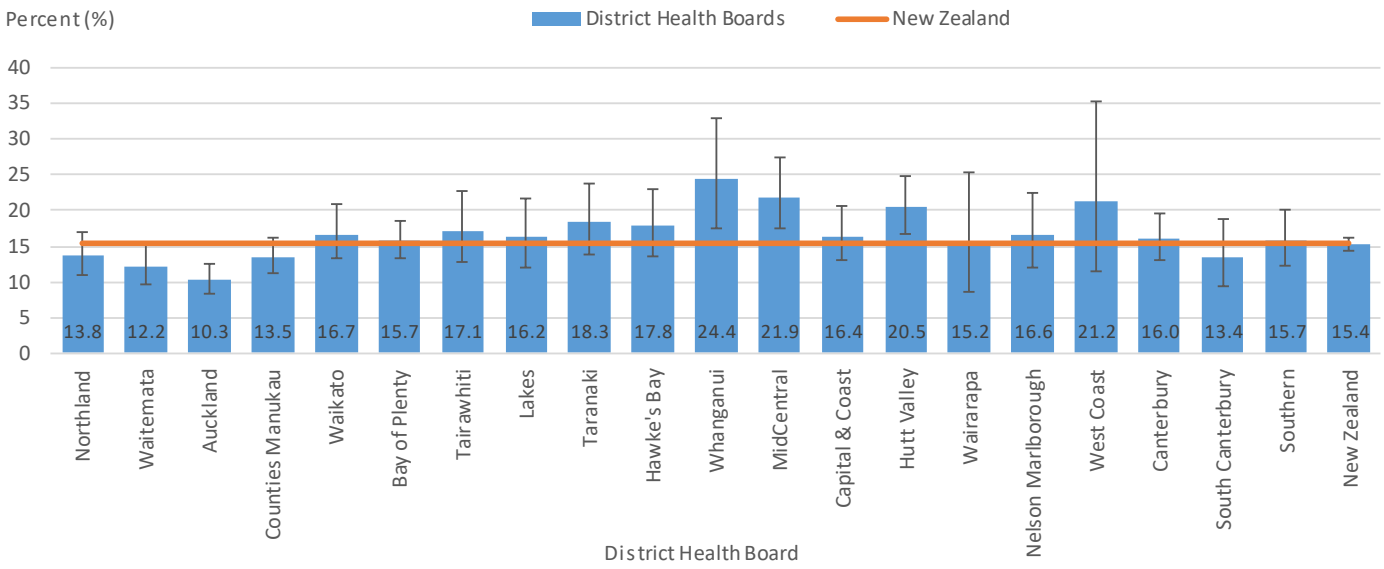
Source: New Zealand Health Survey (2016/17)

Asthma prevalence (2–14 years), 2016/17

Highest rates of medicated asthma in Whanganui, MidCentral and Hutt Valley DHBs

In 2014–17, the following District Health Boards (DHBs) had significantly higher rates of medicated asthma for children than the New Zealand rate: Whanganui DHB (24.4%), MidCentral DHB (21.8%) and Hutt Valley DHB (20.5%) (Figure 6). Auckland DHB (10.3%) and Waitemata DHB (12.2%) had significantly lower rates than the New Zealand rate.

Figure 6: Medicated asthma, children aged 2–14 years, by District Health Board, 2014–2017 (unadjusted prevalence)



Source: New Zealand Health Survey (2014–2017 regional data)

Asthma prevalence (2–14 years), 2016/17

DATA SOURCES

Data come from the 2016/17 New Zealand Health Survey data tables (Ministry of Health, 2017), and regional results from the 2014–17 New Zealand Health Survey data tables (Ministry of Health, 2018).

For more information about this indicator, see the metadata sheet.

RELATED INDICATORS

Related environmental health indicators for the indoor environment, available from the EHINZ website (www.ehinz.ac.nz), include:

- Asthma hospitalisations (0–14 years)
- Second-hand smoke exposure (0–14 years)
- Lower respiratory tract infection hospitalisations (0–4 years)
- Sudden unexpected death in infancy (SUDI)
- Meningococcal disease notifications (0–14 years)
- Maternal smoking at two weeks postnatal
- Household crowding (0–14 years, and total population).

See also the indicators in the Air Domain.

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