Second-hand smoke exposure in the home

This report presents information from the 2023/24 New Zealand Health Survey on the prevalence of second-hand smoke exposure in the home among children and adults.

Key facts

- Around 21,000 children aged 0–14 years and 197,000 adults were exposed to second-hand smoke in the home in 2023/24.
- Exposure to second-hand smoke for children has decreased considerably from 5.1% in 2012/13 to 2.2% in 2023/24. Second-hand smoke exposure among adults has decreased between 2012/13 (7.8%) and 2023/24 (4.6%).
- Young people aged 15–24 years, Pacific children, and Pacific adults had the highest exposure to second-hand smoke.
- Children living in the most deprived neighbourhoods (NZDep2018 quintile 5) were 2.39 times as likely to be exposed to second-hand smoke in the home than those in the least deprived areas. Adults in the same deprived areas were 3.41 times more likely to be exposed than those in the least deprived areas.

Second-hand smoke is harmful to health

Second-hand smoke is a major cause of indoor air pollution in New Zealand. Second-hand smoke comes from two places: smoke breathed out by the smoker, and smoke smouldering from the end of the burning cigarette.

Exposure to second-hand smoke causes premature death and illness in both children and adults. In children, second-hand smoke can cause sudden unexpected death in infancy (SUDI), asthma, middle ear infections (otitis media), lower respiratory infections and low birth-weight. In adults, exposure to second-hand smoke can cause lung cancer, ischaemic heart disease and stroke (US Department of Health and Human Services 2014, US Surgeon General 2006).

Around 21,000 children aged 0–14 years and 197,000 adults were exposed to second-hand smoke in their home

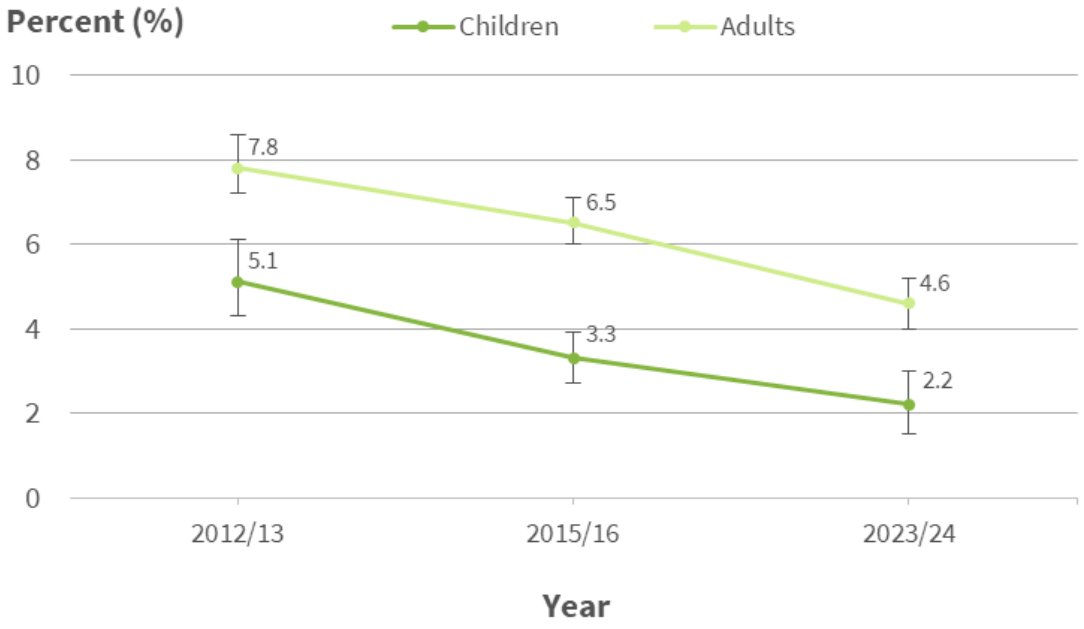
In 2023/24, 2.2% (95%CI 1.5–3.0), of children were exposed to second-hand smoke in the home, equating to 21,000 children. This rate is about half the prevalence among adults aged 15 and over exposed to second-hand smoke, which was 4.6% (95%CI 4.0–5.2). The number of adults exposed to

second-hand smoke was 197,000.

Second-hand smoke exposure has fallen in the last eleven years

The percentage of children exposed to second-hand smoke has continued to decline, falling from 3.3% (95%CI 2.7–3.9) in 2015/16 to 2.2% (95%CI 1.5–3.0) in 2023/24. Similarly, among adults, the prevalence decreased from 6.5% (95%CI 6.0–7.1) in 2015/16 to 4.6% (95%CI 4.0–5.2) in 2023/24 (Figure 1).

Figure 1: Exposure to second-hand smoke in the home among children and adults (15+ years), 2012/13, 2015/16, 2023/24



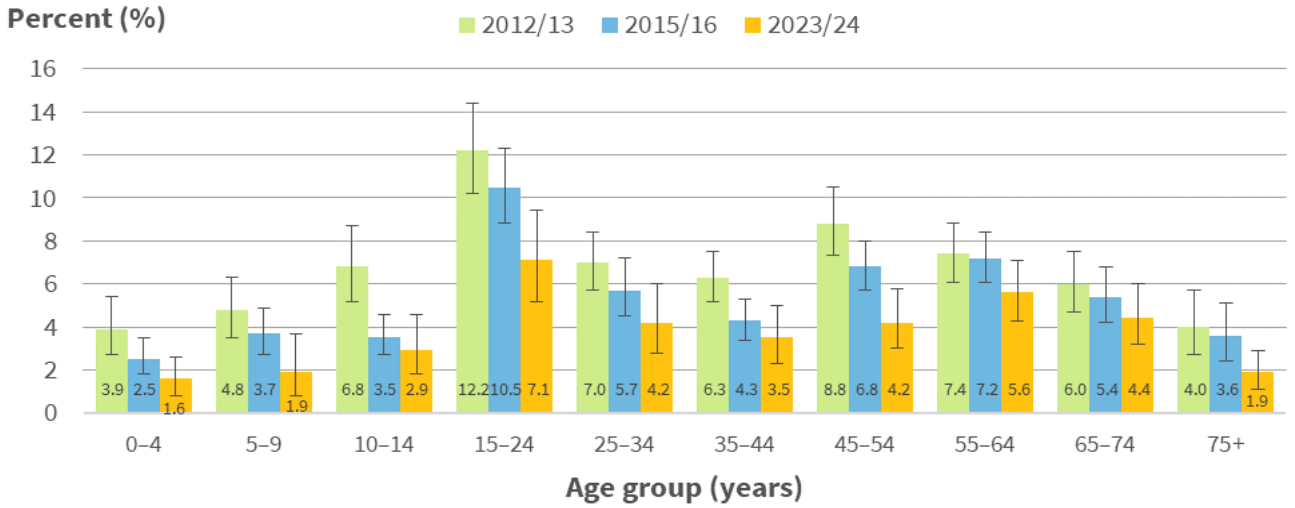
Notes: 95% confidence intervals have been presented as vertical bars
Source: New Zealand Health Survey, Ministry of Health 2024

Younger people are the most exposed

In 2023/24, second-hand smoke exposure in the home continued to be highest among younger people 15-24 years (7.1%), although rates declined compared with 2015/16 (10.5%) (Figure 2). From 2015/16 to 2023/24, the most significant declines in second-hand smoke exposure were observed among adults 15-24 years, followed by those 45-54 years.

In children, second-hand smoke exposure was similar between boys (2.3%, 95%CI 1.4–3.5) and girls (95%CI 2.0%, 1.2–3.2). Second-hand smoke exposure rates were slightly higher in adult men (4.9%, 95%CI 4.2–5.8) than in women (4.1%, 95%CI 3.4–4.9).

Figure 2: **Exposure to second-hand smoke in the home among children aged 0-14 years and adults (15+ years), by age group, 2012/13, 2015/16, and 2023/24 (unadjusted prevalence)**



Notes: 95% confidence intervals have been presented as vertical bars
Source: New Zealand Health Survey, Ministry of Health 2024

Both Pacific children and adults are more likely to be exposed to second-hand smoke

Second-hand smoke exposure in the home was highest in Pacific children (4.0%) and Pacific adults (11.4%) (Table 1).

Table 1: Exposure to second-hand smoke in the home, by ethnic group, 2023/24 (unadjusted prevalence and estimated number of people)

Ethnic group (total response)	Unadjusted prevalence (%, 95%CI)		Estimated number of children	
	Children	Adults	Children	Adults
Total	2.2 (1.5–3.0)	4.6 (4.0–5.2)	21,000	197,000
Māori	2.7 (1.6–4.2)	10.0 (8.1–12.2)	7,000	65,000
Pacific	4.0 (2.3–6.5)	11.4 (8.4–15)	5,000	33,000
Asian	0.9 (0.3–2.0)[a]	3.4 (2.1–5.2)	2,000	24,000
European/Other	1.6 (1.0–2.5)	3.4 (2.8–4.0)	11,000	107,000

Note: 95% confidence intervals (CI) are given in brackets. Estimated numbers will add to more than the total for ethnic groups due to total response ethnic groups being used (where everyone is included in every ethnic group they report).
[a] This estimate has a relative standard error of >30% and should be used with caution.

Source: New Zealand Health Survey, Ministry of Health 2024

Māori and Pacific children and adults were more likely to be exposed to second-hand smoke than non-Māori and non-Pacific respectively. Adjusting for age and sex differences, Pacific children were 2.18 times as likely as non-Pacific children to be exposed to second-hand smoke in their home (Table 2). Asian children were less likely to be exposed to second-hand smoke than non-Asian children.

Among adults, Māori were 2.65 times as likely to be exposed to second-hand smoke in their home than non-Māori, while Pacific people were 2.59 times more likely than non-Pacific people to be exposed to second-hand smoke.

Table 2: Exposure to second-hand smoke, by ethnic group, 2023/24 (adjusted rate ratio)

Comparison groups for adjusted rate ratio	Adjusted rate ratio (RR, 95%CI)^	
	Children	Adults
Māori vs non-Māori	1.37 (0.80–2.35)*	2.65 (2.04–3.44)*
Pacific vs non-Pacific	2.18 (1.23–3.88)*	2.59 (1.84–3.65)*
Asian vs non-Asian	0.39 (0.16–0.92)*	0.71 (0.45–1.13)

Note: 95% confidence intervals (CI) are given in brackets. Estimated numbers will add to more than the total for ethnic groups due to total response ethnic groups being used (where everyone is included in every ethnic group they report).
^ Rate ratios (RR) are used to compare results for different population subgroups. Adjusted rate ratios are used to control for age and sex differences that could influence the comparison. An adjusted rate ratio above 1.0 shows that the indicator is more likely in the group of interest (eg, Māori) than in the comparison group (eg, non-Māori). An adjusted ratio below 1.0 shows the indicator is less likely in the group of interest than the comparison group.
* Indicates that the adjusted ratio is statistically significant.

Source: New Zealand Health Survey, Ministry of Health 2024

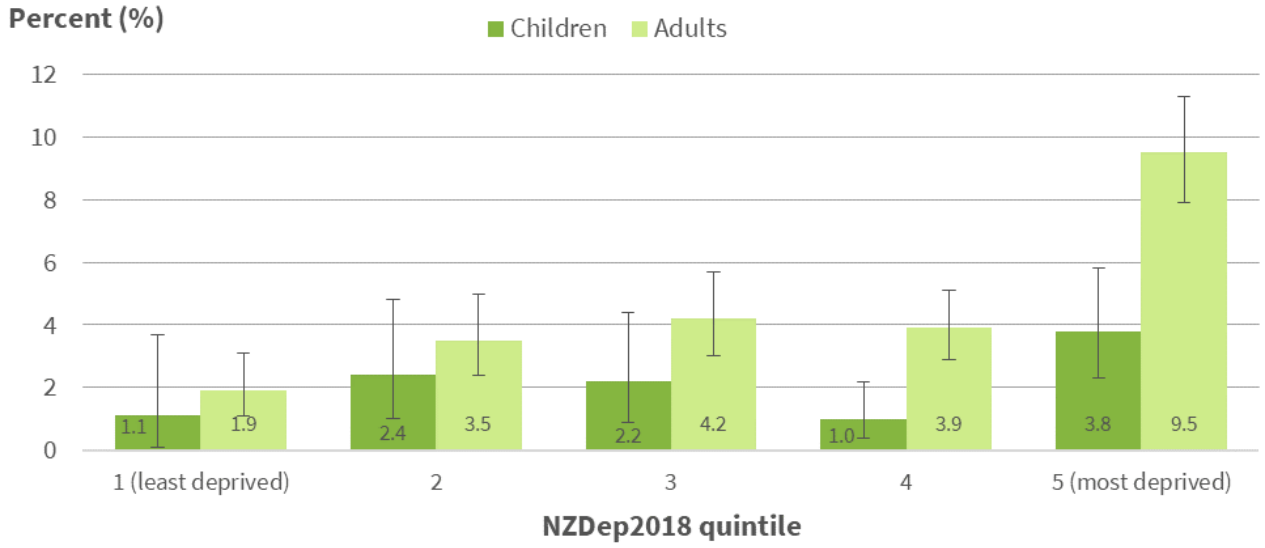
Children and adults in the most deprived areas had the highest exposure to second-hand smoke

Children (3.8%) and adults (9.5%) living in the most socioeconomically deprived areas (NZDep2018 quintile 5) were more likely to be exposed to second-hand smoke in the home than those living in the least deprived areas (quintile 1) in 2023/24 (Figure 3).

After adjusting for age, sex, and ethnic differences, children living in the most deprived neighbourhoods (NZDep2018 quintile 5) were 2.39 times as likely to be exposed to second-hand smoke in their home as those in the least deprived neighbourhoods (adjusted rate ratio 2.39, 95%CI 0.66–8.70). However, the difference was not statistically significant. For adults, those that lived in the most deprived areas (NZDep2018 quintile 5) were 3.41 times as likely to be exposed to second-hand smoke in their home than those in the least deprived areas (quintile 1) (adjusted rate ratio 3.41, 95%

CI 2.05–5.66), indicating a statistically significant difference.

Figure 3: Exposure to second-hand smoke in the home, among children and adults, by neighbourhood deprivation (NZDep2018 quintiles), 2023/24 (unadjusted prevalence)

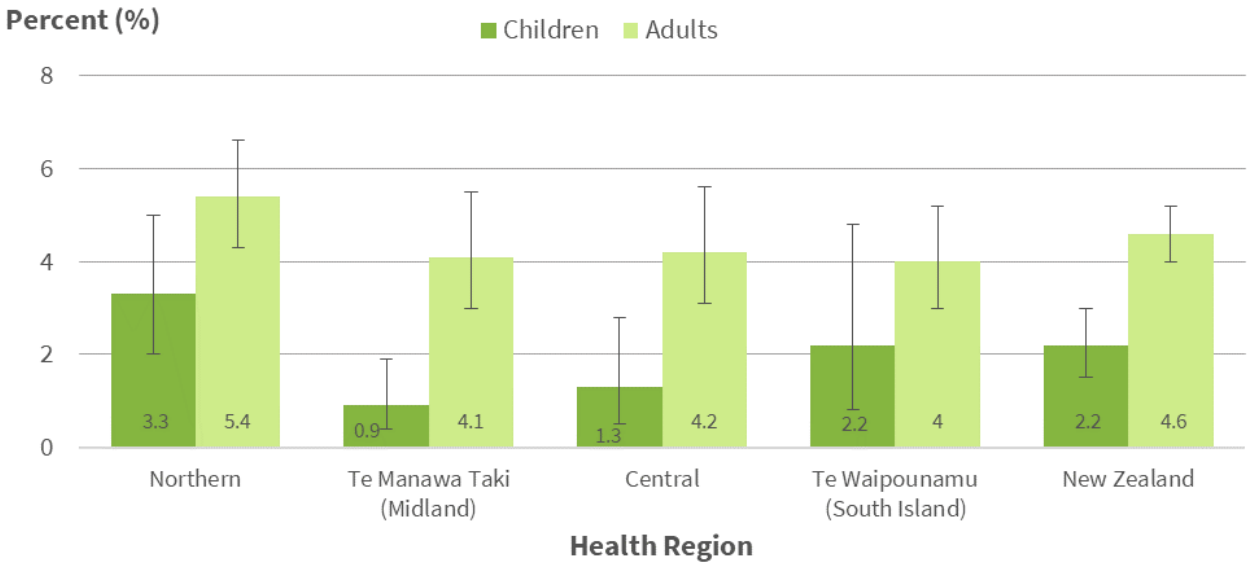


Notes: 95% confidence intervals have been presented as vertical bars
Source: New Zealand Health Survey, Ministry of Health 2024

Adults consistently show higher exposure to second-hand smoke than children across health regions

The latest NZHS results include estimates by health region, rather than districts (formerly District Health Boards). A map showing the areas covered by each health region is available on the Health NZ–Te Whatu Ora website. The percentage of adults exposed to second-hand smoke is higher than that of children across all health regions. Moreover, the percentage of children exposed in Te Manawa Taki is notably low. (Figure 4).

Figure 4: Exposure to second-hand smoke in the home, among children and adults, by health region, 2023/24



Notes: 95% confidence intervals have been presented as vertical bars. The four health regions (and the districts they cover) are: Te Waipounamu (Canterbury, West Coast, Nelson Marlborough, Southern and South Canterbury), Central (MidCentral, Whanganui, Capital & Coast/Hutt Valley, Hawkes Bay and Wairarapa), Te Manawa Taki (Waikato, Bay of Plenty, Lakes, Tairāwhiti and Taranaki), and Northern (Northland, Waitematā, Auckland and Counties Manukau).
Source: New Zealand Health Survey (Ministry of Health 2024)

Data for this indicator

The **Second-hand smoke exposure** indicator contains the most recent data available from the 2023/24 New Zealand Health Survey published by the Ministry of Health in November 2024. The Ministry of Health calculated all the results.

Crude rates presented in this factsheet do not take into account varying age distributions when comparing between populations. Rate ratios are presented to 2 decimal places.

All 95% confidence intervals have been presented as vertical bars on graphs.

For additional information, see the Metadata sheet.

References

Ministry of Health. 2024. *New Zealand Health Survey. Annual Data Explorer.* URL: https://minhealthnz.shinyapps.io/nz-health-survey-2023-24-annual-data-explorer/ (Accessed 09/05/2025)

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Author

The author of this report is Mui Nguyen, ehinz@massey.ac.nz

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