Meningococcal notifications in children (0–14 years)

This report presents statistics on meningococcal notifications for children aged 0–14 years in New Zealand.

Key facts

- The number of meningococcal notifications declined from 42 (4.4 per 100,000) in 2022 to 21 (2.2 per 100,000) in 2023, primarily due to a decrease in notifications among the under-5 age group.
- Meningococcal B continues to be the most dominant strain in children aged 0–14 years.
- Infants (under 1-year-old) have had the highest rate of meningococcal disease since 2001. In 2023, the rate of meningococcal disease in this age group (25.1 per 100,000) was 36 times the rate among children aged 10–14 years (0.7 per 100,000).
- Māori and Pacific children had seven to eight times the rate of meningococcal disease than European/Other children. Māori children also represent the majority of cases across all age groups, particularly among infants.
- Children living in the most deprived areas (NZDep 2018 quintile 5) had three times the rate of meningococcal disease (5.7 per 100,000) as children living in the least deprived areas (1.5 per 100,000) (quintile 1).

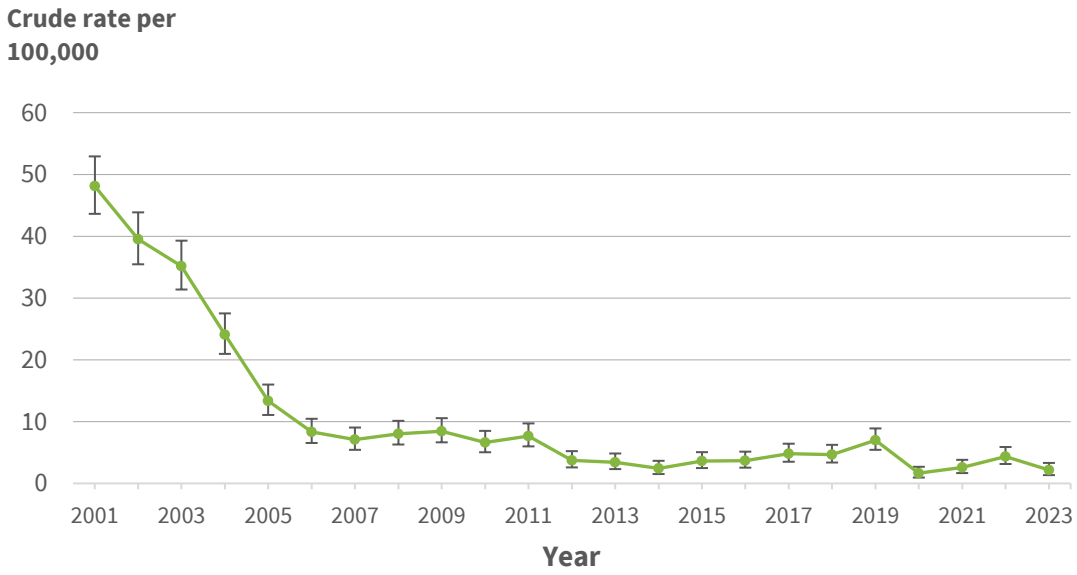
Household crowding and second-hand smoke exposure increase the risk of meningococcal disease

Meningococcal disease is a serious infection which can cause meningitis (an infection of membranes that covers the brain), septicaemia (blood poisoning), and even death. Household crowding increases the risk of meningococcal disease, particularly in those aged 0–16 years (Baker et al 2013). According to the 2023 Census data, over 100,000 households in New Zealand were overcrowded (Statistics NZ 2024). Second-hand smoke exposure is also associated with an increased risk of meningococcal disease in children (Lee et al 2010; Murray et al 2012).

Meningococcal disease notifications halved in 2023

The number of meningococcal disease notifications among children aged 0–14 years declined from 42 (4.4 per 100,000; 95%CI 3.1–5.9) in 2022 to 21 (2.2 per 100,000; 95%CI 1.3–3.3) in 2023 (Figure 1). This decrease has been driven by a drop in the number of notifications among children under five years. The overall rate remains relatively low compared to the years immediately before the COVID-19 pandemic.

Figure 1: Meningococcal disease notification rate in children aged 0–14 years, 2001–2023 (crude rate per 100,000 population)

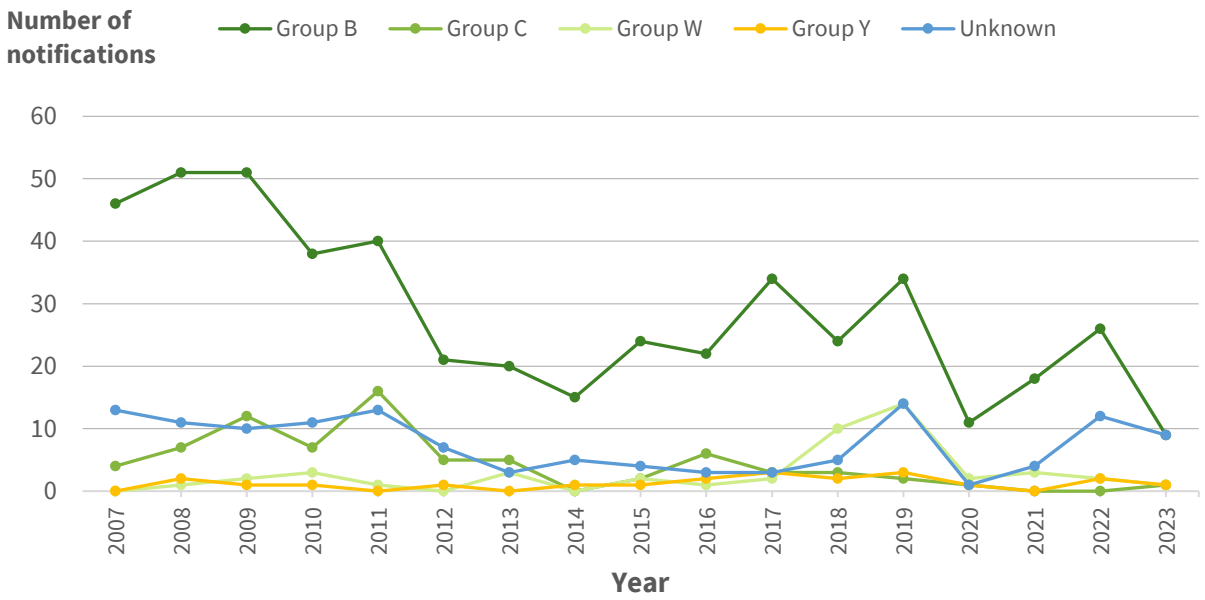


Note: 95% confidence intervals have been presented as vertical bars.
Source: EpiSurv, ESR 2024

Meningococcal Group B continues to be the most dominant strain in children

Meningococcal Group B notifications declined to 9 notifications in 2023, down from 26 in 2022. However, it has consistently accounted for the majority of notifications in children since 2007 (Figure 2). Case numbers for Groups C, W, and Y remained low in 2023.

Figure 2: Number of meningococcal disease notifications in children aged 0–14 years, by serotype, 2007–2023



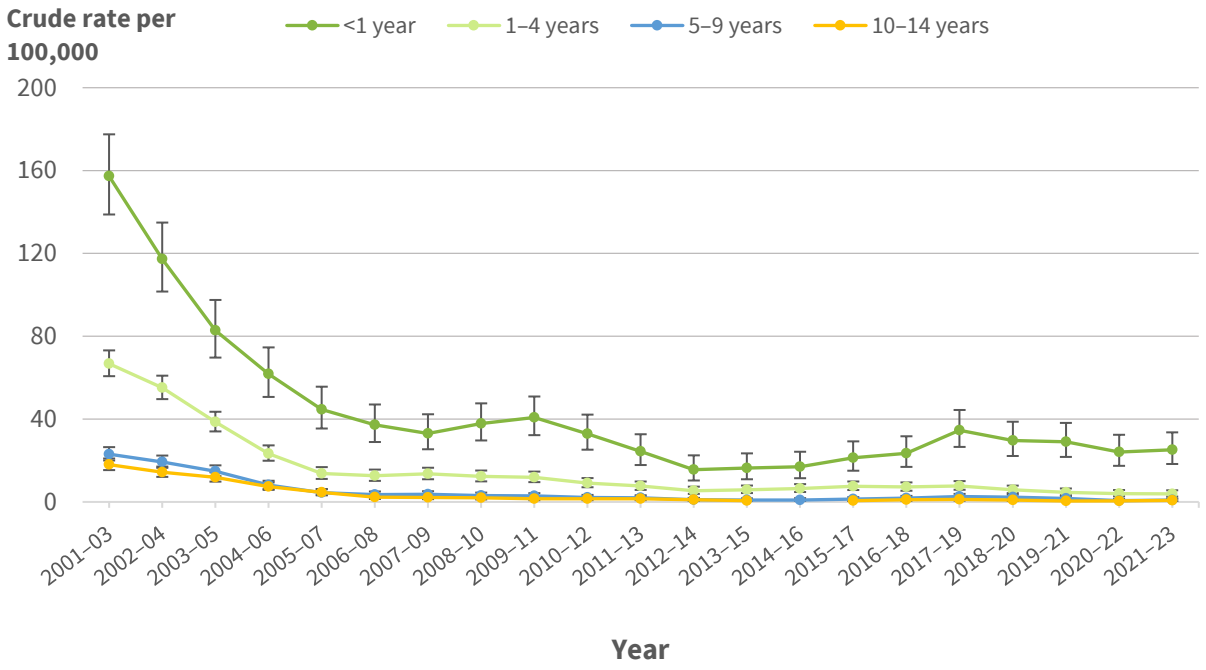
Note: Serotype data is only available from 2007 onwards. There was only one notification for Group E between 2007 and 2023.
Source: EpiSurv, ESR 2024

Infants continue to have the highest rate of meningococcal disease

From 2001 until 2023, infants (under 1-year-old) consistently had the highest notification rates of meningococcal disease compared to the older age groups (Figure 3). In 2021–23, the rate of meningococcal disease among infants (25.1 per 100,000; 95%CI 18.3–33.6) was 36 times higher than for children aged 10–14 years (0.7 per 100,000; 95%CI 0.3–1.4).

Māori children accounted for the majority of cases across all age groups during this period, particularly among those under one year old.

Figure 3: **Meningococcal disease notification rate in children aged 0–14 years, by age group, three-year moving averages, 2001–2023 (crude rate per 100,000 population)**

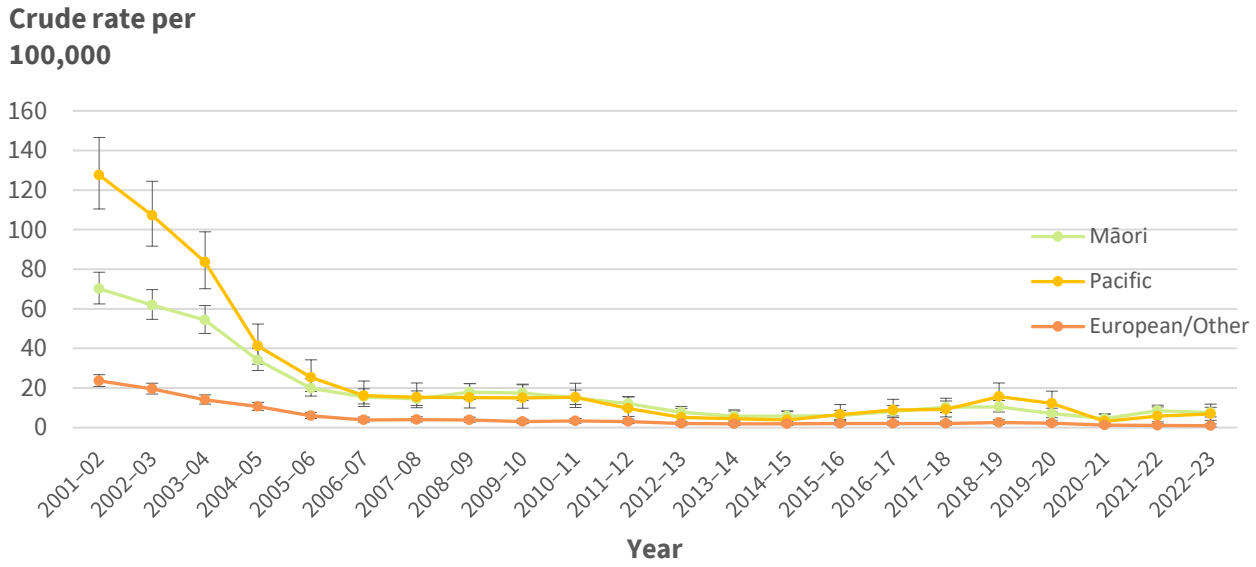


Note: 95% confidence intervals have been presented as vertical bars.
Source: EpiSurv, ESR 2024

Pacific and Māori children were disproportionately affected by meningococcal disease

Since 2001, Pacific and Māori children have had the highest rates of meningococcal disease (Figure 4). In 2022–23, the meningococcal rate was eight times higher in Māori (7.5 per 100,000; 95%CI 5.4–10.2) than in European/Other children (0.9 per 100,000; 95%CI 0.4–1.9). Additionally, the rate in Pacific children (6.9 per 100,000; 95%CI 3.7–11.9), was more than seven times higher than that observed in European/Other children.

Figure 4: **Meningococcal disease notification rate in children aged 0–14 years, by ethnic group (prioritised), two-year moving averages, 2001–2023 (crude rate per 100,000 population)**

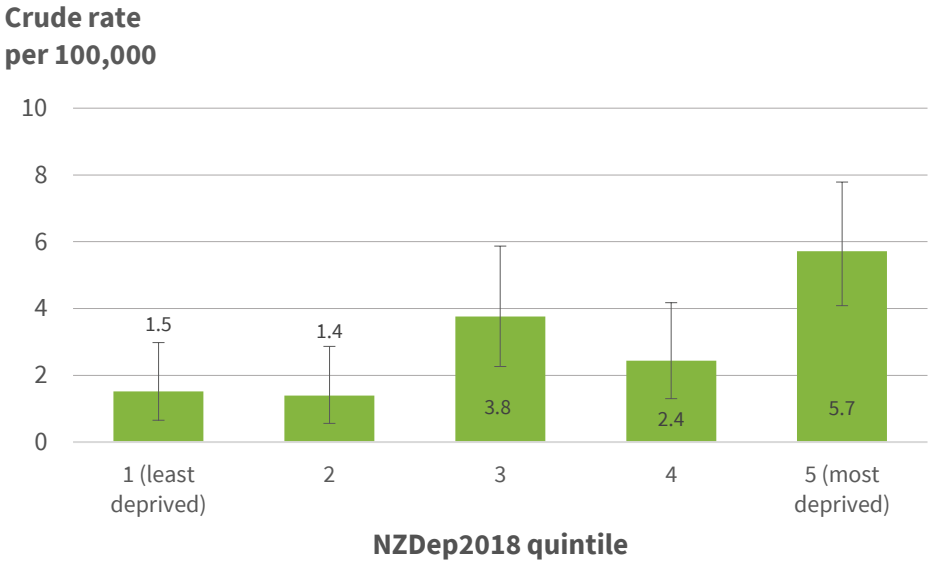


Note: 95% confidence intervals have been presented as vertical bars. The rate is suppressed for Asian children due to an unreliable estimate with small numbers.
Source: EpiSurv, ESR 2024

Higher meningococcal disease notification rates in more socioeconomically deprived areas

In 2021–23, the meningococcal disease notification rate for children living in the most socioeconomically deprived (NZDep 2018 quintile 5) areas (5.7 per 100,000; 95% CI 4.1–7.8) was higher than those living in the least deprived areas (quintile 1) (1.5 per 100,000; 95%CI 0.7–3.0) (Figure 5). Children living in the most deprived areas had three times the rate of meningococcal disease as children living in the least deprived areas (rate ratio=3.35; 95%CI 1.6–7.2).

Figure 5: **Meningococcal disease notification rate in children aged 0–14 years, by NZDep2018 quintiles, 2021–23 (crude rate per 100,000 population)**

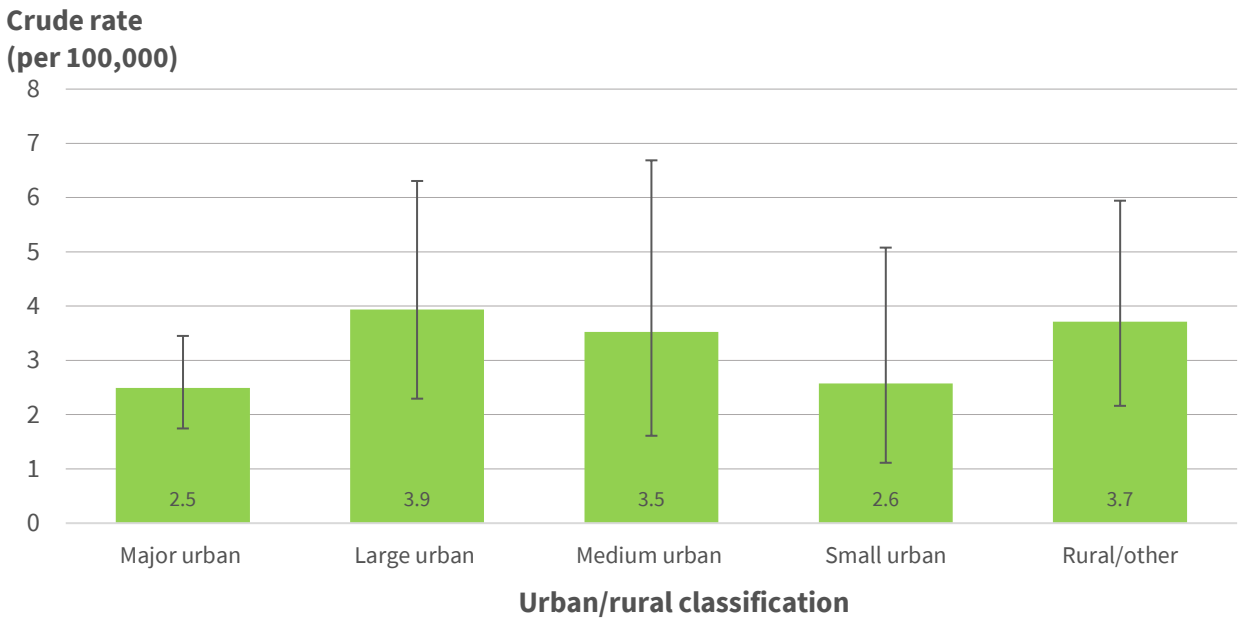


Note: 95% confidence intervals have been presented as vertical bars.
Source: EpiSurv, ESR 2024

Meningococcal disease notification rates were similar across urban/rural areas

In 2021–23, there were no statistically significant differences in the notification rates of meningococcal disease in children by urban/rural classification (Figure 6).

Figure 6: Meningococcal disease notification rate in children aged 0–14 years, by urban/rural classification, 2021–23 (crude rate per 100,000 population)

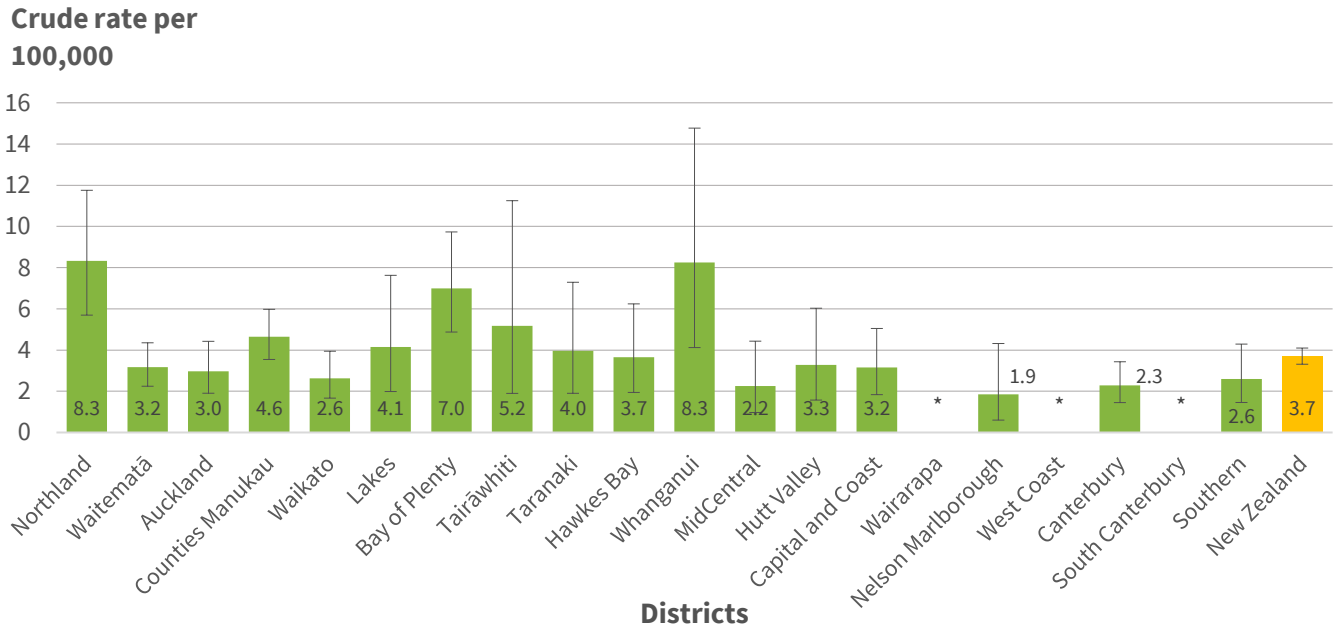


Note 1: 95% confidence intervals have been presented as vertical bars.
Note 2: The Statistics New Zealand urban-rural classification for 2018 has been used. Major urban areas are major towns and cities with a population of 100,000 or more. Large urban areas are larger towns and cities with a population of 30,000–99,999 people. Medium urban areas are towns with a population of 10,000–29,999 people. Small urban areas are smaller towns with a population of 1,000–9,999. Rural areas include rural centres, (less than 1,000 residents) and rural areas outside of these.
Source: EpiSurv, ESR 2024

High meningococcal disease rates in the Whanganui and Northland districts

In the ten years 2014–23, children living in the Northland and Whanganui districts had high meningococcal disease rates (Figure 7).

Figure 7: Meningococcal disease notification rate in children aged 0–14 years, by district, 2014–23 (crude rate per 100,000 population)



Note: Districts refer to areas formerly known as District Health Boards (DHBs). 95% confidence intervals have been presented as vertical bars.
*The rate is suppressed for Wairarapa, West Coast, and South Canterbury districts due to counts less than five.
Source: EpiSurv, ESR 2024

Data for this indicator

This indicator is an analysis of the most recent data available from the EpiSurv notifications surveillance database, provided to EHINZ by the Institute of Environmental Science Research (ESR) in October 2024.

Notifications only cover those people who visited a GP or received hospital treatment, and therefore may underestimate the true rate of disease in the population.

For additional information, see the Metadata sheet.

References

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