

Invasive Meningococcal Disease Monthly Report September 2022

This report summarises invasive meningococcal disease notifications and trends nationally from 1 January to 30 September 2022. Information is based on data recorded in EpiSurv and at ESR's Meningococcal Reference Laboratory as at 5 October 2022. Data presented may be further updated and should be regarded as provisional.

Summary

Between 1 January and 30 September 2022:

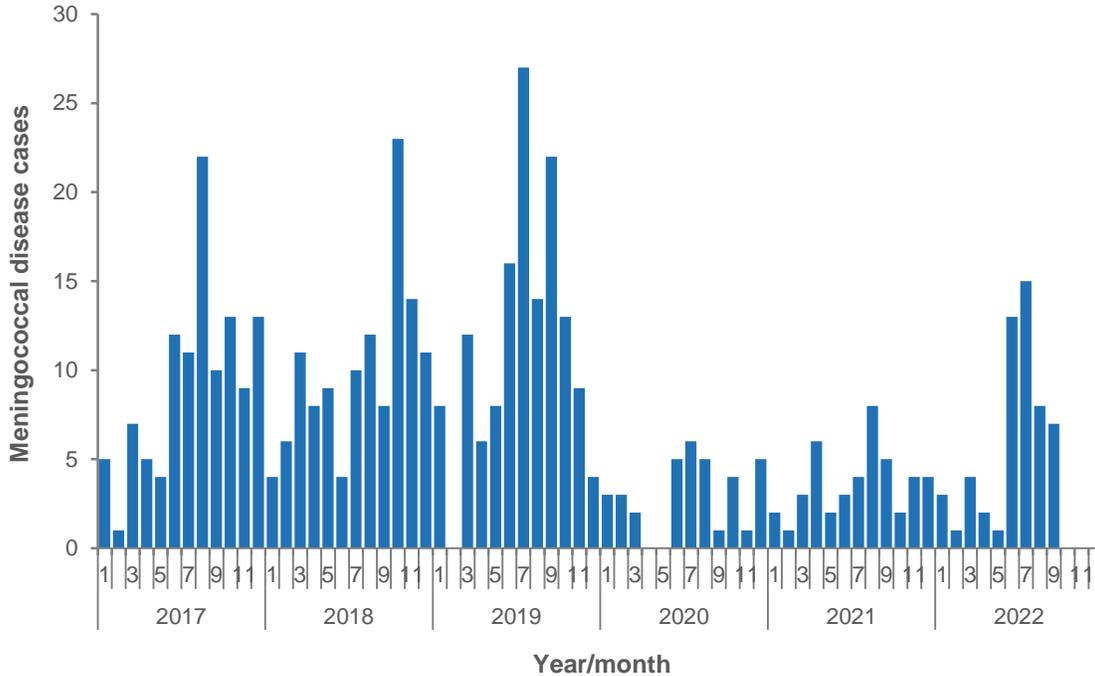
- there have been 54 cases (51 confirmed and 3 probable) of invasive meningococcal disease reported. This number is higher than for the same period in 2020 and 2021, but lower than the same period in 2017, 2018 and 2019;
- there have been two deaths (one in a child aged 1–4 years and one in a young adult aged 15–19 years);
- almost half (48%) of the cases are in Māori and Pacific children aged under 5 years;
- group B is the dominant group type. The group was identified in 44 cases to date in 2022: 36 (82%) were group B, five (11%) were group Y, and three (7%) were group W;
- the cases are geographically dispersed.

National trends

Between 1 January and 30 September 2022, there was a total of 54 cases of meningococcal disease (51 confirmed and 3 probable). There were two deaths, one in a child aged 1–4 years (group B, PorA type P1.7-2,4) and one in a young adult aged 15–19 years (group unable to be determined).

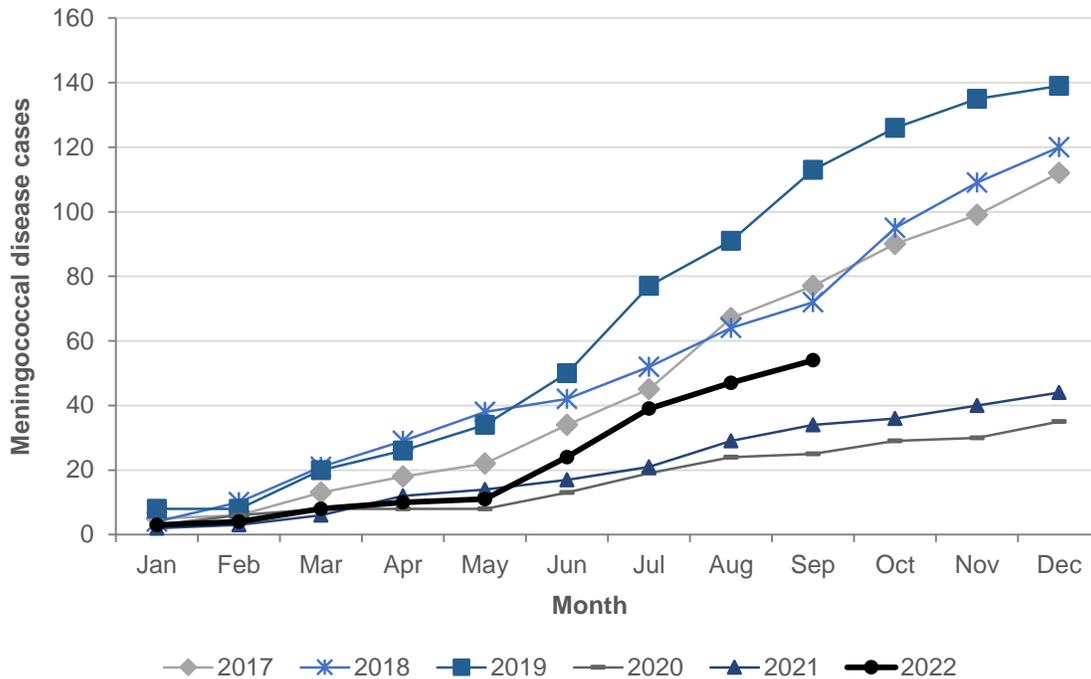
In New Zealand, meningococcal disease follows a seasonal pattern with case numbers peaking in winter and continuing into spring (Figure 1). This seasonal increase in disease was seen in 2022 with an increase in the number of cases reported in June and July (13 and 15 cases respectively), then a decrease in August and September (8 and 7 cases respectively).

Figure 1. Number of meningococcal disease cases by month and year, 2017–2022



To date, the total number of cases in 2022 is higher than for the same period in 2020 and 2021, but lower than in 2017, 2018 and 2019 (Figure 2).

Figure 2. Cumulative number of meningococcal disease cases by month, 1 January 2017 to 30 September 2022

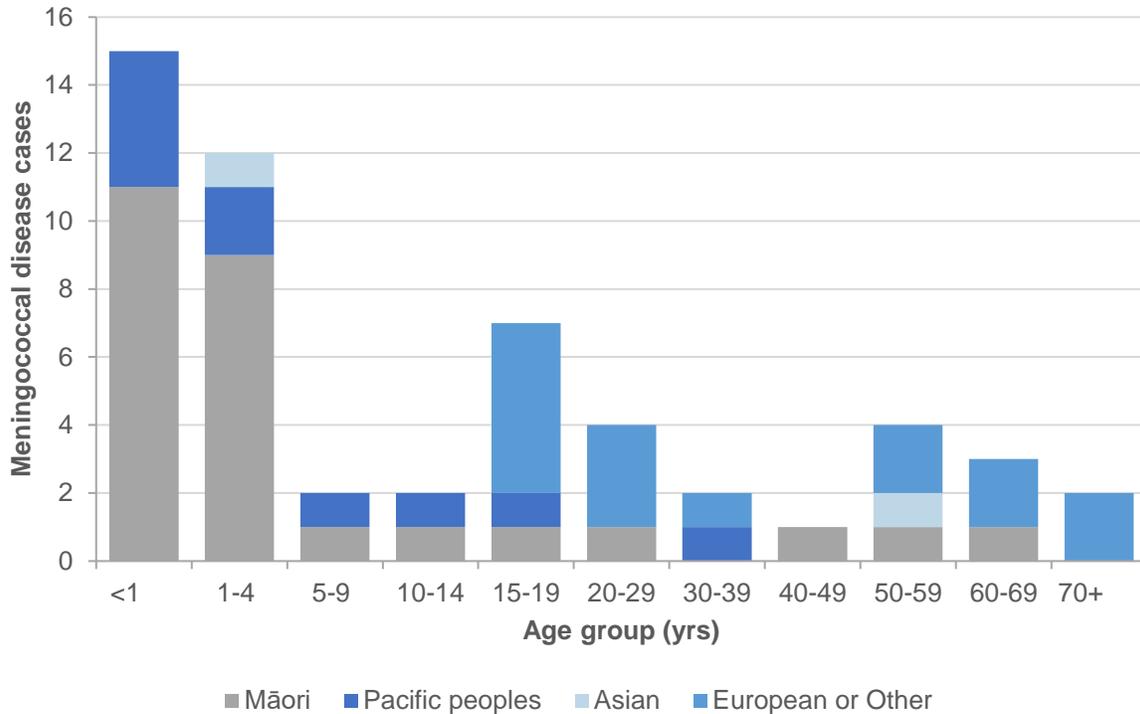


Meningococcal disease by ethnic group and age group

Overall, 50% of meningococcal disease cases in New Zealand in 2022 to date have been in Māori, 28% are European or Other ethnic groups, 19% Pacific peoples and 4% Asian.

Almost half (48%, 26/54) of the cases in 2022 to date are in Māori and Pacific children aged under 5 years (Figure 3).

Figure 3. Number of meningococcal disease cases by prioritised ethnicity and age group, 1 January to 30 September 2022

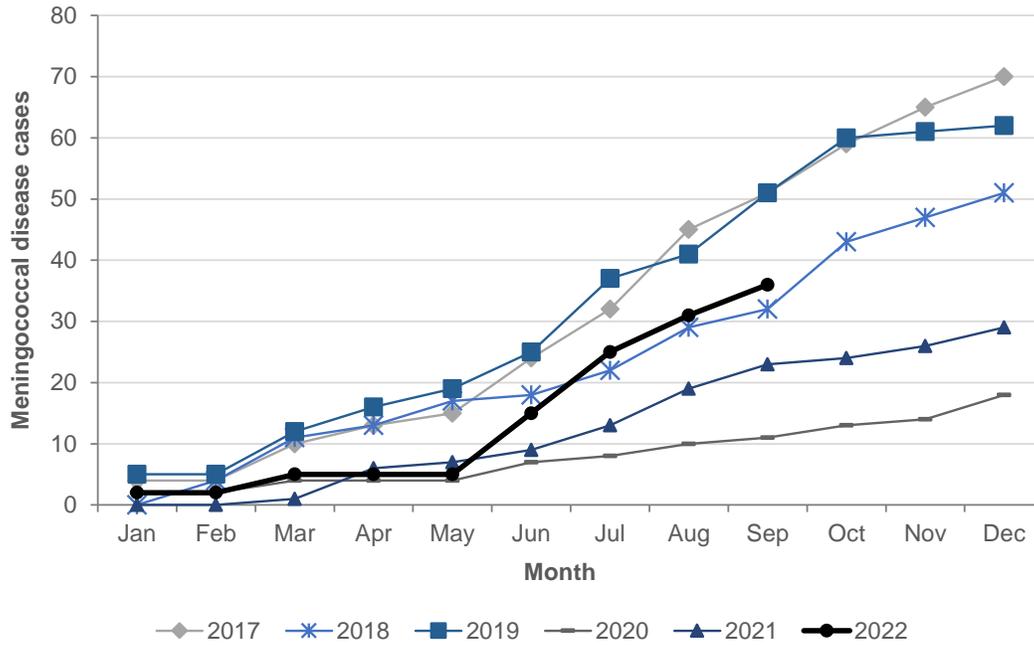


Meningococcal disease by group

Of the 54 cases notified from 1 January to 30 September 2022, the group was identified in 44 cases: 36 (82%) were group B, five (11%) were group Y, and three (7%) were group W.

For group B cases, the number of cases to date is higher than for the same period in 2018, 2020, and 2021, but lower than in 2017 and 2019 (Figure 4).

Figure 4. Cumulative number of group B meningococcal disease cases by month, 1 January 2017 to 30 September 2022



The number of cases due to other groups is lower than for 2017–2020. In particular, the number of cases due to group W remain low.

Meningococcal disease by district and group

Meningococcal cases in 2022 to date are geographically dispersed throughout the country (Table 1). The highest number of cases have been reported from the Bay of Plenty (7 cases) district, followed by Southern (6 cases), Waitemata, and Counties Manukau (5 cases each).

Table 1. Number of meningococcal disease cases by group and district, 1 January to 30 September 2022

| District | Group | | | | | Group unknown ¹ | Not lab confirmed | Total |
|--------------------|-----------|----------|----------|----------|----------|----------------------------|-------------------|-----------|
| | B | W | Y | C | E | | | |
| Northland | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 4 |
| Waitemata | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Auckland | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| Counties Manukau | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 5 |
| Waikato | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| Lakes | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 4 |
| Bay of Plenty | 4 | 1 | 1 | 0 | 0 | 0 | 1 | 7 |
| Tairāwhiti | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| Taranaki | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hawke's Bay | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Whanganui | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 3 |
| MidCentral | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hutt Valley | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Capital & Coast | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Wairarapa | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Nelson Marlborough | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| West Coast | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Canterbury | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 4 |
| South Canterbury | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Southern | 3 | 0 | 2 | 0 | 0 | 1 | 0 | 6 |
| Total | 36 | 3 | 5 | 0 | 0 | 7 | 3 | 54 |

¹ Includes non-groupable samples, and laboratory-confirmed cases where a sample was not received at ESR.

Group B trends

Table 2 shows the trends in selected group B PorA types since 2017. The PorA types included in the table are those detected to date in 2022 as well as those that were most common in previous years.

Table 2. Number of group B meningococcal disease cases by selected PorA type, 1 January 2017 to 30 September 2022

| PorA type | Year | | | | | |
|-----------------------|------|------|------|------|------|-------------------|
| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 ¹ |
| P1.7-12,14 | 12 | 3 | 14 | 3 | 12 | 13 |
| P1.7-2,4 ² | 27 | 16 | 19 | 9 | 8 | 10 |
| P1.7,16-26 | 5 | 2 | 4 | 0 | 1 | 2 |
| P1.7-36,14 | 0 | 0 | 0 | 2 | 0 | 2 |
| P1.22,14 | 9 | 3 | 5 | 0 | 2 | 1 |
| P1.5,2 | 0 | 0 | 0 | 0 | 1 | 1 |
| P1.18-1,3 | 0 | 0 | 2 | 0 | 0 | 1 |
| P1.7-13,14 | 0 | 0 | 1 | 0 | 0 | 1 |
| P1.5-1,10-7 | 0 | 0 | 0 | 0 | 0 | 1 |
| P1.7-12,15 | 0 | 0 | 0 | 0 | 0 | 1 |
| P1.7-12,16-3 | 0 | 0 | 0 | 0 | 0 | 1 |
| P1.19-1,15 | 0 | 0 | 0 | 0 | 0 | 1 |
| P1.19,15 | 2 | 0 | 1 | 1 | 1 | 0 |
| P1.17,16-3 | 2 | 2 | 0 | 1 | 1 | 0 |
| P1.7,16-53 | 0 | 2 | 2 | 0 | 1 | 0 |
| P1.5-2,10-1 | 0 | 5 | 1 | 0 | 1 | 0 |
| P1.22,9 | 2 | 1 | 1 | 0 | 1 | 0 |
| P1.18-1,34 | 3 | 3 | 3 | 0 | 0 | 0 |
| P1.19-1,26 | 0 | 3 | 1 | 0 | 0 | 0 |
| P1.22-11,15-25 | 0 | 0 | 1 | 0 | 0 | 0 |

¹ Data to 30 September 2022

² 1991–2007 New Zealand epidemic strain

During 2022, 12 different PorA types have been identified across the 36 group B cases, and these are geographically dispersed.

The most common PorA types are B:P1.7-12,14 and B:P1.7-2,4 (the 1991–2007 New Zealand epidemic strain).

Of note: there has been a significant increase in the relative proportion of B:P1.7-12,14 within the group B meningococci detected from 2013 to 2022 to date. Whole genome sequencing has identified the strain to be clonal complex ST-1572, which is relatively rare internationally as indicated by data submitted to the public databases for molecular typing and microbial genome diversity (PubMLST), noting that not all countries submit data to this database (<https://pubmlst.org/>).