Invasive Meningococcal Disease Report January–December 2022

This report summarises invasive meningococcal disease notifications and trends nationally from 1 January to 31 December 2022. Information is based on data recorded in EpiSurv and at ESR's Meningococcal Reference Laboratory as at 5 April 2023. Data presented may be further updated and should be regarded as provisional.

Summary

Between 1 January and 31 December 2022:

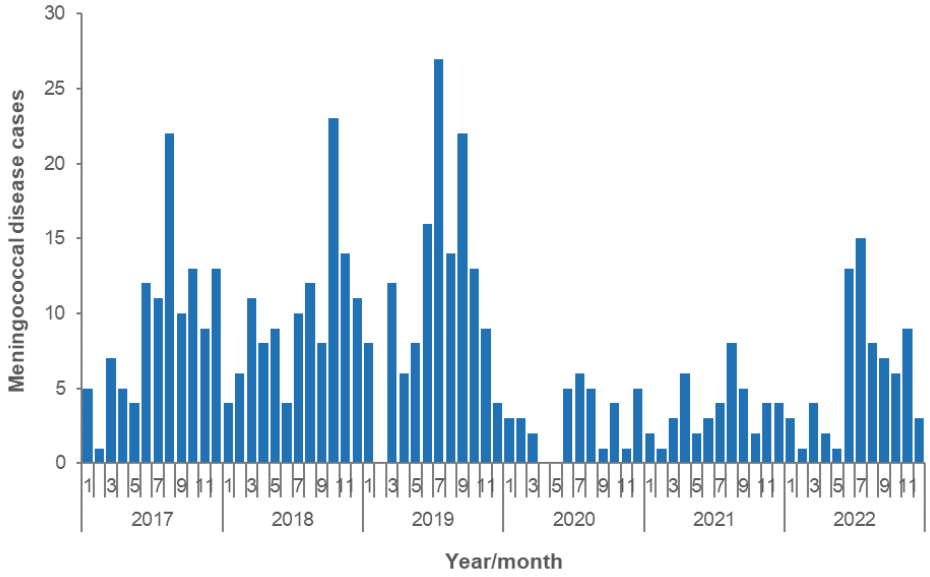
- there were 72 cases (69 confirmed and 3 probable) of invasive meningococcal disease reported;
- the number of cases in 2022 was higher than in 2020 and 2021, but lower than in 2017, 2018 and 2019;
- there were three deaths (two in children aged <5 years and one in a young adult aged 15–19 years);
- 44% of the cases were in Māori and Pacific children aged under 5 years;
- group B was the dominant group type. The group was identified in 57 cases in 2022: 46 (81%) were group B, eight (14%) were group Y, and three (5%) were group W;
- the cases were geographically dispersed.

National trends

There was a total of 72 cases of meningococcal disease (69 confirmed and 3 probable) notified in 2022. There were three deaths: two in children (aged <1 year and 1–4 years) and one in a young adult aged 15–19 years. One death was due to group B, PorA type P1.7-2,4. The group was not determined for two deaths.

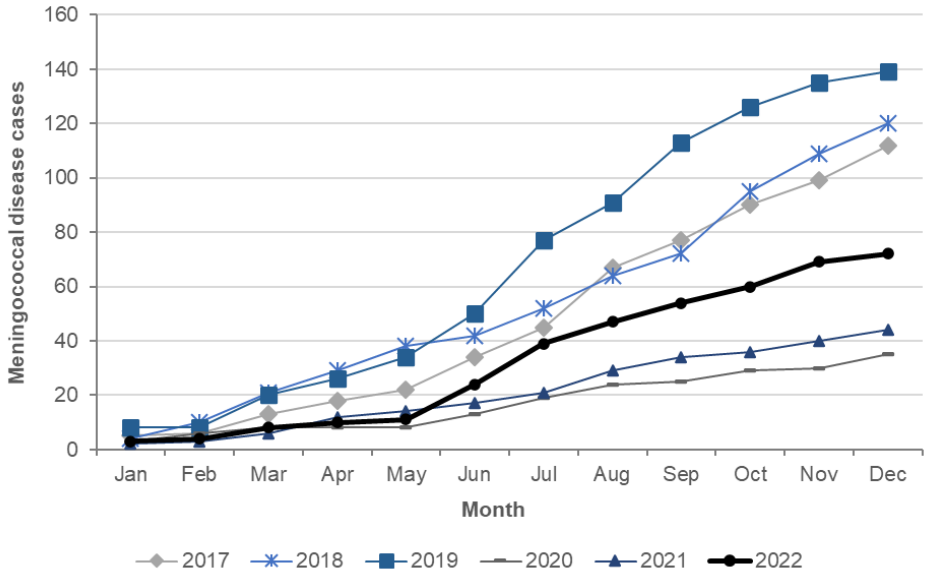
In New Zealand, meningococcal disease follows a seasonal pattern with case numbers peaking in winter and continuing into spring (Figure 1). This seasonal increase in disease was seen in 2022 with a peak in the number of cases reported in June and July (13 and 15 cases respectively).

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



The total number of cases in 2022 was higher than in 2020 and 2021, but lower than in 2017, 2018 and 2019 (Figure 2).

Figure 2. Cumulative number of meningococcal disease cases by month, 2017–2022

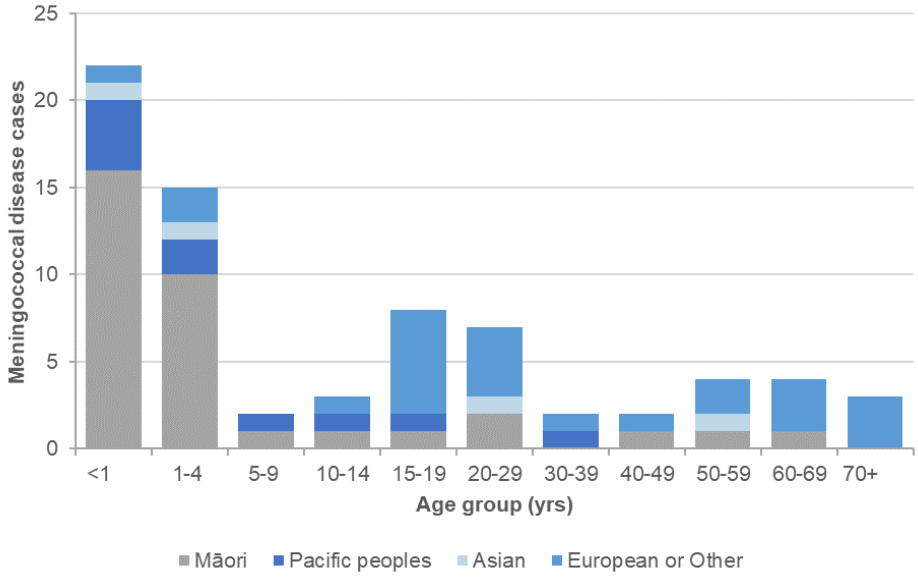


Meningococcal disease by ethnic group and age group

Almost half (47%) of meningococcal disease cases in New Zealand in 2022 were in Māori, 33% were in European or Other ethnic groups, 14% in Pacific peoples and 6% Asian.

Māori and Pacific children aged under 5 years accounted for 44% (32/72) of the cases in 2022 (Figure 3).

Figure 3. Number of meningococcal disease cases by prioritised ethnicity and age group, 1 January to 31 December 2022

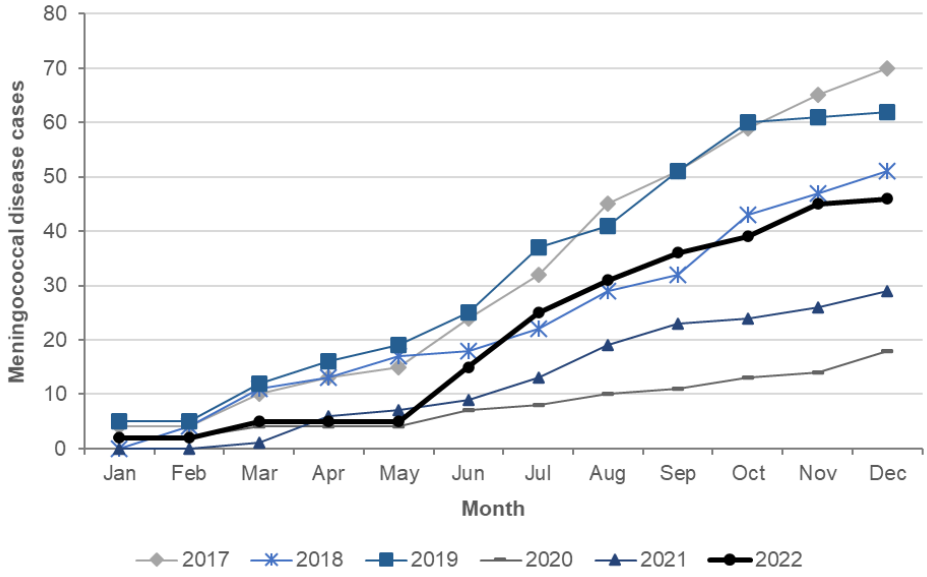


Meningococcal disease by group

Of the 72 cases notified in 2022, the group was identified in 57 (79%) cases: 46 (81%) were group B, eight (14%) were group Y, and three (5%) were group W.

For group B cases, the number of cases in 2022 was lower than in 2017, 2018 and 2019 but higher than in 2020 and 2021 (Figure 4).

Figure 4. Cumulative number of group B meningococcal disease cases by month, 2017–2022



The number of cases due to group W in 2022 was lower than for 2017–2021. The number of cases due to group Y was higher than in 2020 and 2021, but lower than in 2017–2019.

Meningococcal disease by district and group

Meningococcal cases in 2022 were geographically dispersed throughout the country (Table 1). The districts with the highest numbers of cases were Southern (9 cases), Waitemata and Bay of Plenty (7 cases each).

Table 1. Number of meningococcal disease cases by group and district, 1 January to 31 December 2022

District	Group					Group unknown[1]	Not lab confirmed	Total
	B	W	Y	C	E			
Northland	3	0	0	0	0	3	0	**6**
Waitemata	6	0	0	0	0	1	0	**7**
Auckland	1	1	0	0	0	1	0	**3**
Counties Manukau	2	0	0	0	0	1	2	**5**
Waikato	4	0	0	0	0	0	0	**4**
Lakes	3	0	0	0	0	1	0	**4**
Bay of Plenty	4	1	1	0	0	0	1	**7**
Tairāwhiti	2	0	0	0	0	2	0	**4**
Taranaki	2	0	0	0	0	0	0	**2**
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	2	0	0	0	0	0	0	**2**
Capital & Coast	2	0	1	0	0	0	0	**3**
Wairarapa	2	0	0	0	0	0	0	**2**
Nelson Marlborough	4	0	1	0	0	0	0	**5**
West Coast	0	0	0	0	0	0	0	**0**
Canterbury	3	1	0	0	0	1	0	**5**
South Canterbury	0	0	1	0	0	0	0	**1**
Southern	4	0	4	0	0	1	0	**9**
Total	**46**	**3**	**8**	**0**	**0**	**12**	**3**	**72**

[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 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, 2017–2022

PorA type	Year					
	2017	2018	2019	2020	2021	2022
P1.7-12,14	12	3	14	3	12	14
P1.7-2,4[1]	27	16	19	9	8	14
P1.22,14	9	3	5	0	2	2
P1.7,16-26	5	2	4	0	1	2
P1.7-36,14	0	0	0	2	0	2
P1.18-1,34	3	3	3	0	0	2
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
P1.7-6,4	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
P1.17,16-4	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
P1.19-1,26	0	3	1	0	0	0
P1.22-11,15-25	0	0	1	0	0	0

[1] 1991–2007 New Zealand epidemic strain

During 2022, 15 different PorA types were identified among the 46 group B cases, and these were geographically dispersed.

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

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 (2017: 17% of group B cases, 2021: 41% and 2022: 30%). 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/).