

Communicable Diseases Weekly Report

Week 31, 31 July to 06 August 2022

In this report we provide information regarding invasive meningococcal disease and a summary of notifiable conditions activity in NSW over the reporting period week 31, 31 July to 06 August 2022.

Due to the rapidly evolving nature of the situation, data on **COVID-19** notifications can be found separately on the NSW Health [Latest Updates on COVID-19](#) page.

For up-to-date information regarding the **Japanese encephalitis** outbreak and the NSW response, please visit the [NSW Health Japanese encephalitis page](#).

Information on notifiable conditions is available at the NSW Health [infectious diseases page](#). This includes links to other NSW Health [infectious disease surveillance reports](#) and a [diseases data page](#) for a range of notifiable infectious diseases.

Invasive meningococcal disease

Five cases of invasive meningococcal disease (IMD) were notified in this reporting week ([Table 1.](#)), including one death in a man from Greater Sydney. As reported in a [media release issued by NSW Health](#), two of these cases had attended the Splendour in the Grass Festival in Byron Bay prior to developing IMD. The risk to the public was determined to be low, however festivalgoers, many of whom would likely fall into one of the age groups at most risk for IMD (15-25 years) were advised to be alert for symptoms of meningococcal disease and seek urgent medical care should they present.

Three of the five cases notified in this week occurred in people aged 15-25 years, with one case occurring in a child under five years of age, the other age group at higher risk of IMD. Highlighting that people of any age can develop IMD, the fatal case occurred in a man in his 40s.

All five cases were found to be due to meningococcal serogroup B. The child under five was fully vaccinated against meningococcal B. Cases occurred across metropolitan and regional NSW, and despite the crossover of the two cases at Splendour in the Grass, all five cases are considered to be sporadic; however genetic analysis is being undertaken to assess relatedness of isolates and help to identify the variance in strains of the meningococcal B serogroup currently circulating in NSW.

Epidemiology of IMD in NSW

Invasive meningococcal disease is a rare, but severe and sometimes fatal acute infection caused by *Neisseria meningitidis* bacteria. There are several strains of meningococcal bacteria known as serogroups, of which serogroups B, C, W and Y have been the main causes of IMD in Australia. Thanks to vaccination, IMD due to serogroup C is now rare in NSW, and more recently reductions have been seen in the number of cases caused by serogroups W and Y.

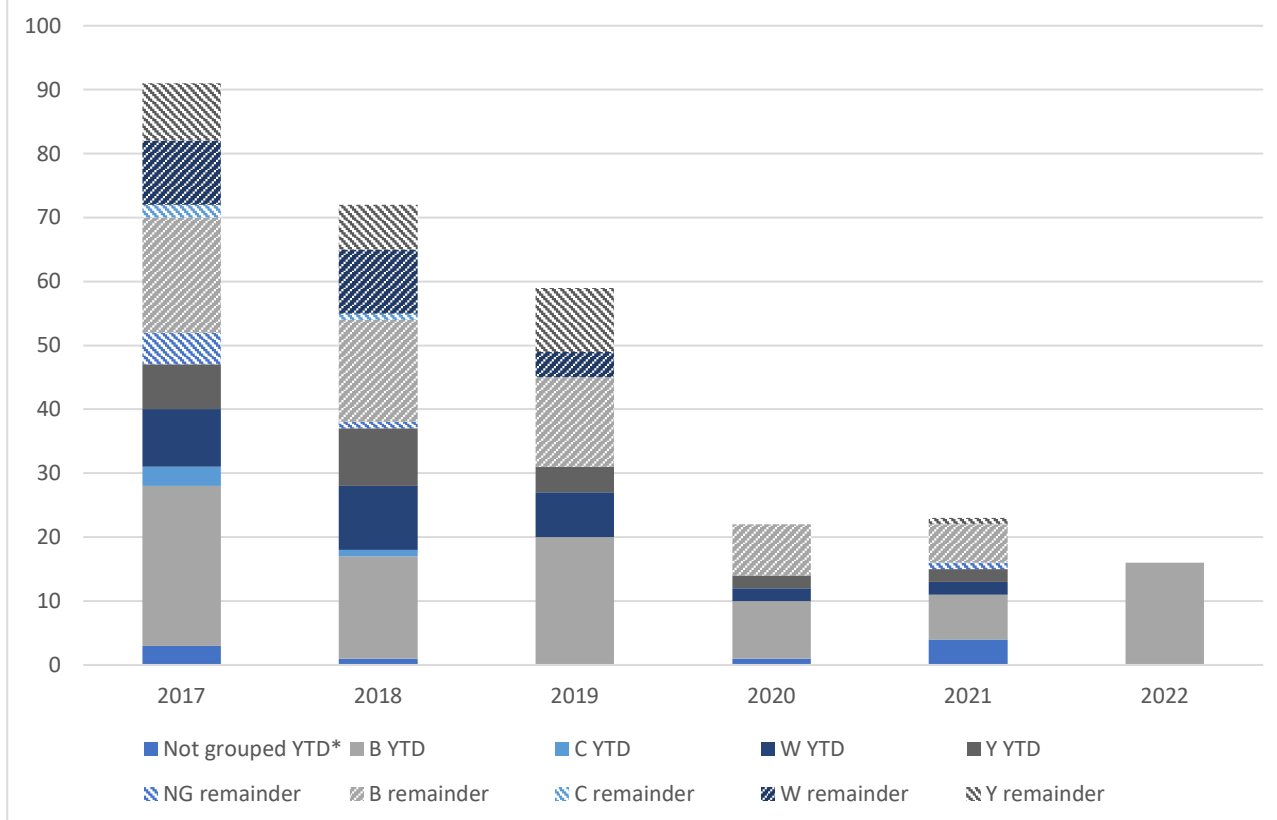
Over the last two years, compared to pre-pandemic levels (2017-2019), we have seen up to 75% percent fewer cases of IMD in NSW (see figure 1.). This is likely due to two main factors:

- Vaccination against meningococcal ACWY has now been occurring in adolescents (15-19 years) and children at 12 months of age for five and four years respectively. This will have reduced the susceptibility of vaccinated people in these age groups to these serogroups, as well as reducing carriage and transmission rates, particularly among adolescents, which reduces likelihood of cases occurring in unvaccinated people in this and other age groups.
- Social restrictions in place to prevent the spread of COVID will have reduced opportunity for transmission events, particularly among adolescents who have the highest rates of carriage, by limiting social mixing and close contact outside of a household setting.

While cases of IMD overall in NSW are 49-66% lower for the year to date compared to pre-pandemic years, the number of cases due to serogroup B are similar to pre-pandemic years. Compared to the past two years, the overall number of cases is slightly above, with the number of cases due to serogroup B having doubled.

With the removal of social restrictions and high rate of circulating respiratory viruses, it is possible that this year will see case numbers increasing towards pre-pandemic levels, albeit with less variability in serogroup.

Figure 1: NSW IMD cases by serogroup for the year to date, and whole year 2017-2022



Data correct as of 11/08/2022. *Not grouped refers to cases which were not able to be serogrouped and those which were caused by non-serogroupable *Neisseria meningitidis* bacteria.

Meningococcal vaccination

Vaccination is a key component of meningococcal disease prevention. Under the National Immunisation Program, the following groups are eligible for free meningococcal vaccine

Vaccine	Groups eligible for free vaccine
Meningococcal ACWY vaccine	All children at 12 months of age Children aged 15-19 years (via the School Vaccination Program or their GP)
Meningococcal B vaccine	Aboriginal children < 2 years of age
Both vaccines	People with certain medical conditions that cause increased risk of infection*

*including asplenia, hyposplenia, complement deficiency and those receiving eculizumab treatment

For all other people wishing to protect themselves against meningococcal disease, the vaccines are available for purchase via prescription from your doctor. Some private health insurance companies provide rebates for privately purchase vaccines depending on your level of cover. As not all practices

store all meningococcal vaccines on site, you should discuss how best to access meningococcal vaccines with your doctor.

It is important for all people to be aware of the signs and symptoms of meningococcal disease and seek care if they suspect that they or their child have meningococcal disease, even if they are vaccinated. Clinicians should also not exclude meningococcal disease based on a history of meningococcal vaccination. This is because:

- The vaccination schedule has changed over time, including the eligibility groups and serogroups covered, so individuals may be immunised against some serogroups of meningococcal disease and not others.
- The meningococcal vaccines available in Australia:
 - are highly effective however, like any vaccine, they are not 100% effective. More information on the effectiveness of individual vaccines, and how this is determined can be found in the [Australian Immunisation Handbook](#).
 - Cover the most common serogroups (B, C, W and Y) and strains (there are several strains within the meningococcal B serogroup), historically associated with causing invasive disease in Australia. However, we cannot rule out cases being caused by other serogroups or strains known to cause disease, or the bacteria evolving to develop other serogroups or strains of concern.

Testing for meningococcal disease

The preferred method of testing for meningococcal disease is through collection of blood or cerebrospinal fluid (the fluid surrounding the brain and spinal cord) depending on the site of infection. For suspected cases of septic arthritis (a rarer presentation), synovial fluid (fluid from the joint) can be used. The specimen is then tested for the presence of *Neisseria meningitidis* bacteria via bacterial culture or PCR test. Identifying the serogroup requires additional testing which is carried out after the presence of *N. meningitidis* bacteria have been confirmed.

More information on meningococcal disease is available from:

- NSW Health [meningococcal disease website](#) and [meningococcal disease factsheet](#)
- The [Australian Immunisation Handbook](#) for more information on meningococcal vaccines
- NSW Health [meningococcal disease data](#)

Summary of notifiable conditions activity in NSW

The following table summarises notifiable conditions activity over the reporting period alongside reports received in the previous week, year to date and in previous years (Table 1).

Table 1. NSW Notifiable conditions from 31 July- 06 August 2022, by date received*

		Weekly		Year to date				Full Year		
		This week	Last week	2022	2021	2020	2019	2021	2020	2019
Enteric Diseases	Campylobacter	238	228	6432	7304	5428	6560	11954	10008	11482
	Cryptosporidiosis	8	15	274	331	422	452	444	549	669
	Giardiasis	22	27	752	1123	1265	2282	1504	1871	3328
	Listeriosis	1	0	20	14	9	7	22	20	16
	Rotavirus	14	12	273	221	395	503	356	500	1777
	STEC/VTEC	2	2	81	74	55	37	126	115	79
	Salmonellosis	52	45	2008	2043	2114	2374	3097	2883	3555
Other Diseases	Shigellosis	13	9	206	44	393	518	60	494	867
Other Diseases	Monkeypox	4	4	32	0	0	0	0	0	0
Respiratory Diseases	Influenza	976	1233	111435	63	7380	74815	124	7485	116429
	Tuberculosis	8	7	269	367	335	336	558	625	589
Sexually Transmissible Infections	Chlamydia	392	430	14940	17239	16311	19137	25370	27241	32474
	Gonorrhoea	242	206	6122	5386	6012	7074	7623	9881	11687
Vaccine Preventable Diseases	Meningococcal Disease	5	2	16	15	12	31	23	22	59
	Pertussis	2	3	33	35	1362	3682	43	1400	6386
	Pneumococcal Disease (Invasive)	9	18	299	291	207	347	387	358	690
Vector Borne Diseases	Dengue	1	3	40	1	76	279	4	76	456
	Malaria	1	1	20	4	21	36	8	25	73
	Ross River	3	3	556	563	1812	447	659	1990	595
Zoonotic Diseases	Q fever	1	3	113	124	136	155	205	208	248

* Notes on Table 1: NSW Notifiable Conditions activity

- Only conditions which had one or more case reports received during the reporting week appear in the table.
- Due to the rapidly evolving nature of the situation, data on COVID-19 notifications can be found separately on the NSW Health [Latest Updates on COVID-19](#) page.
- Data cells represent the number of case reports received by NSW public health units and recorded on the NSW Notifiable Conditions Information Management System (NCIMS) in the relevant period (i.e. by report date).
- Note that [notifiable disease data](#) available on the NSW Health website are reported by onset date so case totals are likely to vary from those shown here.
- Cases involving interstate residents are not included.
- Chronic blood-borne virus conditions (such as HIV, hepatitis B and C) are not included here. Related data are available from the [Infectious Diseases Data](#), the [HIV Surveillance Data Reports](#) and the [Hepatitis B and C Strategies Data Reports](#) webpages.
- Notification is dependent on a diagnosis being made by a doctor, hospital or laboratory. Changes in awareness and testing patterns influence the proportion of patients with a particular infection that is diagnosed and notified over time, especially if the infection causes non-specific symptoms.