

Communicable Diseases Weekly Report

Week 48, 24 November to 30 November 2019

In summary, we report:

- [Invasive meningococcal disease \(IMD\)](#) – one new case
- [Pertussis \(whooping cough\)](#) – update on seasonal activity
- [Summary of notifiable conditions activity in NSW](#)

For further information see 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 (IMD)

One new case of IMD due to meningococcal serogroup B was notified in this reporting week, in an adult from the greater Sydney area ([Table 1.](#)).

Invasive meningococcal disease, also referred to as meningococcal disease or IMD, is a serious and sometimes fatal infection caused by the bacteria *Neisseria meningitidis*. There are six serogroups of meningococcal bacteria associated with IMD in humans (A, B, C, W, X, Y), of which four (B, C, W, Y) cause almost all IMD in Australia.

There have been 56 cases of IMD notified in NSW for the year to 30 November 2019. Of these, 57% have been due to serogroup B, 20% due to serogroup W and 21% due to serogroup Y. The serogroup results for the remaining case are pending.

Meningococcal disease can, and does, affect people of all ages, however children under five years of age and young people aged between 15 and 24 years are at highest risk. For young children, this is considered to be due to the naivety of their immune systems. For young people, this is likely due to increased rates of asymptomatic carriage of the bacteria in the nose and throat, and participation in activities which increase the likelihood of transmission. People with immune system deficiencies (such as due to illness or treatment) and those without a spleen are also at higher risk of invasive meningococcal infections.

Of the IMD cases notified to the end of November, 25% have occurred in children under five years of age (80% of which were in children under the age of 2 years), 32% of cases occurred in people between the ages of 15 and 24 years, and 19% occurred in people aged 65 years or older.

The initial symptoms of IMD are non-specific and often mimic other illnesses making diagnosis difficult. Symptoms may include sudden fever; nausea, vomiting, abdominal pain, headache, neck stiffness, photophobia (dislike of bright lights), joint pain, and irritability. A red-purple rash that is non-blanching (i.e. does not disappear when pressure is applied) is typical but does not always appear or may only occur late in the disease.

In young children, symptoms may also include irritability, difficulty waking up, high-pitched crying, rapid or laboured breathing or refusal to eat.

People with IMD can become very unwell, very quickly, and the disease can be fatal within hours of first symptom appearance. Globally, IMD has a 10% case fatality rate (CFR) and 20% of survivors have significant long term complications including limb or digit amputation, neurological deficits or skin scarring.

There have been two deaths due to IMD in NSW in 2019 (CFR 4%). One death was an Aboriginal infant and was due to serogroup B, while the other death was a person in their 80s and was due to serogroup Y.

The National Immunisation Program provides meningococcal ACWY vaccine to children at 12 months of age and high school students in Year 10. Adolescents aged 14 to 19 years who are not enrolled in school, or who miss out on the school vaccination can access free vaccine from their GP. A vaccine against the most common strains of meningococcal B is available in Australia via private prescription.

As vaccines do not cover all strains of meningococcal bacteria, NSW Health encourages all people to know the symptoms of meningococcal disease, and to act fast if they present, even if they or the person they care for has received a meningococcal vaccination.

Further information

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

Pertussis (whooping cough)

Pertussis activity tends to peak during late spring and early summer. In this reporting week, the last week of spring, 145 cases of pertussis were notified, similar to the previous week (n=139), and a 43% decrease compared to the same seven day period in 2018 (n=253).

In the 28 days ending 30 November 2019, 615 cases of pertussis were notified in NSW. This is a 33% increase on the preceding 28 days (461 cases) but a 40% decrease compared to the same 28 day period in 2018.

Pertussis is a highly infectious respiratory infection caused by the bacteria *Bordetella pertussis*. It is spread through the air when an infectious person coughs or sneezes, and tends to spread readily through households and places with large numbers of children such as childcare centres or schools, particularly where there are children who are not fully vaccinated. Without appropriate antibiotic therapy, people with pertussis can be infectious for up to three weeks.

Pertussis usually begins with symptoms similar to a cold, including a runny nose and a cough. The cough persists, often for several weeks and becomes increasingly worse, often resulting in severe bouts (paroxysms) of coughing followed by vomiting (post-tussive vomiting), or a gasping inspiratory breath which causes a 'whoop' sound.

In young babies, in whom pertussis can be severe and even fatal, the cough may not appear at all. Babies may instead present with difficulty feeding, choking, or gagging, or periods of apnoea (not breathing) or cyanosis (a blue tinge to the skin).

People experiencing symptoms of pertussis should not attend school or work, and should visit their doctor to be tested for pertussis. They should remain home from school or work until a negative test result is returned, or they have completed five days of appropriate antibiotics.

Pertussis is a vaccine preventable disease and pertussis vaccine is offered to children at 6 weeks, 4 and 6 months of age, with booster doses at 18 months, 4 years and in the first year of high school. The vaccine is given as a combination vaccine along with diphtheria and tetanus.

Vaccination is recommended and offered for free to all pregnant women and given between 20 and 32 weeks (ideally at 28 weeks) in each pregnancy. This provides protection to the mother and allows transfer of maternal antibodies to the baby providing protection in the early months of life.

Further information

- NSW Health [pertussis fact sheet](#) and [pertussis notifications](#).
- Visit the [NSW health website](#) for more information on maternal pertussis vaccination, and the [Australian Immunisation Handbook](#) for other information on pertussis vaccination.

Summary of notifiable conditions activity in NSW

The following table summarises notifiable conditions activity over the reporting period (Table 1).

Table 1. NSW Notifiable conditions from 24 November – 30 November 2019, by date received*

		Weekly		Year to date		Full Year		
		This week	Last week	2019	2018	2017	2018	2017
Enteric Diseases	Cryptosporidiosis	24	17	582	668	1222	708	1266
	Giardiasis	46	44	3049	2750	2966	2937	3134
	Hepatitis A	2	2	58	81	62	86	71
	Rotavirus	99	64	1325	756	2226	808	2319
	STEC/VTEC	7	1	68	54	47	57	52
	Salmonellosis	74	59	3282	3048	3438	3337	3680
	Shigellosis	17	19	799	481	213	531	236
Respiratory Diseases	Influenza	252	261	115083	16527	103476	17409	103841
	Legionellosis	4	4	141	158	129	171	138
	Tuberculosis	15	11	543	471	499	508	544
Sexually Transmissible Infections	Chlamydia	603	627	29677	29144	26976	31181	28987
	Gonorrhoea	207	198	10827	9917	8507	10610	9149
	LGV	1	0	61	79	48	85	50
Vaccine Preventable Diseases	Meningococcal Disease	1	1	56	65	85	72	91
	Pertussis	146	139	5870	5418	5058	6280	5363
	Pneumococcal Disease (Invasive)	12	12	639	633	658	681	682
Vector Borne Diseases	Barmah Forest	1	0	61	70	121	74	127
	Dengue	8	9	422	283	289	299	306
	Malaria	2	3	66	64	66	66	68
	Ross River	3	3	555	547	1621	571	1653
Zoonotic Diseases	Q fever	6	4	226	220	192	228	210

* 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.
- 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.
- The shigellosis case definition changed on 1 July 2018 to include probable cases (PCR positive only), hence case counts cannot be validly compared to previous years.
- Data cells in the 'Adverse Event Following Immunisation' category refer to suspected cases only. These reports are referred to the Therapeutic Goods Administration (TGA) for assessment. Data on adverse events following immunisation is available online from the TGA [Database of Adverse Event Notifications](#).
- 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.