

Communicable Diseases Weekly Report

Week 10, 3 March to 9 March 2019

In summary, we report:

- [Invasive meningococcal disease](#) – one new case
- [Pertussis \(Whooping Cough\)](#) – summary of NSW cases
- [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

One case of invasive meningococcal disease (IMD) was notified in this reporting week ([Table 1](#)), in a child under two years of age. Tests have revealed disease in this child was caused by meningococcal serogroup B. This is the tenth case of IMD reported in 2019, of which eight have been caused by serogroup B and two have been caused by serogroup W.

Invasive meningococcal disease is a serious, sometimes fatal infection caused by the bacteria *Neisseria meningitidis*. Meningococcal bacteria commonly reside harmlessly in the nose and throat, a state known as carriage. Between 10 and 25% of the population carry meningococcal bacteria at any one time, with carriage more common between 15 and 24 years of age.

Meningococcal bacteria are spread through close and prolonged contact with a person who is carrying the bacteria, who will usually be completely well. Close and prolonged contact includes activities such as intimate kissing, or sharing the same household. The bacteria does not survive well outside of the human body, and is not easily spread through sharing of drinks or utensils.

Generally when meningococcal bacteria are transmitted to another person, that person may carry the bacteria for a variable time without any symptoms. Rarely, depending on the strain of *Neisseria meningitidis* and a range of individual factors, the person will develop IMD, when the meningococcal bacteria enter the bloodstream or fluid surrounding the brain and spinal cord.

There are several serogroups (or strains) of meningococcal bacteria which are more likely to cause invasive disease. This is due to the presence of a 'capsule' on the bacteria. The serogroups recently associated with IMD in Australia include serogroups B, C, W and Y. Serogroup A is also known to cause IMD, however it is very rare in Australia.

Vaccines against most meningococcal serogroups known to cause disease in Australia are available and recommended, particularly for young children under the age of 2, and people aged 15-24 years. Vaccines are recommended for these age groups in particular, as they are most at risk of acquiring and developing IMD due to high rates of carriage (in teens and young adults), naivety of their immune system (young babies), and the activities and interactions with other people associated with both of these age groups, which may increase the risk of transmission.

The meningococcal ACWY (Men ACWY) vaccine protects against four serogroups of meningococcal bacteria, including serogroups W and Y, which, in recent years have been associated with high rates of disease and a high case fatality rate. This vaccine is offered to children at 12 months of age under the National Immunisation Program, and to older adolescents either through the [NSW School Vaccination Program \(Year 10 student in 2019\)](#) or for free from GPs in NSW ([people aged 15-19 who have not received the vaccine at school](#)). A single dose of

this vaccine is required to provide long lasting immunity. The Men ACWY vaccine protects the individual against developing IMD, but also acts to reduce carriage of these strains of meningococcal bacteria, which has the wider impact of reducing transmission within the community. The Men ACWY vaccine is cost effective at a population level.

Meningococcal B vaccines protect against most meningococcal B strains. Multiple doses are required to provide long lasting immunity, however the effects of the vaccines on carriage rates of meningococcal B, and their cost effectiveness, have not been demonstrated.

For further information see the [meningococcal disease webpage](#) page or the [meningococcal disease factsheet](#). Follow the link for [data on meningococcal disease](#) in NSW.

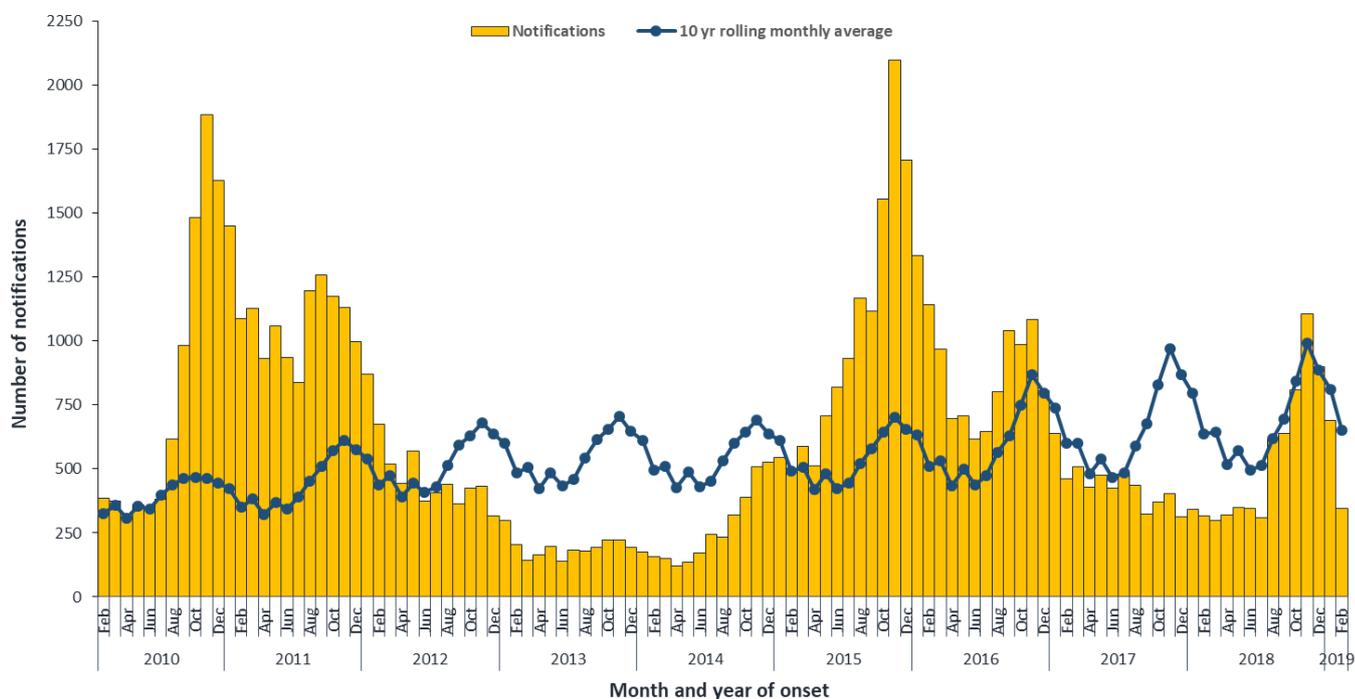
Information about individual meningococcal vaccines is available in the [Australian Immunisation Handbook](#).

Pertussis (Whooping Cough)

A total of 96 cases of pertussis, commonly known as whooping cough, were notified in this reporting week, a 28% increase compared to the previous reporting week. For the year to date a total of 1248 cases have been reported, a 62% increase on the same period in 2018 ([Table 1](#)).

Increases in the number of pertussis cases were observed over the second half of 2018, with the peak occurring in late spring/early summer, and declining during and after the summer break. While this 2018/2019 seasonal peak was larger than that observed in several recent years, it is too early to tell whether the outbreak has peaked or if we will continue to see increased numbers of cases over the course of 2019 (Figure 1).

Figure 1. Number of whooping cough notifications received by month for NSW residents for the 10 year period 01 February 2010 to 28 February 2019, with rolling 10 year monthly average (based on calculated onset date).



Whooping cough is a bacterial infection of the respiratory system, caused by *Bordetella pertussis*. It is easily spread through the air when an infectious person coughs or sneezes, and people with whooping cough can be infectious for up to three weeks without appropriate antibiotic therapy. Pertussis 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. The cough is usually worse at night time.

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

Pertussis tends to spread easily and quickly through households, and places with large numbers of children such as childcare centres and schools. 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, 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.

Anyone who has regular contact with babies under the age of 6 months, including grandparents, other parents and regular carers should also receive a pertussis vaccine if they have not had one in the 10 years prior to a new baby's arrival. Older siblings should be up to date with their vaccines.

Neither pertussis infection nor pertussis vaccination provide long lasting immunity. This is part of the reason that large outbreaks of pertussis are observed every 3 to 4 years ([Figure 1](#)).

Over the past 10 years, there has been a slight increase in the monthly average pertussis notifications, which may be related in part to the increased availability and use of more sensitive tests for pertussis bacteria, meaning we are more accurately identifying cases, particularly in children over the age of 5 and adults.

The major aim of pertussis prevention is to protect young babies, particularly newborns, from severe disease and death. Since the introduction of the maternal pertussis vaccination program in 2015, there have been no infant deaths from pertussis in NSW, and cases in children aged less than 6 months have decreased year on year, with less than 100 reported in 2018, compared to more than 200 in 2015.

Follow the links for more information on [pertussis](#) and [pertussis notifications](#).

Visit the [NSW health website](#) for more information on maternal pertussis vaccination, and the [Australian Immunisation Handbook](#) for other 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 3 March – 9 March 2019, by date received*

		Weekly		Year to date			Full Year	
		This week	Last week	2019	2018	2017	2018	2017
Enteric Diseases	Cryptosporidiosis	26	30	229	223	563	708	1266
	Giardiasis	72	91	745	662	809	2798	3135
	Hepatitis E	1	0	2	1	4	17	20
	Rotavirus	7	9	117	210	146	806	2319
	Salmonellosis	88	106	1025	943	1143	3343	3681
	Shigellosis	12	21	181	43	52	530	235
	Typhoid	6	6	52	28	40	116	110
Respiratory Diseases	Influenza	536	575	5083	2748	1695	17422	103852
	Legionellosis	1	2	39	33	27	167	138
	Tuberculosis	10	15	98	91	93	514	542
Sexually Transmissible Infections	Chlamydia	574	640	6245	6240	6068	31190	29006
	Gonorrhoea	212	256	2215	2069	2021	10625	9161
	LGV	1	4	17	13	6	85	50
Vaccine Preventable Diseases	Measles	2	3	16	0	8	18	32
	Meningococcal Disease	1	0	9	10	14	72	91
	Mumps	1	0	11	23	21	72	127
	Pertussis	96	75	1248	771	1337	6281	5366
	Pneumococcal Disease (Invasive)	7	8	68	72	69	688	683
	Rubella	2	1	4	0	0	1	5
Vector Borne Diseases	Dengue	5	5	77	85	87	290	306
	Malaria	1	2	13	15	16	65	68
	Ross River	11	15	97	89	833	567	1652
Zoonotic Diseases	Q fever	1	4	58	46	52	224	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](#) and the [HIV Surveillance Data Reports](#) webpages.