Communicable Diseases Weekly Report

Week 20, 12 May to 18 May 2019

In summary, we report:

- *Haemophilus influenzae* type b (Hib) disease – one new case
- Invasive meningococcal disease (IMD) – one new case
- 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.

Haemophilus influenzae type b (Hib) disease

One case of Haemophilus influenza type b (Hib) disease was notified in this reporting week (Table 1), in a vaccinated child under five years of age who lives in regional NSW. The child presented with epiglottitis, which is when the Hib infection results in a sudden and severe swelling at the back of the throat, potentially choking the child.

Hib disease in a completely vaccinated infant or child, such as this recent case, is rare. More than 95% of infants develop effective protection after receiving their course of Hib vaccines. Although Hib vaccines provide long-lasting immunity, the exact duration of immunity is not known.

Hib bacteria can live harmlessly in the throat of healthy people. The bacteria are spread through contact with droplets from the nose or throat of an infected person, and usually in household-like settings. A person does not have to have symptoms to spread the bacteria.

Hib disease includes fever but other symptoms depend upon the site of infection, which include:

- meningitis (infection of the membranes around the brain and spinal cord), causing headache, neck stiffness, drowsiness, nausea
- epiglottitis (severe swelling of the epiglottis at the back of the throat), causing difficulty in breathing and swallowing
- pneumonia (infection of the lungs), causing shortness of breath, cough, chest pain
- osteomyelitis (infection of the bone), causing pain and swelling over the affected bone.

People most at risk of serious Hib disease include unvaccinated children under the age of five years, Aboriginal and Torres Strait Islander children, people with certain medical conditions, such as sickle cell disease, HIV infection, a non-functioning spleen, a bone marrow transplant or who are being treated for cancer.

Hib was the most common cause of bacterial meningitis in Australian children before the introduction of Hib vaccines to the immunisation schedule in 1993. Without appropriate treatment, Hib meningitis and epiglottitis are often fatal. Hib meningitis may be complicated by brain damage or hearing loss.

Hib disease is now rare in NSW. Vaccination against Hib disease is included as part of the National Immunisation Program, with four doses administered at 6 weeks and at 4, 6 and 18 months of age.

The public health response to a case of Hib aims to protect those at greatest risk of disease by interrupting transmission. This is done by using antibiotics to clear the bacteria from the patient, and through clearance antibiotics for contacts in settings where there are vulnerable contacts. Vulnerable contacts include infants under 7 months of age, unvaccinated or under-vaccinated children aged between 7 months and 5 years of age, and people with suppressed immunity. In this case the child

had been in contact with a family with an infant too young to be vaccinated, so the local health service is arranging clearance antibiotics for that family.

Follow the links for the Hib disease factsheet, data on Hib in NSW, and more information on Hib vaccination.

Invasive meningococcal disease (IMD)

One case of invasive meningococcal disease (IMD) was notified in this reporting week (Table 1), in a woman aged in her eighties from a regional area of NSW. Testing has shown that the woman's infection was caused by meningococcal serogroup Y bacteria, the first case of IMD caused by this serogroup in 2019.

IMD is caused by one of five serogroups (A, B, C, W and Y) of the bacteria *Neisseria meningitidis*. These bacteria are commonly carried asymptomatically in the back of the nose and throat, with carriage rates highest among people in the 15-24 years age group.

IMD most commonly involves meningitis and or septicaemia (blood poisoning) and is life threatening. Less common clinical presentations include septic arthritis (infection of the joints), pneumonia, and conjunctivitis.

The diagnosis of meningococcal disease is often challenging in the early stages of the infection as the symptoms can be similar to other illnesses. The red, non-blanching rash commonly associated with IMD may occur late in the infection or not at all. Infants may present with less specific symptoms such as tiredness, irritability, high-pitched crying, drowsiness and refusal to eat.

For further information on the symptoms of IMD see the IMD factsheet.

While IMD is more common in the under 5 years and 15-24 years age groups, this recent case demonstrates that IMD affects all age groups. The incidence of IMD is highest in late winter and early spring, but cases occur year round.

Between 2016 and 2017, IMD in Australia was increasingly caused by serogroups W and Y, which also tend to be more severe and affect a wider range of age groups. This has led to a change in the National Immunisation Program with the monovalent meningococcal C vaccine dose at 12 months of age replaced by a quadrivalent meningococcal ACWY vaccine. This vaccine is also being offered free to people aged 14-19 years, either through school vaccination programs or from their GPs.

A meningococcal B vaccine protects against some serogroup B strains. It is recommended for young children and adolescents but is not funded by the National Immunisation Program.

Meningococcal ACWY and B vaccines are also strongly recommended for people at occupational risk of meningococcal disease such as laboratory workers, and for people with a non-functioning spleen.

Because routine vaccines do not protect against all strains of meningococcal disease, all people must still be alert for the symptoms and signs of meningococcal disease even if they have been vaccinated.

Follow the links for more information on IMD, data on IMD in NSW, and meningococcal 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 12 May 2019 – 18 May 2019, by date received*

		Weekly		Year to date			Full Year	
		This week	Last week	2019	2018	2017	2018	2017
Bloodborne	Hepatitis C - Newly Acquired	2	0	9	19	13	37	40
Enteric Diseases	Cryptosporidiosis	13	8	364	394	952	708	1266
	Giardiasis	55	48	1424	1271	1555	2937	3135
	Hepatitis E	1	1	9	6	9	18	20
	Paratyphoid	2	1	32	13	8	34	17
	Rotavirus	15	9	235	378	260	808	2319
	STEC/VTEC	1	0	28	24	26	57	53
	Salmonellosis	68	93	1829	1675	2066	3342	3681
	Shigellosis	26	27	352	87	81	531	236
	Typhoid	2	0	34	29	33	58	55
Respiratory Diseases	Influenza	1292	977	13430	4092	3431	17423	103852
	Legionellosis	1	3	70	67	49	171	138
	Tuberculosis	10	8	210	187	184	510	542
Sexually Transmissible Infections	Chlamydia	572	615	12377	12492	11788	31197	29006
	Gonorrhoea	244	238	4565	4145	3854	10622	9160
Vaccine Preventable Diseases	Haemophilus influenzae type b	1	0	3	1	2	6	9
	Meningococcal Disease	1	0	11	24	27	72	91
	Pertussis	104	135	2378	1521	2457	6281	5366
	Pneumococcal Disease (Invasive)	8	12	157	137	141	686	683
Vector Borne Diseases	Barmah Forest	2	1	30	38	41	74	127
	Dengue	5	6	161	132	137	299	306
	Malaria	1	3	25	23	28	66	68
	Ross River	15	19	292	238	1227	570	1653
Zoonotic Diseases	Q fever	2	2	109	72	88	227	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.