Communicable Diseases Weekly Report

Week 8, 19 to 25 February 2017

In summary, we report:

- Invasive meningococcal disease – one death
- Cryptosporidiosis – increased notifications
- Updated infectious diseases data
- Summary of notifiable conditions activity in NSW

For further information on infectious diseases on-line see NSW Health Infectious Diseases.

Also see NSW Health Infectious Diseases Reports for links to other surveillance reports.

Invasive meningococcal disease

One case of invasive meningococcal disease (IMD) was reported this week (Table 2) in a young adult from the Hunter New England Local Health District, who died from the infection. The infection was caused by serogroup B. This is the tenth case of IMD in 2017 and the second death. In the same period of 2016 there were nine cases notified, with two deaths.

Meningococcal disease is caused by infection with the bacterium *Neisseria meningitidis*. The bacteria are spread through direct contact of mucous membranes with the organism, such as exposure to respiratory droplets from the nose and throat of an infected person.

Close contact may result in the bacteria colonising the throat of the exposed person but in most people this does not cause any disease. In only a very small proportion of people the bacteria may invade from the throat to other parts of the body, causing IMD.

IMD typically involves meningitis (infection of the lining of the brain), septicaemia (infection of the blood) or both. Up to 10 per cent of IMD infections are fatal even with appropriate antibiotic treatment, and survivors may be left with long-term complications.

There are several serogroups of *Neisseria meningitidis* which can cause invasive disease. The most common serogroups in Australia are B, C, W and Y. Since the introduction of a serogroup C vaccine in 2003 most cases in NSW have been caused by serogroup B. However, since 2014 there has been an increase in cases caused by serogroup W in NSW and other jurisdictions.

To date in 2017 in NSW, four case of meningococcal disease has been caused by serogroup B, two by serogroup W, two by serogroup Y and two by serogroup C.

Vaccination against meningococcal C infection is included in the National Immunisation Program Schedule, with vaccination due at 12 months of age.

NSW will be offering meningococcal ACWY vaccine (4vMenCV) to Year 11 and 12 students through a school-based vaccination program from 1 May 2017. This is expected to provide individual protection against four meningococcal strains, and contribute to herd immunity in the broader population by reducing meningococcal carriage in the vaccinated adolescent cohorts.

Combined vaccines against the A, C, Y and W serogroups are also recommended for travellers to countries where these serogroups are more common and for some people with certain high risk conditions that predispose them to developing IMD, such as those without a spleen.

A vaccine against some serogroup B strains has recently become available in Australia; it is recommended for young children and adolescents but is not part of the National Immunisation Program.

Follow the links for more information on meningococcal disease and vaccination.

Cryptosporidiosis

Eighty-eight notifications of cryptosporidiosis were received this reporting period, which is higher than usual for this time of year; the previous 5-year average for this week was 26 cases. (Table 1). Cases were mainly reported among residents of Northern Sydney and Western Sydney Local Health Districts. Cryptosporidiosis incidence typically peaks during summer months between January and March each year, often linked with swimming pools and other recreational water exposures. No common recreational water facilities were reported in those cases interviewed this week. Some of the increase in notifications may be due to increasing use of a more sensitive test that is now widely available in NSW.

Table 1. Cryptosporidiosis population notification rates by local health district, 19 to 25 February 2017

LHD	N	Rate per 100,000
Northern Sydney	20	2.21
Western Sydney	16	1.73
South Western Sydney	14	1.49
Nepean Blue Mountains	5	1.37
South Eastern Sydney	11	1.23
Northern NSW	3	1.01
Mid North Coast	2	0.94
Central Coast	3	0.90
Sydney	5	0.80
Western NSW	2	0.72
Illawarra Shoalhaven	2	0.50
Southern NSW	1	0.49
Hunter New England	4	0.44
TOTAL	**88**	**1.21**

Cryptosporidiosis is a diarrhoeal disease caused by the parasitic protozoan, *Cryptosporidium* spp. These microscopic parasites are transmitted as environmentally hardy cysts (oocysts) shed from infected humans and animals (including dogs, cats, livestock and wildlife) which can survive up to six months in moist environments. Cryptosporidiosis is spread through the faecal-oral route directly from person to person, from animal to person, and by ingesting contaminated food and water.

Cryptosporidiosis outbreaks have been linked to sources such as contaminated drinking water, swimming pools, spa pools, and to petting infected animals.

Infection may be asymptomatic, but disease usually presents as profuse watery diarrhoea and abdominal cramps after a 7 day incubation period (range 1-12 days). Nausea, vomiting, fever, dehydration and weight loss may also be present. Symptoms typically resolve within 1-2 weeks; however, some people may experience recurrence of symptoms for up to a month, and chronic or extra-intestinal infections may occur in people who are immunocompromised.

Patients are infectious while they excrete oocysts, which may continue for several weeks after diarrhoea stops.

As cryptosporidia are resistant to usual levels of chlorine in swimming or spa pools, outbreaks are frequently associated with community pools. High doses of chlorine (superchlorination) and cleaning of filters are required to prevent further infections.

Public pool operators are required to manage pools in accordance with the *Public Health Regulation 2012*, which includes requirements on the levels of disinfectants. The occurrence of two or more cases linked to a pool should prompt intervention by local public health units, including advice on superchlorination.

Preventive measures for individuals include:

- hand washing (especially after handling animals or animal manure, changing nappies, working in the garden and before preparing food);

- not drinking untreated water and avoiding swallowing water when swimming; and,
- avoiding swimming in natural waters within a week of heavy rain.

Cases or relevant care-givers should be informed about the nature of the infection and how it is spread, with emphasis on hygienic practices, particularly to:

- not swim for at least two weeks after the diarrhoea has stopped;
- not share towels or linen for at least two weeks after the diarrhoea has stopped; and
- not handle food for other people for at least 48 hours after the diarrhoea has stopped.

Children who have diarrhoea should be kept home from school, preschool, childcare or playgroup until at least 24 hours after the diarrhoea has completely stopped. Carers of the sick, children or the elderly should avoid contact with these groups for at least 48 hours after complete resolution of symptoms if possible.

For more information, see the following NSW Health factsheets and guidance:

- cryptosporidiosis factsheet
- factsheet on cryptosporidium and giardia in swimming pools and spa pools
- advice for public swimming pool operators.

Updated infectious diseases data

Data on infectious diseases notifications for NSW residents has been available on the NSW Health website for many years. A new version of the data has been released and can be accessed at http://www.health.nsw.gov.au/Infectious/Pages/data.aspx. The information is updated daily about the number of cases of selected conditions reported in NSW and now includes a breakdown of cases by local health district.

Summary of notifiable conditions activity in NSW

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

Table 2. NSW Notifiable conditions from 19 to 25 February 2017, by date received*

		Weekly		Year to date			Full Year	
		This week	Last week	2017	2016	2015	2016	2015
Enteric Diseases	Cryptosporidiosis	88	52	386	206	206	1184	1040
	Giardiasis	89	81	621	724	675	3481	3413
	Rotavirus	7	4	116	122	74	746	1033
	Salmonellosis	126	115	918	1179	1081	4543	4022
	Shigellosis	3	5	51	49	42	309	172
	Typhoid	6	4	30	32	20	74	82
Respiratory Diseases	Influenza	153	150	1323	900	617	35537	30301
	Legionellosis	4	0	17	13	19	133	96
	Tuberculosis	6	9	56	83	61	534	444
Sexually Transmissible Infections	Chlamydia	557	604	4722	4143	3848	25999	22547
	Gonorrhoea	196	186	1594	1015	926	7010	5398
Vaccine Preventable Diseases	Adverse Event Following Immunisation	9	4	30	23	25	253	186
	Meningococcal Disease	1	0	11	9	5	76	47
	Mumps	2	2	15	5	12	65	65
	Pertussis	124	105	1108	2520	1013	10956	12079
	Pneumococcal Disease (Invasive)	7	15	54	43	38	543	494
Vector Borne Diseases	Dengue	4	13	65	67	77	480	343
	Malaria	1	0	12	9	9	59	47
	Ross River	45	63	643	91	356	541	1636
Zoonotic Diseases	Q fever	5	5	36	43	40	231	264

*** Notes on Table 1: NSW Notifiable Conditions activity**

- 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.
- 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.
- Only conditions for which at least one case report was received appear in the table. HIV and other blood-borne virus case reports are not included here but are available from the Infectious Diseases Data webpage.