

Communicable Diseases Weekly Report

Week 16, 18 to 24 April 2016

In summary, we report:

- [Legionnaires' disease](#) – update on outbreaks.
- [Invasive meningococcal disease](#) – three new cases reported
- [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.

Legionnaires' disease

One new case of Legionnaires' disease was reported in this reporting week (Table 1). The case occurred in a resident of Western Sydney Local Health District (LHD) and was due to infection with the *Legionella longbeachae* strain.

Since February 2016, NSW Health has investigated three clusters of Legionnaires' disease caused by the *Legionella pneumophila* 1 strain; in the Sydney Central Business District (CBD, 8 cases, one other case excluded), in the Kogarah / St George area (3 cases) and most recently in the Dee Why area (2 cases).

Extensive inspection and testing of cooling towers and other possible sources of *L. pneumophila* bacteria was undertaken in all three areas by NSW Health and local council officers to reduce the risk of further infections. Whenever a cooling tower is found to have maintenance concerns or is contaminated with *Legionella* bacteria, the owners are directed to immediately clean and disinfect their systems and to improve their maintenance systems to prevent further contamination.

Investigations comparing clinical and environmental *Legionella* samples are on-going but it is often not possible to conclusively identify a particular contaminated environmental source, such as a cooling tower, as the cause of infection for individual cases.

Legionnaires' disease is a type of pneumonia and the symptoms include fever, chills, cough and shortness of breath. Some people also have muscle aches, headache, tiredness, loss of appetite and diarrhoea. Risk factors for Legionnaires' disease include increasing age (most cases are aged over 50 years), smoking, and immunosuppression as a result of chronic medical conditions, cancer or taking high dose corticosteroids. People with Legionnaires' disease often have severe symptoms and infection is associated with a 10-15 per cent mortality rate.

Legionnaires' disease is caused by *Legionella* bacteria. There are around 50 different species of *Legionella* bacteria, but most infections in NSW are caused by *Legionella pneumophila* or *Legionella longbeachae*.

Legionnaires' disease is not spread from person to person, but can occur from inhaling contaminated water aerosols or dust. *Legionella longbeachae* is found in potting mix, compost and soils and infection is associated with gardening and the use of potting mix. To prevent Legionnaires' disease it is recommended that people handling potting mix wet the mix beforehand to reduce dust, wear gloves and a mask and wash their hands after handling potting mix or soil.

Legionella pneumophila is found in water and can contaminate air conditioning cooling towers, spas, plumbing systems and other bodies of warm water. Outbreaks are sometimes associated with contaminated cooling towers that are part of air conditioning systems in large buildings. Regular inspection, disinfection and maintenance of cooling towers and plumbing systems limit the growth of the bacteria and prevent outbreaks of Legionnaires' disease.

The NSW Public Health Act 2010 and the Public Health Regulation 2012 control various man-made environments and systems which are conducive to the growth of *Legionella* bacteria and

which are capable, under the right conditions, of transmitting Legionnaires' disease. Follow the link for more information on the [regulatory control of Legionnaires' disease](#).

Follow the links for more information on [Legionnaires' disease](#) and on case notifications of [Legionnaires' disease](#).

Invasive meningococcal disease

Three cases of invasive meningococcal disease (IMD) were notified this reporting week (Table 1). All three case reports were adult residents of metropolitan Sydney, with one case diagnosed while travelling in Western Australia. There were no links between any of the cases. Local public health units have identified close contacts for information and clearance antibiotics, as appropriate.

A total of 16 cases of IMD have been reported so far in 2016 (based on onset date), including three people who died from their infection. In the same period of 2015 there were 11 cases notified. Cases in 2016 have occurred in both adults and children with an age range of 0 to 88 years. Meningococcal serogroup information is available for 12 of the cases in 2016, with five cases caused by serogroup B, four by serogroup W135, two by serogroup Y, and one by serogroup C.

IMD 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. Contact may result in the bacteria becoming established and reproducing in the throat of the exposed person; in most people this does not cause any symptoms. Only a very small proportion of people go on to develop disease. Disease is typically meningitis (infection of the lining of the brain), septicaemia (infection of the blood) or both. Up to 10 per cent of IMD cases are fatal even with appropriate antibiotic treatment, and survivors may be left with long-term complications.

There are several serogroups of *Neisseria meningitidis* which cause invasive disease. Vaccination against meningococcal C infection is included in the national immunisation schedule at 12 months of age. Combined vaccines against the A, C, Y and W135 serogroups are generally only recommended for travellers to countries where these strains are more common, and for some people with certain high risk conditions that predispose them to developing IMD such as people 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](#).

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 18 to 24 April 2016, by date received

		Weekly		Year to date			Full Year	
		This week	Last week	2016	2015	2014	2015	2014
Enteric Diseases	Cryptosporidiosis	37	39	499	435	179	1038	429
	Giardiasis	82	87	1426	1275	1062	3415	2942
	Hepatitis A	1	1	19	42	32	71	80
	Listeriosis	3	1	19	8	10	26	23
	Rotavirus	5	8	173	118	114	1036	714
	Salmonellosis	101	79	1978	1811	1824	4045	4275
	Shigellosis	4	4	91	59	102	172	212
	Typhoid	1	0	22	18	17	41	44
Respiratory Diseases	Influenza	155	229	2226	1283	920	30302	20888
	Legionellosis	1	5	39	28	26	96	72
	Tuberculosis	7	10	151	116	137	441	475
Sexually Transmissible Infections	Chlamydia	394	519	8050	7086	7419	22549	22900
	Gonorrhoea	90	121	1923	1671	1513	5402	4877
Vaccine Preventable Diseases	Adverse Event Following Immunisation	8	9	62	59	117	182	256
	Haemophilus influenzae type b	1	0	2	0	0	5	6
	Meningococcal Disease	3	0	15	11	10	46	37
	Pertussis	153	155	4133	1939	611	12077	3052
	Pneumococcal Disease (Invasive)	7	6	95	77	81	494	511
	Rubella	1	0	4	3	3	6	10
Vector Borne Diseases	Barmah Forest	2	2	13	92	76	185	163
	Dengue	15	12	171	133	153	340	378
	Malaria	1	1	12	16	31	47	87
	Ross River	42	20	300	1005	158	1639	673
Zoonotic Diseases	Q fever	3	2	70	72	65	267	190

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.