

Communicable Diseases Weekly Report

Week 18, 2 to 8 May 2016

In summary, we report:

- [Legionellosis](#) – new Sydney central business district outbreak
- [Q fever](#) – year-on-year increase
- [OzFoodNet](#) – NSW Third Quarter Summary, Jul-Sep 2015 published
- [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.

Legionellosis

NSW Health is currently investigating an outbreak of Legionnaires' disease (legionellosis) due to *Legionella pneumophila* serogroup 1, in people who had been in the Sydney central business district (CBD) during their exposure period. Five confirmed cases of Legionnaires' disease who had been in the Sydney CBD prior to the onset of their illness have been notified over the past two weeks. An environmental investigation into the cause of the outbreak is underway, and emergency departments, respiratory physicians, laboratories and intensive care units have been alerted to the outbreak to identify any other cases. Three of the five cases were men, and all were aged between 34 and 89 years. Most reported either smoking or significant underlying health conditions which predispose to *Legionella* infection. All cases were hospitalised. Three cases remain hospitalised with two in a serious condition.

All owners and operators of cooling towers in the central business district were requested to immediately check the plant maintenance and disinfection. A field team of environmental health officers from City of Sydney, Health Protection NSW and public health units initiated an environmental investigation, centring on potential sources of contaminated aerosols such as cooling towers and water fountains in the area bound by Kent, Margaret, Pitt and King Streets, which was identified as the priority area for investigation on the basis of exposures of confirmed cases.

Public health units are continuing to undertake active surveillance. No further cases have been identified. The latest disease onset was 3 May 2016, indicating an exposure period between April 23 and May 1.

In addition to the Sydney CBD outbreak, a further four *L. pneumophila* serogroup 1 cases have been recently reported. One of these cases acquired their infection whilst overseas in Indonesia (Bali) while the other three cases are thought to have been acquired locally. One of these cases, a fatal case, had briefly visited the Sydney CBD during their exposure period but not near the area common to the five patients linked to the outbreak. The relevant public health units are also investigating these cases for potential exposure sources.

Legionellosis 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 legionellosis 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 legionellosis often have severe symptoms and infection is associated with a 10–15% mortality rate.

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

Legionellosis is not spread from person to person, but can occur from inhaling contaminated water aerosols or dust. *L. longbeachae* is found in potting mix, compost and soils and infection is associated with gardening and the use of potting mix. To prevent legionellosis 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.

L. 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 legionellosis. Follow the link for more information on the [regulatory control of Legionnaires' disease](#).

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

Q fever

During 2016, 79 cases have been notified year to date compared to 76 in the same period last year. An analysis of the 2015 notification data indicated that there were 262 (3.4 notifications per 100,000) Q fever notifications; this was higher than the previous 5 year mean (158 notifications, 2.2 notifications per 100,000). The data also indicated that adult males, Aboriginal people, and populations in regional/remote areas of NSW were disproportionately affected. While most cases (63%) worked in high-risk occupations and/or were exposed to animals, products, tissues or discharges (84%), a high number of infections in individuals without apparent high-risk exposures have been observed.

Q fever is caused by the bacterium *Coxiella burnetii*. The main carriers of the disease are farm animals such as cattle, sheep and goats, but other animals such as kangaroos, bandicoots, and domestic pets (e.g. dogs and cats) can also be infected. People usually get infected by breathing in infected aerosols or dust when working with infected animals, animal tissues or discharges (blood, placenta, urine, faeces or milk) or animal products (e.g. wool, hides). Infection can also occur through skin injuries (e.g. cuts with contaminated knives), and rarely through ticks, consuming unpasteurised milk or milk products, or (very rarely) from person-to-person. Individuals working in industries with regular exposure to animals, animal products or environments where animals are kept are at increased risk of contracting Q fever.

Many infected people (approximately 60%) have no or few symptoms. Those who become sick develop a flu-like illness about 2-3 weeks after exposure, which may include high fevers and chills, severe sweats, severe headaches (often behind the eyes), muscle and joint pains and extreme fatigue (tiredness). Most people make a full recovery and become immune to repeat infections. Occasionally (2% of acute cases), people develop chronic infections which affect the heart (endocarditis) or the liver (hepatitis).

About 10–20% of acute cases go on to develop chronic fatigue (post-Q fever fatigue syndrome), which can occur up to two years after the initial infection and last for many years. Certain conditions (e.g. pregnancy, immunosuppression, pre-existing heart valve lesions, vascular abnormalities or prostheses) may predispose individuals to chronic infections.

A vaccine is available to protect people against infection. Vaccination is recommended for all people who are working in, or intend to work in, a high-risk occupation, such as in an abattoir, veterinary care or farming. Pre-vaccination screening with both a blood test and a skin test is required before Q fever vaccination. Workplaces at risk of Q fever are required to implement risk control measures, including pre-screening and vaccination, and other safe work practices for all workers, contractors and others who may be exposed.

Follow the links for more information on [Q fever](#), [notifications data](#), [vaccine recommendations](#) and [workplace requirements](#).

OzFoodNet

The NSW OzFoodNet Third Quarter Summary, Jul-Sep 2015 is now available on the [NSW Health website](#). The Report describes data for enteric conditions collected through notifications and investigations of outbreaks of gastroenteritis and foodborne illness. In this issue, we highlight increases in *Shigella*, *Salmonella* and hepatitis E virus infections, and findings of 11 foodborne (or suspected foodborne) outbreak investigations.

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 2 to 8 May 2016, by date received

		Weekly		Year to date			Full Year	
		This week	Last week	2016	2015	2014	2015	2014
Enteric Diseases	Cryptosporidiosis	40	29	569	492	193	1038	429
	Giardiasis	62	54	1545	1406	1165	3415	2942
	Listeriosis	1	0	20	9	10	26	23
	Rotavirus	1	11	186	128	125	1036	714
	Salmonellosis	104	62	2146	1998	1989	4045	4275
	Shigellosis	6	7	104	61	105	172	212
	Typhoid	1	0	23	19	18	41	44
Respiratory Diseases	Influenza	118	118	2474	1493	1008	30301	20888
	Legionellosis	7	3	51	34	31	96	72
	Tuberculosis	2	7	160	136	146	443	475
Sexually Transmissible Infections	Chlamydia	539	353	9049	7958	8209	22549	22900
	Gonorrhoea	148	86	2226	1829	1700	5400	4876
	LGV	1	1	17	11	5	20	14
Vaccine Preventable Diseases	Adverse Event Following Immunisation	3	4	71	66	125	182	256
	Mumps	1	1	9	17	40	63	82
	Pertussis	177	135	4451	2172	671	12077	3052
	Pneumococcal Disease (Invasive)	9	14	119	97	89	494	511
Vector Borne Diseases	Dengue	4	10	192	149	162	340	378
	Ross River	11	11	259	1111	187	1638	673
Zoonotic Diseases	Psittacosis	1	0	2	1	3	3	13
	Q fever	4	3	79	76	68	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.