

Communicable Diseases Weekly Report

Week 38, 16 to 22 September 2018

In summary, we report:

- [Pertussis](#) – update
- [Legionellosis](#) – update on cluster
- [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.

Pertussis

One hundred and forty-four pertussis (whooping cough) cases were notified in this reporting week, a five per cent increase compared to last week. This brings the total number of pertussis cases notified for the year up until 22 September to 3297, a 22% decrease compared to the same period in 2017, and a 26% decrease compared to the five year average for the same period.

Pertussis, commonly known as ‘whooping cough’, is a highly contagious respiratory infection caused by the bacterium *Bordetella pertussis*. Pertussis affects individuals of all ages, but is most severe and can be fatal in small babies, particularly those too young to be vaccinated and those that are unvaccinated. Pertussis occurs all year round, but tends to be more common in the warmer months of spring through summer.

Pertussis usually begins like a cold with a blocked or runny nose, tiredness and a cough. As the illness progresses, coughing worsens often resulting in severe bouts of uncontrollable coughing (paroxysms), which can be followed by vomiting, or gasping for breath which causes the characteristic ‘whooping’ sound. The cough can last many weeks and is often worse at night.

The ‘whoop’ is often absent in infants, particularly newborns, who are more likely to present with gagging, gasping, apnoea (cessation of breathing), or cyanosis (turning blue), or less specific signs such as poor feeding.

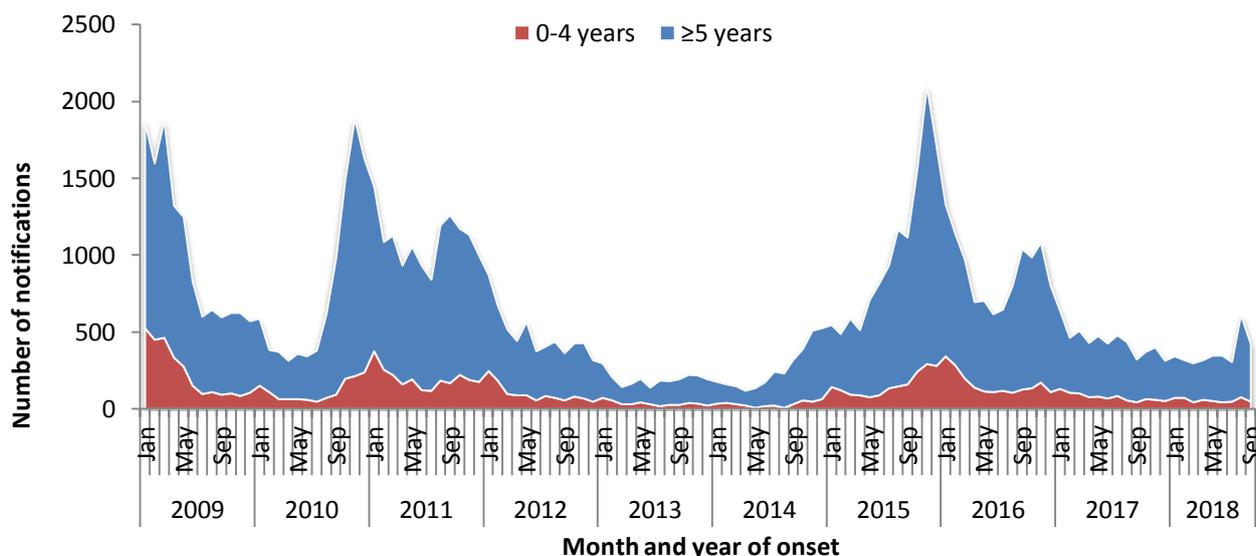
Older children and adults, particularly those who have previously received a vaccine may develop milder illness, including a cough that lasts many weeks.

Pertussis is spread via respiratory droplets produced when an infectious person coughs. If not treated early in the illness, people with whooping cough are infectious for the first three weeks of illness. Whooping cough spreads very easily among families, childcare centres and school. Older siblings and other family members are often sources of infection for younger children and infants.

Pertussis is a vaccine preventable disease with vaccination recommended and provided as part of the National Immunisation Program at 6 weeks, and four and six months of age for the primary course; with booster doses at 18 months, and 4 and 12 years of age. Booster doses are important as immunity to pertussis wanes with time since last dose.

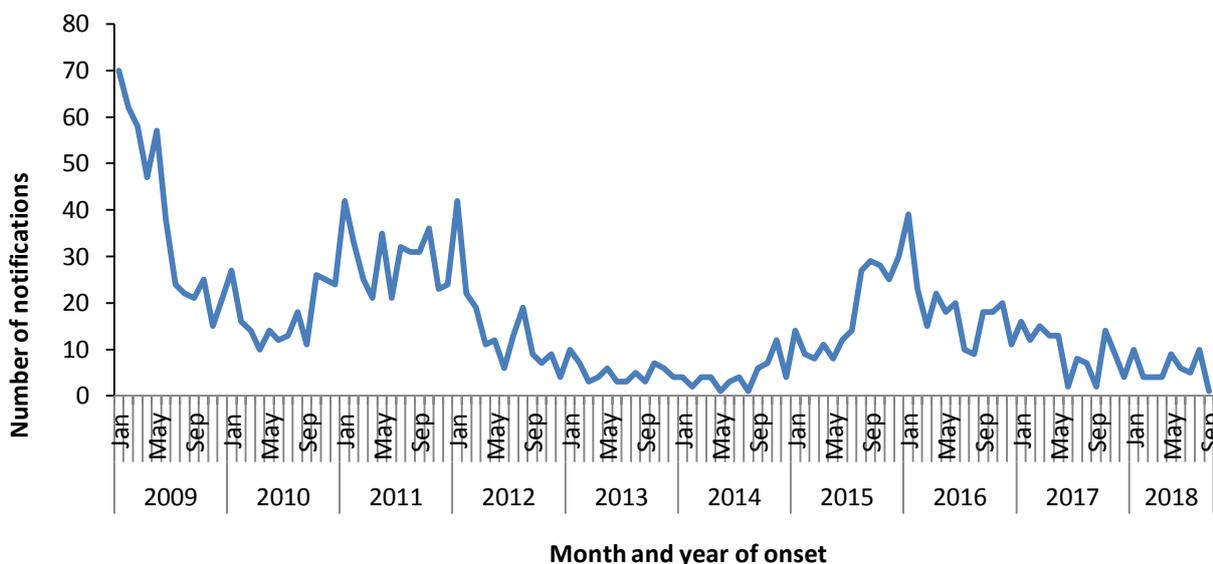
Waning immunity is one of the contributing factors in pertussis epidemics, which usually occur every 3-4 years. The last epidemic year in NSW was 2015. Routine childhood vaccination and strategies such as maternal pertussis vaccination, which provides antibody protection to the unborn child from the mother via the placenta, aim to protect the most vulnerable members of the community from pertussis, particularly in epidemic years; namely children aged less than 6 months of age.

Figure 1: NSW Pertussis notifications, by age group and month and year of onset, 01 January 2009 to 22 September 2018.



The maternal pertussis vaccination program was commenced in NSW in April 2015, following increases in notifications in the latter half of 2014. In 2018 the Federal Government added maternal pertussis vaccination to the National Immunisation Program. Since the introduction of the program in NSW, cases of pertussis among children aged less than 6 months have decreased significantly. Numbers of cases among children in this age group during the peak of the most recent epidemic were almost 10% lower than those seen in the previous epidemic peak in early 2011 and 45% lower compared to epidemic peak of 2009. There have been no deaths due to pertussis in children aged less than 6 months since the introduction of this program.

Figure 2: NSW pertussis notifications among children aged less than 6 months, by month and year of onset, 01 January 2009 to 22 September 2018.



For more information on pertussis follow the links to the [factsheet](#), pertussis [notification data](#), and the [NSW Annual Vaccine Preventable Disease Report](#) for 2017.

More information on pertussis vaccination, including maternal pertussis vaccination can be found in the new digital [Australian Immunisation Handbook](#), and on the [NSW Health Immunisation](#) pages.

Legionellosis

Three new cases of legionellosis (Legionnaires' disease) were reported in this reporting week (Table 1), two were due to the *Legionella longbeachae* strain. The third case reported in a resident of Sydney Local Health District (LHD) was due to *Legionella pneumophila* serogroup 1 (LP1) and appears to be part of the cluster of LP1 cases currently being investigated who were in the Lidcombe area in August or early September prior to becoming ill. Additionally a fifth case has been linked to the cluster in an interstate truck driver who travelled to the Lidcombe area in August prior to becoming ill.

Extensive inspection and testing of cooling towers and other possible sources of *L. pneumophila* bacteria was rapidly commenced in the Lidcombe area by NSW Health and local council officers to reduce the risk of further infections. On 17 September, the investigation team was notified testing of a sample taken from a water cooling system on a building in Lidcombe had grown *Legionella pneumophila* bacteria. The public health unit immediately issued an order to the building owner to decontaminate the system. The tower was decontaminated that day, removing any risk to the public from that tower. A media release was issued on 17 September to alert people who had been in the Lidcombe area on the early symptoms of legionellosis.

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 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.

Legionellosis 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*.

Legionellosis 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. People intending to handle potting mix should be wearing gloves and a mask, and should wet the potting mix to reduce dust. People should also wash their hands well with soap and water 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 legionellosis outbreaks.

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](#).

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 16 to 22 September 2018, by date received*

		Weekly		Year to date			Full Year	
		This week	Last week	2018	2017	2016	2017	2016
Enteric Diseases	Cryptosporidiosis	10	10	569	1131	841	1266	1184
	Giardiasis	65	50	2010	2471	2769	3134	3480
	Hepatitis A	1	1	72	40	30	72	41
	Rotavirus	21	20	604	1305	355	2319	750
	Salmonellosis	42	53	2490	2875	3542	3680	4533
	Shigellosis	16	9	297	164	229	235	310
	Typhoid	1	3	45	43	28	55	37
Other Diseases	Acute Rheumatic Fever	1	4	20	13	9	20	16
Respiratory Diseases	Influenza	876	1148	13024	90084	30293	103853	35540
	Legionellosis	3	3	102	93	102	138	134
	Tuberculosis	9	13	378	384	367	543	533
Sexually Transmissible Infections	Chlamydia	539	546	23048	21327	19104	28974	25988
	Gonorrhoea	186	217	7845	6819	5106	9171	6993
	LGV	2	4	66	30	43	50	60
Vaccine Preventable Diseases	Adverse Event Following Immunisation	8	7	235	233	195	279	262
	Measles	2	1	16	26	10	32	16
	Meningococcal Disease	2	3	48	63	50	91	70
	Mumps	1	1	58	88	42	128	67
	Pertussis	144	137	3297	4222	7899	5365	10956
	Pneumococcal Disease (Invasive)	13	21	503	506	390	683	545
Vector Borne Diseases	Dengue	5	1	200	221	376	306	485
	Malaria	1	5	51	54	39	68	59
	Ross River	5	13	461	1517	404	1653	595
Zoonotic Diseases	Q fever	1	3	148	164	156	210	231

* 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 (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.
- 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 chronic blood-borne virus case reports are not included here but are available from the [Infectious Diseases Data](#) webpage.