

Communicable Diseases Weekly Report

Week 15, 08 April to 14 April 2018

In summary, we report:

- [Legionellosis](#) – five new cases and a cluster investigation in the Macquarie Fields area
- [Gonorrhoea](#) – two multi-drug resistant cases detected in Australia
- [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.

Legionellosis

There were five notifications of legionellosis (Legionnaires' disease) this reporting week (Table 1). All of the cases were confirmed to be due to *Legionella pneumophila* serogroup 1 (LP1), with two, a woman in her seventies and a man in his sixties, having exposures in the Macquarie Fields area of Sydney. This linked them to an LP1 case reported in the previous week. The South Western Sydney Local Health District (SWS LHD) Public Health Unit, together with the Campbelltown Council, has been investigating this cluster with no likely source identified to date. For further information see the [SWS LHD media release](#).

The other three reported legionellosis cases were in adult residents of the Hunter New England, Northern NSW and Nepean Blue Mountains Local Health Districts and have no known links to the Macquarie Fields area or to other recent cases.

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 in people aged over 50 years), smoking, and immunosuppression as a result of chronic medical conditions, cancer or taking high-dose corticosteroid medicines. People with legionellosis often have severe symptoms and infection is associated with a 10 to 15 per cent mortality rate.

Legionellosis is caused by infection with *Legionella* bacteria. There are around 50 different species of *Legionella* bacteria but most infections in NSW are caused by *L. pneumophila* or *L. longbeachae*. *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 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 the bacteria to people through the air. To further strengthen the regulation of cooling towers, NSW Health amended the Public Health Regulation to require monthly testing for *Legionella* and total bacteria in all cooling towers from 1 January 2018. Further regulatory changes are being finalised to require all cooling tower systems to have risk management plans and third party auditing.

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

Gonorrhoea

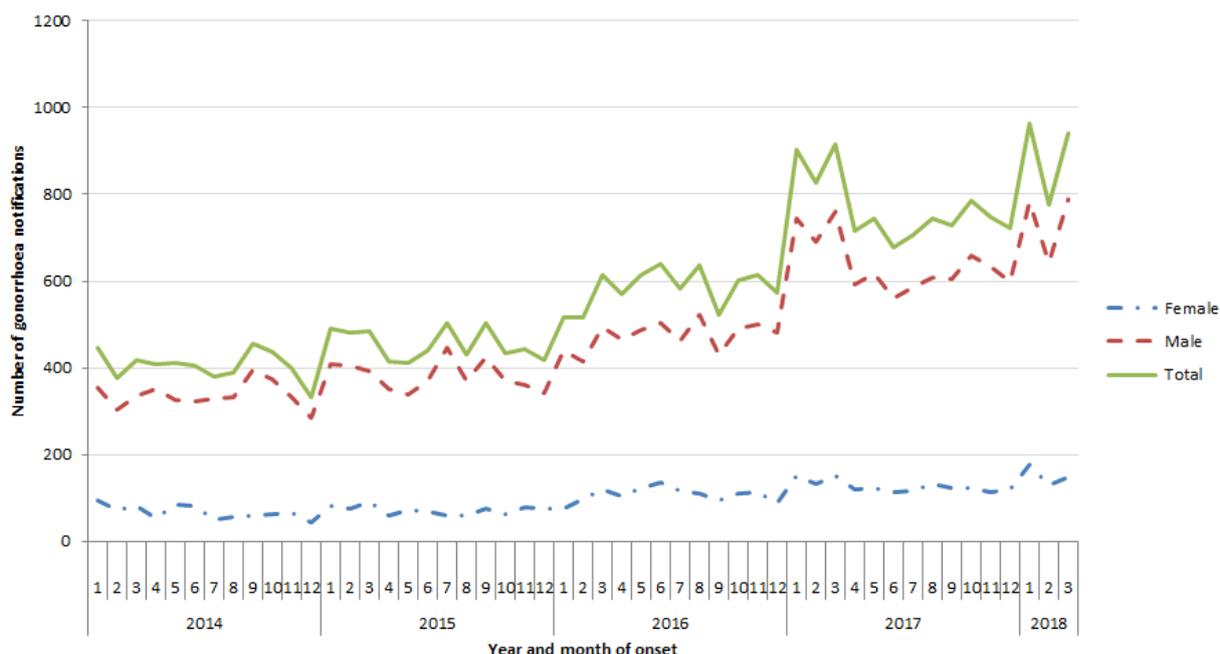
Two cases of gonorrhoea with high level resistance to ceftriaxone, azithromycin, ciprofloxacin, penicillin and tetracycline were diagnosed in Australia in February and March 2018. One case was diagnosed in Western Australia and the other in Queensland. These are the first high level multi-drug resistant gonorrhoea case reports in Australia and follow the first case report of multi-drug resistant gonorrhoea in [England](#). Evidence suggests that one of the Australian cases and the case in England acquired their infections in Southeast Asia through heterosexual sex. It is not known where the other Australian case acquired their infection.

There have been no cases of high level multi-drug resistant gonorrhoea cases detected in NSW. An [alert](#) has been sent to NSW clinicians informing them of the infections with multi-drug resistant gonococcal bacteria and outlining the correct treatment, testing and management of gonorrhoea.

Gonorrhoea notifications in NSW have increased since 2014 (Figure 1). In 2017, 9,174 gonorrhoea notifications were received, a 33% increase compared to 2016. In 2018 to 14 April, 3,066 gonorrhoea notifications were received, slightly more than the number (2,978) notified in the same period in 2017 (Table 1).

This increase is not thought to be related to antibiotic resistance. The transmission of gonorrhoea in NSW is thought to be mainly associated with male-to-male sex, with 83% of notifications in 2017 being in men. However, an increasing proportion of women have been notified with gonorrhoea since 2016, suggesting that heterosexual transmission may be increasing.

Figure 1. Number of gonorrhoea notifications by gender, year and month of onset, NSW, 1 January 2014 to 31 March 2018



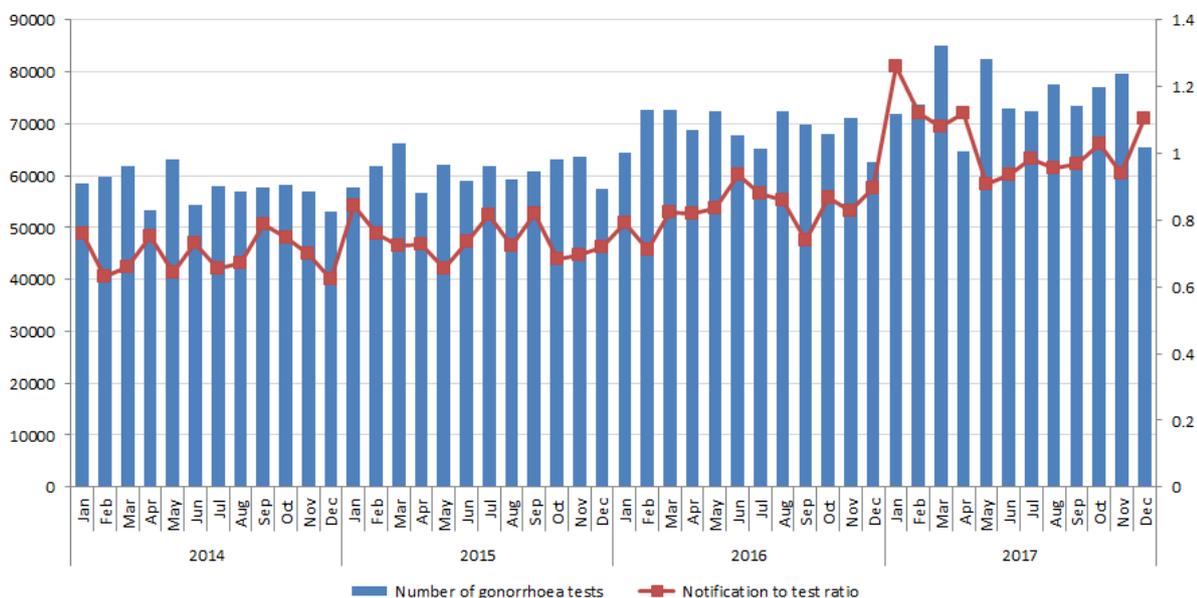
Source: NSW Notifiable Conditions Information Management System (via SAPHaRI)

Note: 'Total' includes transgender persons, and persons whose gender was not reported

People with gonorrhoea often have no symptoms, particularly women and those with gonorrhoea of the throat. Therefore, the number of people screened for gonorrhoea is likely to affect the number of people diagnosed with this infection. From 2013, access to HIV testing with concurrent testing for other sexually transmissible infections for gay and bisexual men improved in NSW. All specimens submitted for chlamydia testing are also tested for gonorrhoea. Data from laboratories on the number of gonorrhoea tests done each month in NSW from January 2014 to December 2017 shows an increase in the number of tests performed in 2017, along with an increase in the number of notifications per 100 tests (Figure 2). This suggests that along with better detection of

infections, there may be an increase in gonorrhoea transmission (incidence) in NSW over this period.

Figure 2. Number of gonorrhoea tests and notification to test ratio, NSW, 1 January 2014 – 31 December 2017



Source: NCIMS and NSW Denominator project, NSW Health

Sexual health screening of gay and bisexual men who are considering taking antiretroviral drugs to prevent HIV (pre exposure prophylaxis, or PrEP) as part of a large clinical trial that commenced on 1 March 2016 may be contributing to the increase in gonorrhoea testing and male gonorrhoea notifications. Over 9,400 participants have now been recruited to the trial.

Gonorrhoea is predominantly a sexually transmissible infection caused by the bacterium *Neisseria gonorrhoeae*. It is spread through contact with mucous membranes of infected people and infections can occur in the throat, anus, urethra, cervix and eyes. If untreated, the infection can spread via the blood stream to the skin, joints, heart valves and lining of the brain (meningitis). Untreated gonorrhoea in women can also spread to the womb and fallopian tubes (pelvic inflammatory disease or PID) and this can result in infertility or a pregnancy in the fallopian tube (ectopic pregnancy). Infertility can also occur in men if the infection spreads down the urethra and into the testes.

Gonorrhoea can be prevented by the use of condoms for vaginal and anal sex and dental dams for oral sex.

Many strains of *Neisseria gonorrhoeae*, both overseas and within Australia, are resistant to a wide range of antibiotics. The detection of two cases in Australia of infection due to a strain of gonococcal bacteria that is highly resistant to the two antibiotics currently used to treat gonorrhoea, as well as to other antibiotics known to be effective in treating gonorrhoea, is of great concern. Public health authorities across Australia are working with the National Neisseria Network and other experts in response to these cases to reduce the risk that multi-drug resistant strains of gonococcal bacteria become established in Australia.

Follow the links for more information on [gonorrhoea](#) and [gonorrhoea notifications](#).

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 08 April – 14 April 2018, by date received*

		Weekly		Year to date			Full Year	
		This week	Last week	2018	2017	2016	2017	2016
Enteric Diseases	Cryptosporidiosis	20	15	328	807	459	1266	1184
	Giardiasis	56	36	889	1227	1343	2994	3480
	Hepatitis A	1	2	40	10	18	72	41
	Hepatitis E	1	1	3	8	10	20	16
	Rotavirus	14	14	289	202	175	2318	750
	Salmonellosis	84	71	1322	1687	1878	3687	4544
	Shigellosis	6	6	71	66	88	235	310
	Typhoid	2	0	24	26	21	55	37
Other Diseases	Acute Rheumatic Fever	1	1	7	5	4	19	16
Respiratory Diseases	Influenza	120	158	3556	2639	2136	103851	35540
	Legionellosis	5	6	51	39	41	138	134
	Tuberculosis	7	8	114	147	149	534	534
Sexually Transmissible Infections	Chlamydia	599	496	9162	9045	7659	28977	25990
	Gonorrhoea	205	181	3066	2978	1931	9174	6999
Vaccine Preventable Diseases	Adverse Event Following Immunisation	4	3	51	100	68	271	258
	Measles	1	0	5	23	10	32	16
	Meningococcal Disease	2	3	20	17	12	91	70
	Mumps	2	0	29	42	10	128	67
	Pertussis	69	73	1108	1891	4002	5367	10956
	Pneumococcal Disease (Invasive)	4	8	99	96	84	682	545
Vector Borne Diseases	Barmah Forest	3	3	29	26	13	127	40
	Dengue	5	3	103	110	169	305	485
	Ross River	8	14	140	1049	210	1653	595

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