

Communicable Diseases Weekly Report

Week 13, 25 March to 31 March 2018

In summary, we report:

- [Q fever](#) – one new case
- [Invasive meningococcal disease](#) – three new cases
- [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.

Q fever

One new case of Q fever was reported this week ([Table 1](#)). The case was a male aged in his 40s who lives on a cattle farm, although he is not a farmer. This brings the total number of Q fever notifications in 2018 to 50, compared to 64 in the same period last year ([Table 1](#)). Most cases in 2017 were males aged between 40 and 70 years who resided in regional/remote areas of NSW.

Although a Q fever vaccine is available to protect people against infection, it is recognised that barriers to vaccination exist, including lack of access to appropriately skilled health professionals and lack of awareness of the importance of the vaccine. In 2017-18, NSW Health collaborated with the Australian College of Rural and Remote Medicine to develop and promote an [online Q fever education module](#) to help GPs working in rural and remote areas diagnose Q fever and provide the vaccine to at-risk persons. Around 250 GPs have enrolled since the launch of the online module on 29 January 2018. NSW Health has also worked with the NSW Farmers' Association, NSW Country Women's Association and SafeWork NSW to develop a targeted and sustainable community education strategy. The NSW Government's \$275,000 [Q fever education campaign](#) was launched on 27 March 2018 at the Sydney Royal Easter Show by the Health Minister Brad Hazzard (the media release can be viewed on the NSW Health website, http://www.health.nsw.gov.au/news/Pages/20180327_01.aspx). The NSW Government is also providing a further \$200,000 on research into an improved vaccine for the bacterial infection.

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.

Approximately 60% of people infected with *Coxiella burnetii* 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. About 10–20% of acute cases develop chronic fatigue (post-Q fever fatigue syndrome), which can occur up to two years after the initial infection and last for many years. Two per cent of acute cases develop chronic Q fever months or years following the initial infection, with involvement of the heart valves (endocarditis). Certain conditions (e.g. pregnancy,

immunosuppression, pre-existing heart valve lesions, vascular abnormalities or prostheses) may predispose individuals to chronic Q fever.

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 abattoir work, 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](#). A [toolkit](#) containing resources to support the education campaign can also be downloaded from the NSW Health website.

Invasive meningococcal disease

Three cases of invasive meningococcal disease were notified in this reporting week ([Table 1](#)). Two cases were children aged less than five years (including one Aboriginal child), and one was an adult. Cases were sporadic and occurred in three separate regional local health districts.

One of the cases in children was found to be due to serogroup B, while the other child and the adult were caused by serogroup W.

Close contacts of the cases have been provided with clearance antibiotics. The main rationale for clearance antibiotics is to clear the meningococcal bacteria from the nose and throat from any carrier within the network of contacts close to each case. This reduces the risk of further transmission of what may be a more virulent strain of the organism and prevents further cases of invasive disease. Clearance antibiotics are not a treatment for meningococcal disease.

IMD is caused by infection with one of several serogroups of *Neisseria meningitidis* bacteria. The most common invasive serogroups in Australia are B, C, W and Y. 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. In a very small proportion of people infected with meningococcal bacteria, the bacteria invades from the throat to other parts of the body, causing IMD; usually involving meningitis (infection of the lining of the brain), septicaemia (infection of the blood) or both.

It is important to identify symptoms of IMD early and immediately seek medical advice as prompt antibiotic treatment is lifesaving. Symptoms in young children and adults include fever, headache, nausea or vomiting, diarrhoea, sore muscles, drowsiness and stiff neck. For infants, infection may also be associated with irritability, a high pitched cry, refusal to feed, and extreme tiredness or floppiness. Meningococcal disease may present with a distinctive red/purple rash, generally occurring later in the disease. For further information on warning signs for IMD see the [NSW Health Meningococcal Disease Advice Poster \(PDF\)](#) and [IMD fact sheet](#).

Following the introduction of a serogroup C vaccine in 2003, which is provided free of charge at 12 months of age, the number of cases of IMD caused by serogroup C has decreased substantially. Serogroup B was previously the most common cause of IMD in Australia; however, since 2016 serogroup W has become the predominant type Australia-wide. In NSW, serogroup B remains the predominant strain, accounting for 40 per cent of cases since 2016; while serogroup W has been identified as the cause of 26 per cent of NSW cases between January 2016 and March 2018.

In February 2017 the NSW Government announced the NSW Meningococcal W Response Program which provided free meningococcal ACWY vaccine (4vMenCV) to Year 11 and 12 students at their schools in 2017. This provides protection for these students as well as contributing to herd immunity in the broader population. In 2018 free meningococcal ACWY vaccine is being offered to students in Years 10 and 11, with free vaccine also available through general practitioners for students who do not attend school, or who miss school clinics.

A vaccine against some serogroup B strains is also available in Australia. It is recommended for young children and adolescents but is not part of the National Immunisation Program. People with certain high risk conditions that predispose them to developing IMD, such as those without a spleen, are also recommended to be vaccinated against all meningococcal serogroups for which a vaccine is available. Follow the links for more information on [meningococcal disease](#), [vaccination](#) and [notification data](#).

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 25 March to 31 March 2018, by date received*

		Weekly		Year to date			Full Year	
		This week	Last week	2018	2017	2016	2017	2016
Enteric Diseases	Cryptosporidiosis	23	25	292	751	359	1266	1184
	Giardiasis	35	73	793	1081	1157	2994	3480
	Hepatitis A	5	4	36	10	15	72	41
	Rotavirus	15	14	255	170	154	2318	750
	STEC/VTEC	1	2	18	18	14	53	65
	Salmonellosis	66	75	1163	1472	1688	3687	4544
	Shigellosis	2	5	57	63	81	235	310
	Typhoid	3	3	22	22	20	55	37
Other Diseases	Acute Rheumatic Fever	1	0	5	5	4	19	16
Respiratory Diseases	Influenza	142	176	3259	2318	1691	103851	35540
	Legionellosis	3	1	39	33	32	138	134
	Tuberculosis	6	3	94	121	133	532	534
Sexually Transmissible Infections	Chlamydia	505	621	7962	8026	6539	28977	25991
	Gonorrhoea	144	237	2657	2644	1640	9175	6999
Vaccine Preventable Diseases	Adverse Event Following Immunisation	8	6	39	82	52	271	258
	Measles	2	1	4	16	5	32	16
	Meningococcal Disease	3	1	16	15	11	91	70
	Pertussis	45	78	940	1698	3650	5367	10956
	Pneumococcal Disease (Invasive)	5	3	85	85	69	682	545
Vector Borne Diseases	Barmah Forest	1	4	23	24	11	127	40
	Dengue	4	1	93	101	134	306	485
	Ross River	7	10	116	979	172	1653	594
Zoonotic Diseases	Psittacosis	1	0	2	6	0	9	9
	Q fever	1	3	50	64	70	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.
- 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.