

Communicable Diseases Weekly Report

Week 43, 21 October to 27 October 2018

In summary, we report:

- [Invasive meningococcal disease](#) – one new case
- [Q fever](#) – fourteen new cases, including residents of regional NSW and veterinary workers
- [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.

Invasive meningococcal disease

One new case of invasive meningococcal disease (IMD) was notified in an infant from South Western Sydney Local Health District this reporting week ([Table 1](#)). Testing has identified that the disease was caused by meningococcal serogroup B.

A child, also from South Western Sydney Local Health District, who died with suspected meningococcal disease this week has since been shown to have had instead a different bacterial infection (*Streptococcus pyogenes*). This bacterium is a rare cause of serious infections in children and adults.

As of 31 October there have been 58 confirmed cases of IMD notified in NSW in 2018; of which 6 have been fatal (case fatality rate of 19%). Forty-three per cent of cases have been due to serogroup B, 31% due to serogroup W, 20% to serogroup Y, and three per cent to serogroup C.

Invasive meningococcal disease can affect people of any age, but is more common among children less than 5 years of age, and people aged 15-24 years. The disease is often difficult to diagnose in the early stages, as symptoms are non-specific, and may mimic other illnesses such as common respiratory and gastrointestinal illnesses. The disease progresses rapidly, and even with rapid, appropriate treatment, can be fatal within hours.

Common symptoms of meningococcal disease include sudden onset of fever, headache, dislike of bright lights, neck stiffness, abdominal pain, vomiting, and abdominal or joint and muscle pain. In infants symptoms may be more general and can include irritability, drowsiness or difficulty waking, high-pitched or moaning cry, pale and blotchy skin, and refusing to eat.

The characteristic, non-blanching, red-purple rash does not always appear, or may present late in the disease.

NSW Health encourages anyone who thinks they, or someone they care for, might be experiencing symptoms of meningococcal disease, to seek urgent medical care. Patients should be encouraged to return to the doctor, or visit an Emergency Department if symptoms persist or rapidly worsen.

Vaccination provides protection against IMD. For some serogroups, vaccination also reduces asymptomatic pharyngeal (throat) carriage of meningococcal bacteria reducing the risk of spread to other people. Vaccination against meningococcal serogroup C was provided as part of the National Immunisation Program (NIP) at 12 months of age from 2003 to July 2018, when it was replaced with a vaccine that protects against serogroups A, C, W, and Y. From April 2019 the MenACWY vaccine will also be provided to teenagers 14-19 years of age under the NIP, replacing state funded programs in place in NSW and several other states and territories during 2017 and

2018. Vaccines against several strains of MenB are registered for use in Australia, and are available for private purchase via prescription.

For further information see the [meningococcal disease fact sheet](#).

Follow the links for more information on [meningococcal vaccination](#) and [meningococcal disease notifications](#) data.

Q fever

Fourteen cases of Q fever were reported this week ([Table 1](#)). Eleven of the 14 cases developed symptoms of illness during October, while the other three developed symptoms between August and September 2018 but were only recently diagnosed.

The cases range in age from 22 to 72 years old, and ten (71%) are male. All cases are residents of regional local health districts in NSW, or have contact with regional farms.

Six of the cases are farmers or farm workers, two other cases had contact with farm animals, two cases work at a veterinary practice, and one case had possible exposure through a tick bite. Of these, seven cases reported contact with birthing animals, which carries the highest risk for getting infected with the bacteria which cause Q fever. Three cases are yet to be interviewed about their exposures.

Among the 14 cases there are two sets of epidemiologically linked cases, including a husband and wife pair who own a hobby farm and were exposed to birthing animals, and two cases who work at the same veterinary clinic. The veterinary clinic has since taken proactive measures to screen and vaccinate all other staff against Q fever.

This brings the total number of Q fever notifications reported to date in 2018 to 187, compared to 176 in the same period last year ([Table 1](#)).

Q fever is a disease caused by the bacterium *Coxiella burnetii*, which is spread to humans from animals. 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. 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. Anyone who works or lives on a livestock farm, in particular, is at risk of infection. In NSW, most Q fever infections occur in farmers, followed by shearers, stockyard workers and livestock transporters. People who live on/near or visit (including tradespeople, fencers, labour hire workers and guests) livestock farms are also at risk even if they do not handle animals. Veterinary staff are also at increased risk of contracting zoonotic infections, including Q fever, due to their high level of contact with sick animals.

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.

Approximately 60% of people infected with *C. 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.

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. NSW Health has collaborated with the Australian College of Rural and Remote Medicine to develop 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. NSW Health has also worked with the NSW Farmers' Association, NSW Country Women's Association and SafeWork NSW to launch a [Q fever education campaign](#). The NSW Government is also providing a further \$200,000 on research into an improved vaccine for the bacterial infection.

Follow the links for more information on [Q fever](#), [advice on farms](#), [advice for veterinary staff](#), [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.

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 21 October – 27 October 2018, by date received*

		Weekly		Year to date			Full Year	
		This week	Last week	2018	2017	2016	2017	2016
Enteric Diseases	Cryptosporidiosis	13	8	614	1174	908	1266	1184
	Giardiasis	54	39	2231	2691	3007	3134	3480
	Rotavirus	15	14	685	1960	485	2319	750
	STEC/VTEC	1	2	44	44	43	53	65
	Salmonellosis	67	58	2739	3124	3842	3680	4533
	Shigellosis	17	23	368	192	257	235	310
Respiratory Diseases	Influenza	196	318	15429	102378	33811	103853	35540
	Legionellosis	1	3	114	106	108	138	134
	Tuberculosis	10	10	431	429	429	542	533
Sexually Transmissible Infections	Chlamydia	521	583	25939	24019	21678	28973	25987
	Gonorrhoea	215	210	8933	7649	5754	9171	6992
Vaccine Preventable Diseases	Adverse Event Following Immunisation	4	6	255	254	220	279	262
	Meningococcal Disease	1	2	58	80	62	91	70
	Mumps	1	0	64	99	56	128	67
	Pertussis	199	165	4146	4617	8971	5365	10956
	Pneumococcal Disease (Invasive)	17	18	577	595	463	683	545
Vector Borne Diseases	Dengue	7	5	224	249	410	306	485
	Malaria	1	2	60	62	46	68	59
	Ross River	11	7	503	1579	423	1653	595
Zoonotic Diseases	Brucellosis	1	0	6	3	9	6	10
	Q fever	14	1	187	176	183	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.