Communicable Diseases Weekly Report

Week 39, 23 to 29 September 2018

In summary, we report:

- Invasive meningococcal disease – three new cases including one death
- Measles – one new case related to overseas travel
- Q Fever – one new case in a veterinary nurse
- Summary of notifiable conditions activity in NSW.

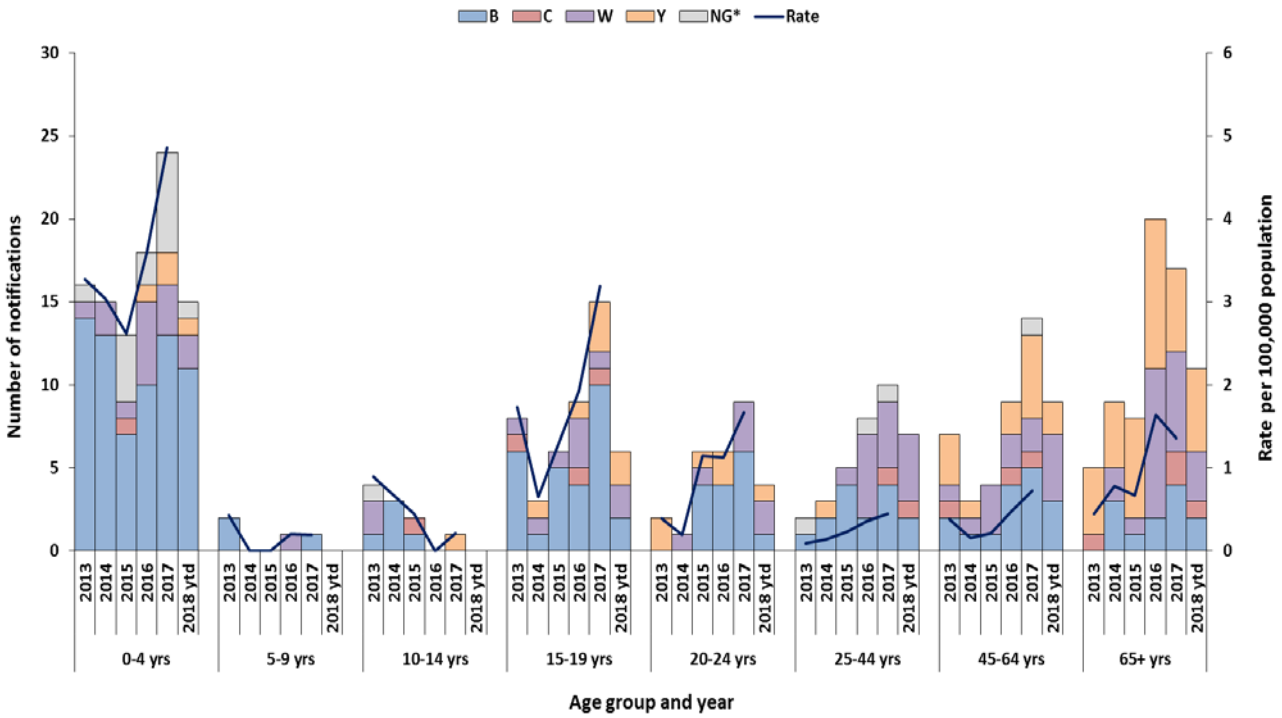
For further information see NSW Health infectious diseases page. This includes links to other NSW Health infectious disease surveillance reports and a diseases data page for a range of notifiable infectious diseases.

Invasive meningococcal disease

Three cases of invasive meningococcal disease (IMD) were notified in this reporting week (Table 1), including a fatal case in a woman aged in her twenties. The two other cases occurred in Aboriginal people; one infant and one young adult. Testing has shown that all three cases were caused by serogroup W infection but none of the cases were linked to each other.

As of 3 October there have been 52 cases of IMD reported in NSW in 2018 by onset date. Of these, 40% were caused by serogroup B, 33% by serogroup W, 21% by serogroup Y and 4% by serogroup C. A total of six deaths due to IMD have been reported in 2018; two due to serogroup B, and four due to serogroup W.

Figure 1: NSW IMD notifications by serogroup and age group for 2018 (01 Jan – 03 Oct), compared to the previous 5 years. Annual IMD notification rates per 100,000 population for 2013-2017 also shown for all serogroups combined by age group (black lines).



IMD can affect all ages but is more common among those less than 5 years of age, and people aged 15-24 years. Rates of disease tend to be highest among children aged less than 5 years (Figure 1).

The numbers of IMD cases due to serogroups W and Y have been steadily increasing, particularly since 2015, and are more likely to affect people in older age groups. IMD due to these serogroups often causes a different clinical illness to other serogroups, and serogroup W infections tend to be more severe with a higher risk of death.

Vaccination against meningococcal disease is the best method of protection. A single dose of meningococcal ACWY (MenACWY) vaccine provides long term protection against these four serogroups. Since 2017, as part of the NSW Meningococcal W Response Program, NSW has provided free MenACWY vaccine to secondary school students via the School Vaccination Program. General practitioners in NSW can also offer free MenACWY vaccine to people aged 15-19 years who have not received the vaccine at school.

From 1 July 2018 the MenACWY vaccine replaced the meningococcal C vaccine provided as part of the National Immunisation Program (NIP) at 12 months of age. On 25 September 2018 the Federal Government announced that it would be also adding the MenACWY vaccine to the NIP for adolescents in Year 10, including a catch-up for 14-19 year olds for four years, commencing in April 2019.

In addition to reducing the risk of developing IMD from these serogroups, there is evidence that vaccines against meningococcal ACWY reduce asymptomatic carriage of the bacteria in the nose and throat. As people aged 15-24 years have the highest rate of carriage (up to 25%), vaccination of this high risk age group aims to both reduce their risk of invasive disease and to reduce the risk of transmission to the wider community.

Vaccines against several strains of meningococcal serogroup B are also registered for use in Australia, and are available by prescription.

Follow the links for the meningococcal disease factsheet, and data on IMD notifications.

For more information on vaccination visit the new digital National Immunisation Handbook.

Measles

A confirmed case of measles was notified in this reporting week (Table 1), in an unvaccinated adult who acquired their infection whilst travelling in South East Asia. The South Western Sydney Local Health District has advised residents of the area to be alert for signs and symptoms of measles infection, as the case spent time in a number of places within the district while infectious.

A detailed list of places this case visited while infectious is available on the NSW Health Alerts page.

Two doses of measles containing vaccine provide full immunity against measles in 99 per cent of vaccinated people. Measles containing vaccine is provided to children at 12 and 18 months of age as part of the National Immunisation Program, and is available for free via general practitioners in NSW for people born after 1966 who have not received two doses in the past.

NSW Health advises all travellers to ensure they are fully protected against measles prior to travel. Measles remains endemic in many parts of the world, including most of Asia and Africa, and parts of the Middle East. Large outbreaks are currently occurring across Europe and parts of South America. People planning travel with children less than 12 months of age should discuss plans with their doctor as the first dose of vaccine can be given at a younger age if travelling to areas where measles is endemic, or outbreaks are occurring.

More information on measles vaccination, including recommendations for travellers can be found in the new digital Australian Immunisation Handbook.

For more information on measles in other parts of the world, follow the link to the WHO measles and rubella surveillance data page.

For data on measles notifications in NSW visit the notifiable diseases data portal.

Q fever

One case of Q fever was reported this week in a veterinary nurse from metropolitan Sydney (Table 1). The case is one of six notified in recent weeks in relation to investigations at a suburban veterinary practice. The case likely developed their infection in the winter of 2017 but was not tested for Q fever until the recent investigation.

Veterinary staff have an increased risk of contracting zoonotic infections, including Q fever, due to their level of contact with sick animals. Vaccination is the most effective way to prevent Q fever, and is recommended for all veterinary practice staff including those not directly in contact with animals, animal products or equipment. This includes veterinarians, veterinary nurses and assistants, university and TAFE students of animal-related disciplines, school students over 15 years on veterinary work experience or who attend veterinary practices, veterinary volunteers, cleaning staff and receptionists of veterinary practices.

Professional dog and cat breeders and kennel staff are also at risk and are recommended to have Q fever vaccination.

The new case brings the total number of Q fever notifications reported to date in 2018 to 154, compared to 167 in the same period last year (Table 1). Most cases in 2017 were in males aged between 40 and 70 years who resided in regional and remote areas of NSW.

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.

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 per cent of people infected with *C. burnetii* have no or few symptoms. However, Q fever can cause serious acute and persistent symptoms in many people. For further information on acute and chronic Q fever infections see the NSW Health Q fever fact sheet.

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.

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 23 to 29 September 2018, by date received*

		Weekly		Year to date			Full Year	
		This week	Last week	2018	2017	2016	2017	2016
Enteric Diseases	Cryptosporidiosis	11	10	580	1136	853	1266	1184
	Giardiasis	40	66	2051	2515	2808	3134	3480
	Hepatitis A	2	1	74	42	30	72	41
	Rotavirus	16	21	621	1462	373	2319	750
	Salmonellosis	51	42	2540	2907	3604	3680	4533
	Shigellosis	10	16	307	168	232	235	310
Respiratory Diseases	Influenza	722	941	13812	95143	31492	103853	35540
	Legionellosis	2	3	105	93	106	138	134
	Tuberculosis	15	11	395	390	374	543	533
Sexually Transmissible Infections	Chlamydia	555	561	23650	21793	19589	28974	25988
	Gonorrhoea	207	191	8056	6973	5212	9171	6993
Vaccine Preventable Diseases	Adverse Event Following Immunisation	3	8	238	238	197	279	262
	Measles	1	2	17	26	10	32	16
	Meningococcal Disease	3	2	51	70	54	91	70
	Mumps	1	1	59	91	44	128	67
	Pertussis	191	147	3491	4282	8101	5365	10956
	Pneumococcal Disease (Invasive)	17	13	519	524	411	683	545
Vector Borne Diseases	Barmah Forest	2	0	63	105	34	127	40
	Dengue	5	5	205	224	376	306	485
	Malaria	2	1	53	55	39	68	59
	Ross River	7	5	466	1526	408	1653	595
Zoonotic Diseases	Leptospirosis	1	0	56	18	12	20	16
	Q fever	1	1	154	167	164	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.