Communicable Diseases Weekly Report

Week 41, 8 to 14 October 2017

In summary, we report:

- Measles – three new cases
- Invasive meningococcal disease – four cases reported
- Hepatitis A – update on Sydney outbreak
- 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.

Measles

Three cases of measles were notified during this reporting week (Table 1). All three cases were adults and were from South Eastern Sydney Local Health District. Of the cases, one was unvaccinated and two recalled having received one dose of a measles containing vaccine.

All three cases are likely to have acquired the infection in Sutherland Shire from a young adult who was diagnosed in early September and had contracted the disease in Thailand. Whilst infectious, the three cases visited a number of locations in Sydney around Sutherland Shire, central Sydney, Camperdown and Canterbury Hospital, before being diagnosed with measles and isolated. NSW Health media alerts have been issued providing information on the exposure sites for these and other recent cases. NSW public health units have followed up NSW contacts where possible to provide information and vaccination as required.

The World Health Organization announced that Australia had achieved measles elimination in 2014, although multiple lines of evidence suggest that endemic measles transmission may have been interrupted as early as 1999. This is a significant achievement of public health in Australia and demonstrates the effectiveness of Australia's vaccination program.

A measles-free status means that the only cases occurring in Australia involve people who caught the disease whilst overseas, or catch the disease from them or their contacts after they return. Because measles remains common in many parts of the world, it is vital that all children and adults receive two doses of measles vaccine to protect them from this highly infectious virus.

People born between 1966 and 1994 may have missed vaccination completely, or only had one dose of measles vaccine due to changing vaccination schedules during this period. People in this age group should not assume that they are protected against measles unless they have a record of two doses. People who are unsure if they have received two doses of a measles vaccine in the past can safely be given another measles vaccine. The vaccine is free and provided through GPs.

Ensuring protection against measles through vaccination is particularly important prior to overseas travel as the risk of being exposed to a case of measles is greater outside Australia. Parents taking young infants overseas to countries where measles is common should discuss vaccination with their GP before they leave. In some circumstances measles vaccine can be given as early as nine months of age; however, in this instance, two further doses at 12 and 18 months are required for full protection.

The measles virus is highly infectious and it is readily transmitted from person to person via respiratory secretions in the air following coughing and sneezing. Symptoms of measles include fever, runny nose, sore red eyes and cough, followed three to four days later by a red blotchy rash spreading from the head and neck to the rest of the body.

Infection with the measles virus can be serious with common complications including middle ear infection and viral or bacterial bronchopneumonia. Acute encephalitis occurs rarely and subacute sclerosing panencephalitis is a very rare fatal complication, occurring many years after infection in about one per 100,000 cases.

Measles containing vaccine is routinely offered to all children at 12 months (as measles-mumps-rubella) and 18 months of age (as measles-mumps-rubella-varicella) through the National Immunisation Program.

For further information on measles please see the measles fact sheet. For further information on measles notifications in NSW residents see the diseases data page.

Follow the link for more measles vaccination information.

Invasive meningococcal disease

Four cases of invasive meningococcal disease (IMD) were notified this week (Table 1). These unrelated cases occurred in residents of Southern NSW, South Eastern Sydney, and South Western Sydney Local Health Districts. Three of the cases occurred in adults and one in an infant, with no links identified between any of the cases. Serogroup information is available for two of the cases, with one due to serogroup B and one due to serogroup W.

None of the meningococcal serogroup W cases reported in NSW this year have been linked to the serogroup W outbreak reported in central Australia (for further information see NT Health media release).

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 within the contact network and prevents further cases of invasive disease. Clearance antibiotics are not a treatment for meningococcal disease.

These cases bring the total number of notifications of IMD with onset in 2017 to 75, an increase on the 59 notifications reported over the same period in 2016. IMD tends to be most prevalent in late winter and early spring, although cases occur all year round.

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. Close contact may result in the bacteria colonising the throat of the exposed person but in most people this does not cause any disease.

In only a very small proportion of people the bacteria does invade 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. Up to 10 per cent of IMD infections are fatal even with appropriate antibiotic treatment, and survivors may be left with long-term complications.

It is important to identify symptoms of IMD early and immediately seek medical advice as early 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 often presents with a distinctive red/purple rash, generally later in the disease.

Following the introduction of a serogroup C vaccine in 2003, which is provided free of charge at 12 months of age, the number of infections caused by serogroup C has decreased substantially. Serogroup B has previously been the most common cause of IMD in Australia; however, serogroup W has become the predominant type Australia-wide with NSW case notifications almost tripling from 2015 to 2016.

In February 2017 the NSW Government announced the NSW Meningococcal W Response Program which provides free meningococcal ACWY vaccine (4vMenCV) to Year 11 and 12

students at their schools in 2017. The vaccination program commenced in Term 2 and during the first two terms over 113,000 students received the vaccine in school clinics, with more to be vaccinated in Term 4. This provides protection for these students as well as contributing to herd immunity in the broader population. Teenagers aged 17 to 18 years who do not attend secondary school are able to access the free vaccine through their GPs. In 2018 free meningococcal ACWY vaccine will be offered to students in Years 10 and 11, with free vaccine also available through GPs for students who do not attend school, or who miss school clinics.

The meningococcal ACWY vaccine is also recommended for travellers to countries where these serogroups are more common, and is required for pilgrims to the Hajj. 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 available meningococcal serogroups.

Follow the links for more information on meningococcal disease, vaccination and notification data.

Hepatitis A

Three new cases of hepatitis A infection were reported this week (Table 1). One of the three new cases was locally acquired, and two are presumed to have been acquired overseas. On average, there are three cases reported in NSW per month, and most cases usually acquire their infection overseas.

One of the new overseas acquired cases this week was in a food handler from Sokyo restaurant at The Star in Sydney, who was working during the infectious period. The NSW Food Authority investigated and confirmed that processes and hygiene systems in place at the venue were robust. The risk to patrons who dined at the restaurant was assessed to be low, however a media release was issued to alert patrons who dined at the restaurant on particular dates (20-24, 26, 27 and 29 September; 2, 4-8 October) and advise them to seek medical attention from their GP if concerned. Further information is available on the NSW Health Website.

From July 25 to October 14, 2017, there have been a total of 28 cases of hepatitis A reported in adults in NSW under investigation as part of a locally transmitted outbreak.

Molecular typing of the viruses isolated from 19 of these cases has shown that they share an identical common partial genome sequence, meaning that the cases are all part of the same outbreak. The median age of the 19 cases is 44 years (range 21 to 69 years). Eighteen of the 19 cases are male, with eight reporting being men who have sex with men (MSM). Two of the 19 cases travelled outside Australia during their incubation (exposure) period. These 19 cases are residents of South Eastern Sydney Local Health District (LHD) (9), Sydney LHD (4), Northern Sydney LHD (2), Western Sydney LHD (1), Central Coast LHD (1), Illawarra Shoalhaven LHD (1) and Hunter New England LHD (1). Two of the three cases who live outside Sydney reported travel to Sydney during their exposure period.

The molecular typing of hepatitis A viruses in this cluster shows they are very similar to a strain currently circulating in Europe associated with a large, multi-country outbreak. Since June 2016, 1,500 confirmed hepatitis A cases and 2,660 probable or suspected cases have been reported in Europe, predominantly among MSM (see the ECDC report).

The nine remaining cases have molecular typing results pending: all of the nine cases are males and the median age is 41 years (range 21 to 61 years). Five of these cases report MSM activity during their exposure period. The cases are residents of Sydney LHD (3), South Eastern Sydney LHD (1), South Western Sydney LHD (1), Western Sydney LHD (1), Northern Sydney LHD (1), Hunter New England LHD (1) and Central Coast LHD (1). One of the two cases who live outside of Sydney is known to have had household contact with another pending case who lives in Sydney.

It is suspected that the earlier cases and some of the later cases have been exposed to a common source as they share overlapping incubation periods. Secondary cases have also been identified, with evidence that some infections have been transmitted from person to person. Men who engage in sexual activity with other men (MSM) are being reminded to get vaccinated as anal sex and oral-

anal sex have been identified as risk factors for infection (see media release). Despite extensive investigation, to date no food item or other possible exposure has been found in common with all the cases. NSW public health units are continuing to investigate possible sources of infection in conjunction with the NSW Food Authority (see the related media release).

Hepatitis A is a viral infection of the liver. Symptoms include feeling unwell, lack of appetite, aches and pains, fever, nausea, and abdominal discomfort, followed by dark urine, pale stools and jaundice (yellowing of the skin and eyes). The illness usually lasts from one to three weeks. People who experience these symptoms are advised to see their GP.

Infected people can transmit the virus to others from two weeks before the development of symptoms until one week after the appearance of jaundice. The virus is spread by the faecal-oral route, including through the consumption of contaminated food or water or by direct contact with an infected person. While infectious, people diagnosed with hepatitis A should avoid preparing food or drink for other people, sharing utensils or towels, or having sex for at least one week after onset of jaundice.

There is no specific treatment for hepatitis A and people sometimes require hospitalisation for supportive care. A safe and effective vaccine is available, with two doses spaced at least six months apart shown to provide high levels of protection against infection for many years. Hepatitis A vaccination is routinely recommended for people at higher risk of infection and those who are at increased risk of severe liver disease. These include travellers to countries where hepatitis A is common (most developing countries), some occupational groups, men who have sex with men, people with developmental disabilities and people with chronic liver disease.

People exposed to hepatitis A can be protected from developing the disease if they receive the vaccine or protective antibodies within two weeks of exposure.

Follow the links for NSW Health hepatitis A notification data and the NSW Health hepatitis A fact sheet.

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 8 to 14 October 2017, by date received*

		Weekly		Year to date			Full Year	
		This week	Last week	2017	2016	2015	2016	2015
Bloodborne Diseases	Hepatitis D	1	0	14	14	7	20	9
Enteric Diseases	Cryptosporidiosis	7	11	1154	869	719	1184	1040
	Giardiasis	32	28	2472	2904	2752	3480	3413
	Hepatitis A	3	7	52	30	64	41	72
	Rotavirus	140	133	1650	416	684	750	1033
	Salmonellosis	39	38	2987	3713	3231	4544	4022
	Shigellosis	4	4	174	241	141	310	172
	Typhoid	1	2	47	31	33	37	41
Respiratory Diseases	Influenza	1814	2942	99852	32860	29344	35540	30295
	Legionellosis	1	4	98	107	82	134	96
	Tuberculosis	5	11	383	401	340	534	445
Sexually Transmissible Infections	Chlamydia	472	403	22461	20581	17828	25994	22525
	Gonorrhoea	127	122	7234	5460	4345	7003	5395
Vaccine Preventable Diseases	Adverse Event Following Immunisation	3	0	226	203	152	257	186
	Haemophilus influenzae type b	1	0	6	4	5	5	5
	Measles	3	2	31	10	7	16	9
	Meningococcal Disease	4	2	75	58	37	70	46
	Mumps	1	0	87	48	44	67	65
	Pertussis	77	62	4418	8494	7411	10956	12078
	Pneumococcal Disease (Invasive)	19	16	559	434	410	544	494
	Rubella	1	0	6	9	6	10	6
Vector Borne Diseases	Barmah Forest	1	0	93	30	169	35	184
	Dengue	2	3	218	391	268	481	344
	Malaria	1	2	58	46	33	59	47
	Ross River	10	7	1435	380	1477	542	1635
Zoonotic Diseases	Q fever	1	0	159	173	201	230	264

*** 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.