Communicable Diseases Weekly Report

Week 24, 9 June to 15 June 2019

In summary, we report:

- Hendra virus – one new case in a horse
- Meningococcal disease – one new case
- 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.

Hendra virus

Infection with Hendra virus was confirmed this week in an unvaccinated older mare on a property near Scone in the Upper Hunter Valley. This is the first case of Hendra virus infection reported in a horse in NSW this year and the furthest south infection in a non-bat species has been identified. The affected property has been placed under a Biosecurity Direction to control the movement of animals and people on and off the property. Further details are available in the related NSW Department of Primary Industries (DPI) media release.

The local public health unit conducted risk assessments for ten people who had been in contact with the horse while it was potentially infectious. All exposures were assessed to be of low risk (four people), negligible risk (three people), or nil risk (three people).

Hendra virus (originally called 'equine morbillivirus') is a paramyxovirus of the genus Henipavirus. The only other agent in this genus is Nipah virus. Fruit bats (Pteropus species), also known as flying foxes, are the only known natural reservoir. Antibodies to Hendra virus have been found in 20 - 50 percent of flying foxes in mainland Australian populations. Widespread testing involving 46 other species of animals and arthropods has not shown the natural presence of the virus in any species other than flying foxes.

Transmission from bats to horses is rare, and is thought to occur when a horse ingests infectious fluids from bats, such as bat urine or bat birth products. This may occur if the horse-feed is contaminated, or if a horse eats discarded fruit scraps from bats. The infection has very rarely been passed onto people who have been in close contact with an infected horse. Only seven human cases have been documented since the virus was first identified in 1994, the last occurring in 2009. All seven had a high level of exposure to respiratory secretions and/or other body fluids of horses subsequently diagnosed with Hendra virus infection, or presumed to have Hendra virus infection through review of clinical and epidemiological evidence in the absence of samples for laboratory testing.

The symptoms of Hendra virus infection in humans have developed 5-21 days after contact with an infectious horse. Fever, cough, sore throat, headache and tiredness are common initial symptoms. Meningitis or encephalitis (inflammation of the brain) can develop, causing headache, high fever, and drowsiness, and sometimes convulsions and coma. Hendra virus infection can be fatal with four of the seven known cases dying from their infection. There is no Hendra virus vaccine to protect humans; however people who have had moderate to high risk exposure to infected horses can be offered an experimental preventive post-exposure treatment at Princess Alexandra Hospital in Brisbane.

Veterinarians and horse owners are at highest risk of exposure to Hendra virus. All people in close contact with ill horses at risk of Hendra should be aware of the DPI guidance on preventing the disease in humans and the use of appropriate personal protective equipment (PPE). A vaccine for horses is available from veterinarians and is strongly encouraged as the single most effective way to reduce the risk of human exposure to Hendra virus.

Further information for Hendra virus in humans see the Hendra virus fact sheet and Hendra virus contacts fact sheet.

Meningococcal disease

A new case of invasive meningococcal disease was notified in this reporting week (Table 1), in a child under 5 years of age from regional NSW. The child had received their routine vaccination against meningococcal C at 12 months of age, however tests have shown the child's disease was caused by meningococcal B.

Invasive meningococcal disease (IMD) is a serious, often fatal infection caused by the bacteria *Neisseria meningitidis*. Humans are the only natural host for meningococcal bacteria which often reside harmlessly in the back of the nose and throat; this is known as carriage. Up to 25% of the population carry meningococcal bacteria at some stage in their life, with carriage more common between the ages of 15-24 years. Occasionally, meningococcal bacteria enter the bloodstream or fluid surrounding the brain and spinal column (cerebrospinal fluid or CSF) resulting in IMD. Infection identified in the blood indicates septicaemia, while infection identified in the CSF indicates meningitis.

The initial symptoms of IMD are non-specific and often mimic other illnesses such as respiratory or gastrointestinal infections, making diagnosis difficult. Symptoms may include:

- sudden fever
- nausea, vomiting, or abdominal pain
- headache, neck stiffness, or dislike of bright lights
- joint pain
- irritability
- a red-purple rash that doesn't disappear when pressure is applied (a rash does not always appear or it may occur late in the disease)

In young children, symptoms may also include irritability, difficulty waking up, high-pitched crying, rapid or laboured breathing or refusal to eat.

People with IMD can become very unwell, very quickly, and the disease can be fatal within hours of first symptom appearance. If meningococcal disease is suspected, urgent medical attention should be sought. The absence of the rash (which may appear late in the illness or not at all), should not exclude the consideration of meningococcal disease.

Meningococcal bacteria which cause IMD are able to do so due to the presence of a polysaccharide capsule, which increases the bacteria's virulence. There are six capsular polysaccharides associated with IMD (A ,B, C, W, X, Y), which are referred to as serogroups. Serogroups A and X are very rare in Australia. The vaccines used against meningococcal A, C, W, and Y (Men ACWY) target the polysaccharide capsule. The available vaccines against meningococcal B (Men B) target a different part of the bacteria (membrane proteins). Following the introduction of meningococcal C (MenC) vaccine on the National Immunisation Schedule from 2003, IMD caused by MenC also occurs rarely in Australia.

Under the National Immunisation Program, children in NSW are offered MenACWY vaccine at 12 months of age (between 2003 and 2018 this was MenC vaccine) and in year 10 as part of the NSW School Vaccination program (previously provided as part of the NSW Meningococcal W Response Program). Vaccines against the most common strains of meningococcal B in Australia are available by private prescription, and can be administered from 6 weeks of age.

Further information

- NSW Health meningococcal disease website and meningococcal disease factsheet.

- The Australian Immunisation Handbook for more information on meningococcal vaccines.
- NSW meningococcal disease 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 9 to 15 June 2019, by date received*

		Weekly		Year to date			Full Year	
		This week	Last week	2019	2018	2017	2018	2017
Enteric Diseases	Cryptosporidiosis	5	7	391	437	1009	708	1266
	Giardiasis	37	48	1629	1454	1807	2937	3135
	Hepatitis A	1	0	34	57	14	86	71
	Rotavirus	17	12	292	418	321	808	2319
	STEC/VTEC	2	0	32	31	30	57	53
	Salmonellosis	50	57	2049	1854	2275	3341	3681
	Shigellosis	14	9	415	106	100	528	236
Respiratory Diseases	Influenza	3843	3104	25170	4476	4962	17423	103851
	Legionellosis	2	4	84	80	61	171	138
	Tuberculosis	11	13	266	219	228	510	542
Sexually Transmissible Infections	Chlamydia	418	529	14640	14818	13787	31197	29005
	Gonorrhoea	209	222	5524	4931	4487	10621	9160
	LGV	1	2	24	38	15	85	50
Vaccine Preventable Diseases	Meningococcal	1	0	14	27	27	72	91
	Pertussis	103	107	2869	1819	2833	6281	5366
	Pneumococcal Disease (Invasive)	18	11	210	200	198	684	683
Vector Borne Diseases	Barmah Forest	2	3	40	43	68	74	127
	Dengue	5	9	208	146	159	299	306
	Ross River	9	7	349	333	1366	570	1653
Zoonotic Diseases	Q fever	1	2	120	92	108	228	210

*** Notes on Table 1: NSW Notifiable Conditions activity**

- Only conditions which had one or more case reports received during the reporting week appear in the table.
- 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.
- Cases involving interstate residents are not included.
- The shigellosis case definition changed on 1 July 2018 to include probable cases (PCR positive only), hence case counts cannot be validly compared to previous years.
- 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.
- Chronic blood-borne virus conditions (such as HIV, Hepatitis B and C) are not included here. Related data are available from the Infectious Diseases Data and the HIV Surveillance Data Reports webpages.