Communicable Diseases Weekly Report

Week 36   31 August - 6 September 2015

In summary, we report:

- **Invasive meningococcal disease** – 1 new case
- **Hendra virus** – 1 new case in an unvaccinated horse
- **Emergency Department surveillance** – increases in pneumonia and influenza-like illness
- **Summary of notifiable conditions activity in NSW**

For further information on infectious diseases and alerts see the Infectious Diseases webpage.

Follow the A to Z of Infectious Diseases link for more information on specific diseases.
For links to other surveillance reports, including influenza reports, see the NSW Health Infectious Diseases Reports webpage.

Invasive meningococcal disease

One new case of invasive meningococcal disease (IMD) was reported in week 36 (Table 1) in a 21 year old presenting with fever, headache and vomiting. The case responded well to antibiotics and was discharged from hospital. Close contacts of the case were identified and given clearance antibiotics. The organism was identified as serogroup Y. The case's vaccination status was unknown.

IMD is caused by infection with the bacteria *Neisseria meningitides.* The bacteria are spread through direct contact – such as exposure to respiratory droplets from the nose and throat of an infected person. In the majority of cases acquisition of the bacteria leads to asymptomatic carriage, with only a small proportion developing disease. Disease is typically meningitis, septicaemia or both. Up to 15 per cent of IMD cases are fatal even with appropriate antibiotic treatment, and survivors are often left with long-term complications.

A component of public health intervention for IMD is the identification of people who may be at risk through contact with the case. People who have shared accommodation, or had sexual or prolonged contact with the case, are considered close contacts. Close contacts are offered clearance antibiotics which can prevent the spread of the disease, and if appropriate, vaccination against the disease as well as. Both close and lower risk contacts are provided with information about the disease and asked to be alert to any possible signs or symptoms.

There are several serogroups of *Neisseria meningitidis* which cause invasive disease. Of the cases in 2015 which have a serogroup available: 18 were serogroup B, four were serogroup W135, three were serogroup Y, and only one was serogroup C in an unvaccinated individual. Vaccination against meningococcal C infection is included in the national immunisation schedule with vaccination due at 12 months of age. Combined vaccines against the A, C, Y and W135 serogroups are generally only recommended for travellers to countries where these are more common and for some people with certain high risk conditions that predispose them to developing IMD such as people without a spleen. A vaccine against some serogroup B strains has recently become available in Australia; it is recommended for young children and adolescents but is not part of the National Immunisation Program.

Hendra virus

An unvaccinated 8 year old gelding on the NSW Mid North Coast was observed to be unwell, before it collapsed. A vet collected samples and the horse was euthanized. Laboratory testing

confirmed Hendra virus as the cause of death. This is the second recognised case of Hendra virus infection in a horse in NSW this year. The affected property has been quarantined including companion animals that had access to the paddock where the sick horse was kept. There had been minimal human contact with the sick horse.

One other horse, a dog and a cat on the same property are being monitored and they all remain well. The contact animals have all tested negative for Hendra virus.

Further details are available on the NSW Department of Primary Industries (DPI) website

Hendra virus (previously 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. Antibody to Hendra virus has 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 through contamination of horse-feed by infectious fluids from bats, e.g. bat urine/reproductive products.

The infection has occasionally been passed onto people who have been in close contact with an infected horse. Only seven human cases have been documented, 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/epidemiological evidence in the absence of samples for laboratory testing.

Hendra virus infection in horses
Hendra virus can cause a range of signs in horses. Usually there is a rapid onset of illness, fever, increased heart rate and rapid deterioration with respiratory and/or neurological (nervous system) signs.

Horse owners and carers can take steps to protect horses from becoming infected with Hendra virus by reducing exposure to bats, e.g. by placing feed bins and water troughs under cover and away from areas where bats feed or roost.

A vaccine to prevent Hendra virus infection in horses has been available in Australia since November 2012 (Equivac® HeV). More information on Hendra virus infection in horses is available from:
 NSW Department of Primary Industries (DPI)

Hendra virus infection in humans
In humans symptoms typically develop between 5 and 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 human Hendra virus vaccine.
Vets and other people in close contact with ill horses at risk of Hendra should wear appropriate personal protective equipment (PPE) to prevent horse to human transmission (see DPI link above).

Further information for Hendra virus in humans can be obtained below:

- Information for people who are being monitored for Hendra virus infection

- Hendra factsheet

Emergency Department surveillance

The NSW Health Public Health Real-time Emergency Department Surveillance System (PHREDSS, managed by the Centre for Epidemiology and Evidence, NSW Ministry of Health) includes monitoring of presentations for influenza-like illnesses and other respiratory illnesses during the winter influenza season. This includes data from 59 NSW emergency departments (EDs).

In this reporting period, ED monitoring of respiratory illness was particularly notable for:

- A second rise in the overall number of presentations for influenza-like illness (ILI) (Figure 1), suggests continuing high levels of influenza activity in the community. ILI presentations were highest in children and young adults.
- Notable increases in ILI activity were seen in a number of local health districts (LHDs), including Western Sydney, Far West, Mid North Coast, Northern NSW, and Northern Sydney LHDs, and at the Children's Hospital at Westmead and Lithgow Hospital.
- Pneumonia presentations decreased but remain above levels for the same period in previous years (Figure 2), particularly in the 17-34 years and 65 years and over age-groups. Sharp increases were noted at Gosford Hospital and Broken Hill Base Hospital.

Figure 1. Total weekly counts of ED presentations for influenza-like illness, for 2015 (black line), compared with each of the five previous years, all age groups.
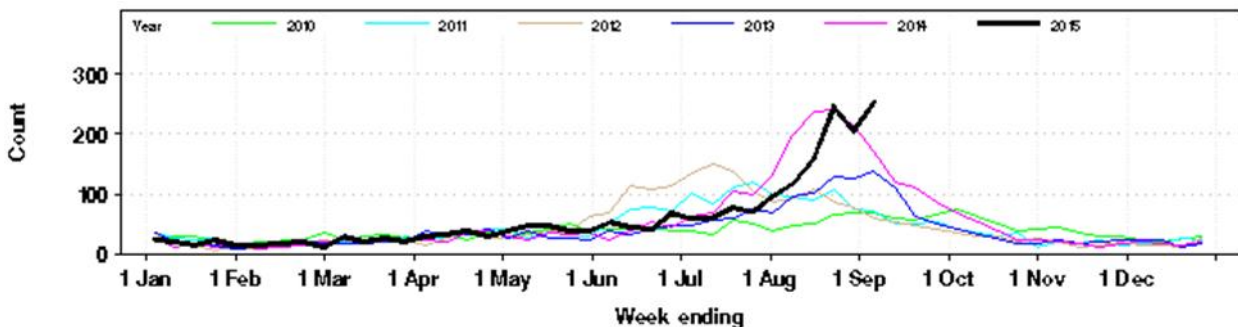
Figure 2. Total weekly counts of ED presentations for pneumonia, for 2015 (black line), compared with each of the five previous years, all age-groups.
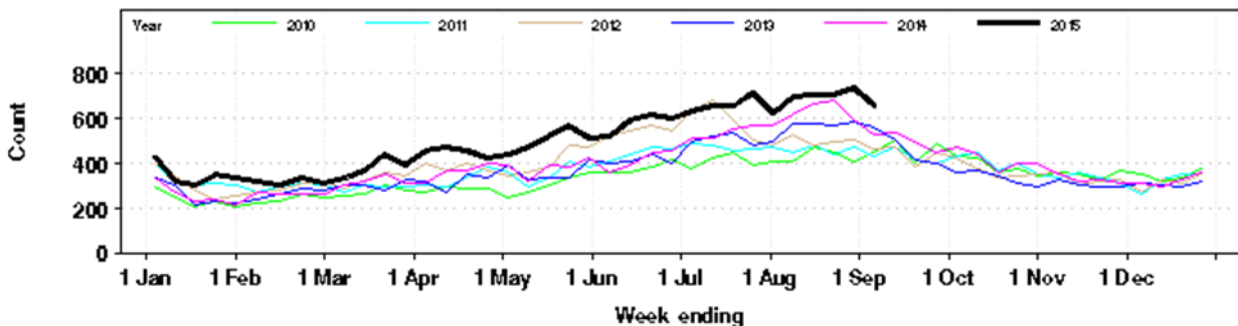
Summary of notifiable conditions activity in NSW

The following table summarises notifiable conditions activity over the reporting period (Table 1).

Table 1. NSW Notifiable conditions from 31 August to 6 September 2015, by date received.*

		Weekly		Year to date			Full Year	
		This week	Last week	2015	2014	2013	2014	2013
Enteric Diseases	Cryptosporidiosis	2	6	673	299	995	429	1132
	Giardiasis	58	46	2488	2120	1688	2942	2242
	Rotavirus	18	49	363	380	315	714	508
	Salmonellosis	39	30	2981	3197	2550	4302	3483
	Shigellosis	2	8	126	153	88	209	136
	Typhoid	1	1	31	34	44	44	58
Respiratory Diseases	Influenza	3490	3615	21043	17769	6171	20888	8403
	Legionellosis	1	3	73	50	76	72	109
	Tuberculosis	3	6	260	328	305	472	443
Sexually Transmissible Infections	Chlamydia	373	345	15288	16515	15112	22894	21088
	Gonorrhoea	51	79	3521	3451	3113	4875	4265
Vaccine Preventable Diseases	Adverse Event Following Immunisation	2	3	127	201	431	256	509
	Meningococcal Disease	1	0	32	21	32	37	48
	Mumps	1	1	36	65	71	82	89
	Pertussis	232	286	5925	1544	1655	3051	2379
	Pneumococcal Disease (Invasive)	12	17	339	362	367	511	490
Vector Borne Diseases	Barmah Forest	3	2	162	135	343	163	438
	Dengue	6	7	236	313	222	378	303
	Malaria	1	2	31	71	67	87	93
	Ross River	8	27	1470	445	406	677	512

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 other blood-borne virus case reports are not included here but are available from the Infectious Diseases Data webpage.

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