Communicable Diseases Weekly Report

Week 47, 16 to 22 November 2015

In summary, we report:

- **Haemolytic Uraemic Syndrome (HUS)** – new case reported
- **Invasive meningococcal disease** – one new case
- **Parechovirus** – update on activity
- **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.

Haemolytic Uraemic Syndrome (HUS)

Haemolytic uraemic syndrome (HUS) was notified this week in an infant from Western NSW (Table 1). The case presented with bloody diarrhoea, vomiting, reduced oral intake and periorbital bleeding. Blood tests showed low renal function and anaemia, which are features of HUS. Shiga toxigenic *Escherichia coli* (STEC), carrying both the *stx1* and *stx2* genes associated with toxin production and *Cryptosporidium* were detected by PCR on a stool sample. The case's infections were likely acquired from a household contact who works on a cattle farm and experienced gastroenteritis in the week preceding the case's illness. Other potential sources, however, cannot be ruled out as the case had contact with household pets and potting mix in the garden, and consumed a wide range of potentially contaminated foods.

HUS is a relatively rare but severe condition characterised by haemolytic anaemia, acute kidney failure (uraemia), and a thrombocytopenia which can lead to bleeding. It is more likely to affect children and carries a 5-10% mortality rate. The most common cause of HUS is infection with STEC (sometimes called verotoxin producing *E. coli*, VTEC); however, the syndrome has been associated with other enteric pathogens (including *Cryptosporidium*) as well as non-infectious causes (e.g. certain medications).

E. coli are bacteria commonly found in the gastrointestinal tract of people and animals. Many strains are harmless but some strains produce toxins associated with a range of diseases including diarrhoeal illnesses and HUS. STEC strains are carried by animals, particularly cattle. People are infected when they come into contact with the faeces of an infected animal or person, either directly or indirectly through consuming contaminated food (e.g. undercooked beef mince burgers, unwashed salad vegetables, unpasteurised milk or milk products), drinking or swimming in contaminated water, person-to-person contact, or contact with animals on farms or petting zoos.

STEC infections are prevented by safe food handling and good hand hygiene. Ready to eat foods should not be allowed to come into contact with raw meat, and equipment used to prepare raw meat such as knives and cutting boards should be thoroughly washed immediately after use. Foods made from minced meat (e.g. hamburger patties and sausages) should be cooked thoroughly and not eaten if there is any pink meat inside. Fruit and vegetables should be washed before eating and unpasteurised dairy products should not be consumed. Hands should be washed before eating and preparing food, after touching pets and farm animals, and after using the toilet or changing nappies.

Further information is available on the NSW Health STEC/HUS webpage.

Invasive meningococcal disease

One case of invasive meningococcal disease (IMD) was notified in this reporting period (Table 1). The case occurred in a child less than 1 year of age from the Sydney Local Health District; the pathogen serogroup is pending. Another case has been reported early in the following reporting period; this case was an adult in their 70s in the Hunter New England Local Health District who died from the infection.

IMD is a serious disease, with death occurring in up to ten per cent of those affected, even with appropriate treatment. Disease may present with sudden onset of fever, intense headache (with or without vomiting), a stiff neck and sensitivity to light. A petechial rash (red or purple, spotty, bruise-like) may also appear. It is important for anyone with symptoms of IMD to seek immediate medical care such as a hospital emergency department, as early treatment with antibiotics is life saving.

In 2015 to 22 November there have been 42 reported cases of IMD in NSW, of which 22 have been caused by meningococcal serogroup B, two by serogroup C, seven by serogroup Y, seven by serogroup W135 and three that were unable to be typed. 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 strains 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.

Follow the links to the meningococcal data and meningococcal factsheet.

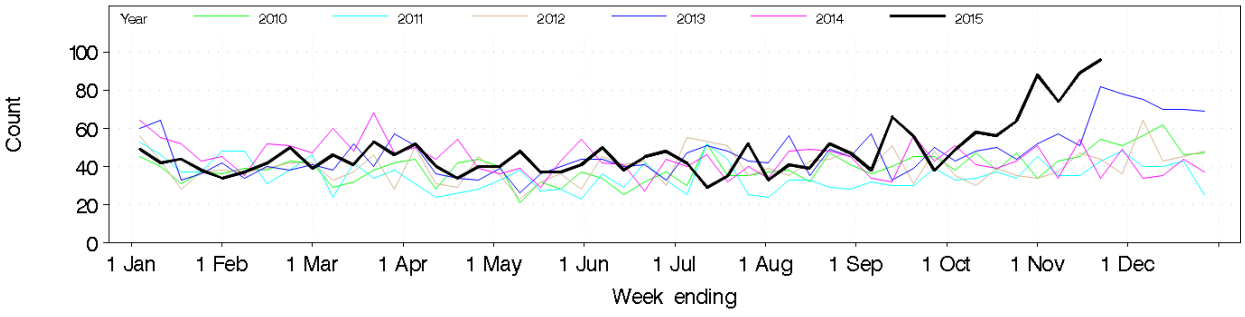
Parechovirus

Emergency department (ED) surveillance continues to reveal an increasing trend in the number of ED presentations and subsequent admission for fever or unspecified infection in children under one year of age (Figure 1). As reported in last week's report, this increase is likely due to human parechovirus (HPeV) infection.

Increased fever presentations resulting in admission have been seen for infants across the Sydney metropolitan region, in the Hunter New England region, and at Dubbo Base Hospital, indicating that the infection is widespread in NSW.

On 24 November 2015 an alert was sent to local health districts to advise ED clinicians and paediatricians to consider HPeV infection in infants who have compatible signs and symptoms. Laboratories have also been advised about the availability of HPeV testing in specific reference laboratories.

Figure 1. Total weekly counts of Emergency Department presentations for fever or unspecified infection that were admitted, for 2015 (black line), compared with each of the 5 previous years (coloured lines), children aged under 1 year, for 59 NSW hospitals.



Parechoviruses are a group of viruses which are part of the same virus family as enteroviruses. These viruses usually cause no symptoms but when illness occurs it is most commonly a mild

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diarrheal illness or respiratory infection. Infection with some strains can rarely lead to more severe blood infection (sepsis) and neurological infection (meningitis or encephalitis), particularly among young children.

Children under 3 months of age are most likely to develop severe disease – and babies can become unwell very quickly – but most recover after a few days with supportive treatment.

Parechovirus is usually spread from person to person through contact with respiratory droplets, saliva, or faeces from an infected person. Good hygiene is therefore the best protection: hands should be washed with soap and water after going to the toilet, before eating, after wiping noses, and after changing nappies or soiled clothing. The mouth and nose should be covered when coughing and sneezing and tissues disposed of straight away.

People who are unwell with colds, flu-like illness or gastro illness should stay away from small babies. If you are caring for a small baby and are unwell, wash your hands or use an alcohol-based hand rub before touching or feeding the baby. For further information see Human parechovirus factsheet.

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 16 to 22 November 2015, by date received*

		Weekly		Year to date			Full Year	
		This week	Last week	2015	2014	2013	2014	2013
Enteric Diseases	Cryptosporidiosis	46	28	850	378	1077	429	1132
	Giardiasis	57	73	3084	2697	2105	2942	2242
	Haemolytic Uremic Syndrome	2	0	11	6	10	7	10
	Hepatitis A	1	0	67	73	58	80	62
	Hepatitis E	1	0	14	36	15	38	16
	Listeriosis	2	0	24	21	31	23	33
	Rotavirus	32	34	893	657	482	714	508
	STEC/VTEC	2	3	22	30	23	31	24
	Salmonellosis	74	89	3653	3909	3206	4302	3483
	Shigellosis	4	2	151	195	122	211	136
	Typhoid	1	0	39	38	52	44	58
Respiratory Diseases	Influenza	76	66	30092	20695	8236	20887	8403
	Legionellosis	2	2	88	66	101	72	109
	Tuberculosis	1	17	371	451	401	473	443
Sexually Transmissible Infections	Chlamydia	464	457	20462	21266	19533	22891	21082
	Gonorrhoea	73	84	4769	4535	3960	4873	4263
Vaccine Preventable Diseases	Adverse Event Following Immunisation	5	4	174	246	491	256	509
	Meningococcal Disease	1	0	42	33	46	37	48
	Mumps	3	1	51	78	82	82	89
	Pertussis	482	493	9957	2572	2187	3051	2379
	Pneumococcal Disease (Invasive)	5	5	460	473	467	511	490
Vector Borne Diseases	Barmah Forest	1	2	181	157	415	163	438
	Dengue	4	4	291	362	279	378	303
	Ross River	19	25	1650	590	489	676	513
Zoonotic	Q fever	1	3	226	167	157	190	163

***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. The onset date for the illness may have been earlier.
- Data cells in the 'Adverse Event Following Immunisation' category refer to suspected cases only. Reports are referred to the Therapeutic Goods Administration (TGA) for assessment. Information 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. Information on HIV and other blood-borne virus case reports are not included here but are available from the Infectious Diseases Data webpage.