

Communicable Diseases Weekly Report

Week 45, 3 November to 9 November 2019

In summary, we report:

- [Haemophilus influenzae type b \(Hib\)](#) – one new case reported
- [Shiga toxigenic Escherichia coli](#) – summary of recent cases
- [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.

[Haemophilus influenzae type b \(Hib\)](#)

One case of *Haemophilus influenzae* type b (Hib) disease was notified in this reporting week, in a person in their seventies from metropolitan Sydney.

Hib bacteria can live harmlessly in the throats of healthy people. The bacteria are spread through contact with droplets from the nose or throat of someone carrying the bacteria, usually in household-like settings. A person does not have to have symptoms to spread the bacteria.

People with Hib disease usually have a febrile illness characterised by one or more of four clinical syndromes:

- meningitis (infection of the membranes around the brain and spinal cord), causing headache, neck stiffness, drowsiness, nausea
- epiglottitis (severe swelling at the back of the throat), causing difficulty in breathing and swallowing
- pneumonia (infection of the lungs), causing shortness of breath, cough, chest pain
- osteomyelitis (infection of the bone), causing pain and swelling over the affected bone.

Hib was the most common cause of bacterial meningitis in Australian children before the introduction of Hib vaccines to the immunisation schedule in 1993. Without appropriate treatment, Hib meningitis and epiglottitis are often fatal. Hib meningitis may be complicated by brain damage or hearing loss.

Hib disease is now rare in NSW. Vaccination against Hib disease is included as part of the National Immunisation Program, with doses due at six weeks and at four, six and 18 months of age.

Hib vaccination is also recommended for people who are immunocompromised, including people with functional or anatomical asplenia and people who have received a haematopoietic stem cell transplant.

Hib disease in a fully vaccinated infant or child is rare. More than 95 per cent of young children develop effective protection after receiving their course of Hib vaccines. Although Hib vaccines are believed to provide long-lasting immunity, the exact duration of immunity is not known.

The public health response to a case of Hib disease aims to protect those at greatest risk of disease by interrupting transmission of the Hib bacteria. This is done both by treating the case with antibiotics, and providing clearance antibiotics for their close contacts (who may be carriers of the bacteria) who live or work in settings where there are other vulnerable contacts. Vulnerable contacts include infants under 7 months of age, unvaccinated or under-vaccinated children aged between 7 months and 5 years of age, and people who are immunocompromised.

Further information

- NSW Health [Hib disease fact sheet](#) and [Hib data page](#)
- NSW Health [Hib control guidelines for public health](#)
- The Australian Immunisation Handbook chapter on [Hib vaccination](#)

Shiga toxigenic *Escherichia coli*

From 1 October to 10 November 2019 13 cases of Shiga toxigenic *Escherichia coli* (STEC) infection were notified in NSW, compared to an average of 7.4 cases for the same period over the previous 5 years. There was one case notified in this reporting week ([Table 1](#)).

Ten (77%) of the 13 cases reside in regional NSW, predominantly in the western and southern regions. The other three cases were in people in their late eighties from metropolitan Sydney. All cases were positive by PCR detection, which is known to be a highly sensitive test. Only five cases had a culture specimen collected; of these two were typed as O157, one as O125 and two did not produce any growth on culture plates.

Six of the 13 cases were hospitalised, however none developed haemolytic uraemic syndrome (HUS).

In NSW, all people notified with an STEC infection are interviewed to determine their likely source of infection, and so that control measures can be implemented if necessary. A comprehensive review of the interviews for all 13 cases was conducted, and no clear link between cases could be identified.

Among the regional cases, 70% reported exposure to bore or tank water. Other reported risks included exposure to cattle or pets, consumption of processed meat and handling of raw mince.

Among the three metropolitan Sydney cases, no rural or farming exposures were identified. Reported exposures included consumption of different types and brands of processed meat purchased from different retailers and handling raw mince.

Escherichia coli (*E. coli*) are bacteria commonly found in the gastrointestinal tract of people and animals. Many types of *E. coli* are harmless but some can produce toxins, called Shiga toxins, which can result in severe disease in humans. STEC strains are carried by animals, particularly cattle, without signs of illness.

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 (for example, undercooked hamburgers, 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 infection causes a diarrhoeal illness, often with abdominal cramps, nausea and vomiting. The Shiga toxin may cause bleeding in the bowel so people with STEC gastroenteritis often have bloody diarrhoea. Haemolytic uraemic syndrome (HUS) is a severe and sometimes life-threatening illness that sometimes occurs in people with STEC infection. HUS is characterised by haemolytic anaemia (a type of anaemia where the red blood cells break up), acute kidney failure (uraemia), and a low platelet count which makes bleeding more likely. Children with STEC infections are more likely to develop HUS than adults.

STEC infections may be prevented by safe food handling and food storage, and good hand hygiene. This includes:

- washing hands thoroughly with running water and soap before eating and preparing food, after touching pets, farm animals, their enclosures or feeding containers, and after using the toilet or changing nappies;
- only using clean knives and cutting boards when preparing ready-to-eat foods;
- thoroughly cooking all foods made from minced meat (e.g. hamburger patties and sausages) or internal organs (offal);
- washing all fruit and vegetables before eating; and
- not eating or drinking unpasteurised dairy products.

Further information

- NSW Health [STEC and HUS fact sheet](#) and [STEC notification data page](#)
- NSW Health [Petting zoos and personal hygiene 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 from 3 November – 9 November 2019, by date received*

		Weekly		Year to date			Full Year	
		This week	Last week	2019	2018	2017	2018	2017
Bloodborne	Hepatitis C - Newly Acquired	1	0	23	30	37	38	40
Enteric Diseases	Cryptosporidiosis	11	14	530	640	1187	708	1266
	Giardiasis	44	55	2901	2578	2817	2937	3134
	Paratyphoid	2	1	37	25	13	34	17
	Rotavirus	46	48	1074	720	2092	808	2319
	STEC/VTEC	1	1	60	48	45	57	53
	Salmonellosis	54	63	3096	2870	3249	3337	3680
	Shigellosis	20	15	748	416	201	531	236
Respiratory Diseases	Influenza	259	261	114033	15874	102892	17409	103841
	Legionellosis	2	3	132	134	123	171	138
	Tuberculosis	12	11	507	444	472	508	542
Sexually Transmissible Infections	Chlamydia	607	623	27707	27282	25214	31182	28987
	Gonorrhoea	206	231	10175	9317	7971	10610	9151
Vaccine Preventable Diseases	Haemophilus influenzae type b	1	0	10	5	8	6	9
	Pertussis	155	121	5403	4633	4789	6280	5363
	Pneumococcal Disease (Invasive)	19	14	611	603	627	681	682
Vector Borne Diseases	Barmah Forest	2	0	60	65	116	74	127
	Chikungunya	1	1	22	8	40	13	47
	Dengue	7	14	392	247	265	299	306
	Malaria	1	3	59	61	65	66	68
	Ross River	6	7	544	526	1596	571	1653
Zoonotic Diseases	Leptospirosis	1	0	6	56	18	56	20
	Q fever	4	4	213	205	183	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](#), the [HIV Surveillance Data Reports](#) and the [Hepatitis B and C Strategies Data Reports](#) webpages.
- Notification is dependent on a diagnosis being made by a doctor, hospital or laboratory. Changes in awareness and testing patterns influence the proportion of patients with a particular infection that is diagnosed and notified over time, especially if the infection causes non-specific symptoms.