

Communicable Diseases Weekly Report

Epi-Week 3 13 January 2014 – 19 January 2014

In summary, we report:

- [Shiga toxin-producing *Escherichia coli* \(STEC\)](#) – four cases associated with a food outlet
- [Human parechovirus update](#) – active surveillance has ceased
- [Shewanella infection](#) – seven cases associated with circumcision and sea water exposure
- [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.

[Shiga toxin-producing *Escherichia coli* \(STEC\)](#)

A further four cases of Shiga toxin-producing *Escherichia coli* (STEC) infection were reported this week (Table 1) in residents of the South Eastern Sydney Local Health District. The cases were aged 15 to 35 years and had presented with bloody diarrhoea with symptoms beginning between 7 January 2014 and 10 January 2014. All four cases reported having eaten food purchased from Kenny's Kebabs at Westfield Miranda during their incubation periods. All four infections were due to an O157 strain of STEC.

A public health response to these four cases was initiated immediately after they were notified by the South Eastern Sydney Public Health Unit. The NSW Food Authority inspected the Kenny's Kebabs outlet on Friday 17 January and identified a number of concerns about the way that food was handled and prepared. Consequently, the Food Authority issued a prohibition order which has prevented the business from trading until further notice. A [media release](#) was issued to alert the public and advise people with symptoms of STEC infection, particularly those who had eaten food from Kenny's Kebabs, to seek medical attention. General practitioners, emergency departments, renal physicians, paediatricians, gastroenterologists and microbiology laboratories were all informed of the outbreak and asked to report any cases of bloody diarrhoea to their local public health unit.

Escherichia coli (*E.coli*) bacteria are 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 or verocytotoxins, which can result in severe disease in humans.

STEC infection causes a diarrhoeal illness, often with abdominal cramps, nausea and vomiting. The Shiga toxin causes bleeding in the gut, so people with STEC gastroenteritis often have diarrhoea containing blood. The most severe illness caused by STEC is haemolytic uraemic syndrome (HUS). HUS consists of acute kidney failure and a type of anaemia where the red blood cells break up. The O157:H7 strain of STEC has the strongest association with HUS, although infection with other strains can also result in HUS. About 15% of children with this strain will develop HUS. Children are more likely to develop HUS than adults.

Cattle are the most important source of STEC; other animals including humans can transmit the bacteria and cause human illness. The infection is spread mainly from eating contaminated food and from direct contact with animals. Person to person spread also occurs, particularly within families and childcare centres.

STEC infection is prevented by safe food handling and good hand hygiene. Raw 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, such as 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.

Most cases of STEC infection occur sporadically, but large outbreaks also occur. In May and June 2011, Germany experienced the largest outbreak of STEC cases ever recorded: a total of 3,842 cases were reported, including 2,987 cases of laboratory-confirmed *E. coli* gastroenteritis with 18 deaths, and 855 cases of HUS that led to 35 deaths. The outbreak was eventually linked to the ingestion of fenugreek seeds imported from Egypt. In August 2013, there was outbreak of STEC in Queensland with over 50 people infected; this outbreak was associated with visiting an animal petting area at the Ekka agricultural show in Brisbane.

Follow the links for further [STEC/VTEC data](#), the [STEC/HUS factsheet](#) and the [media release](#).

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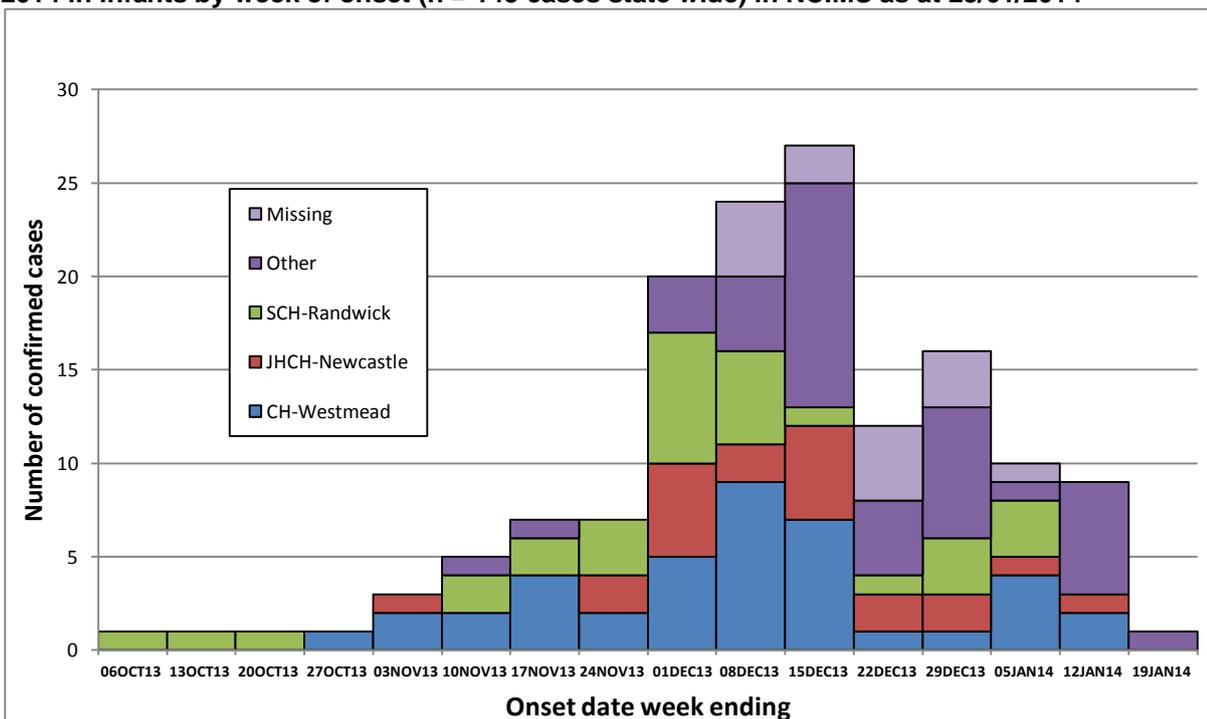
Human parechovirus

The number of reports of parechovirus in infants continued to decline this reporting week with only one report of a laboratory confirmed case with onset this week compared to nine the previous week.

In early December 2013, NSW Health implemented active surveillance for infants under 3 months of age with laboratory confirmed parechovirus at the three major NSW children’s hospitals (Children’s Hospital at Westmead, Sydney Children’s Hospital and John Hunter Children’s Hospital). As the outbreak has now waned, active surveillance for parechovirus has ceased.

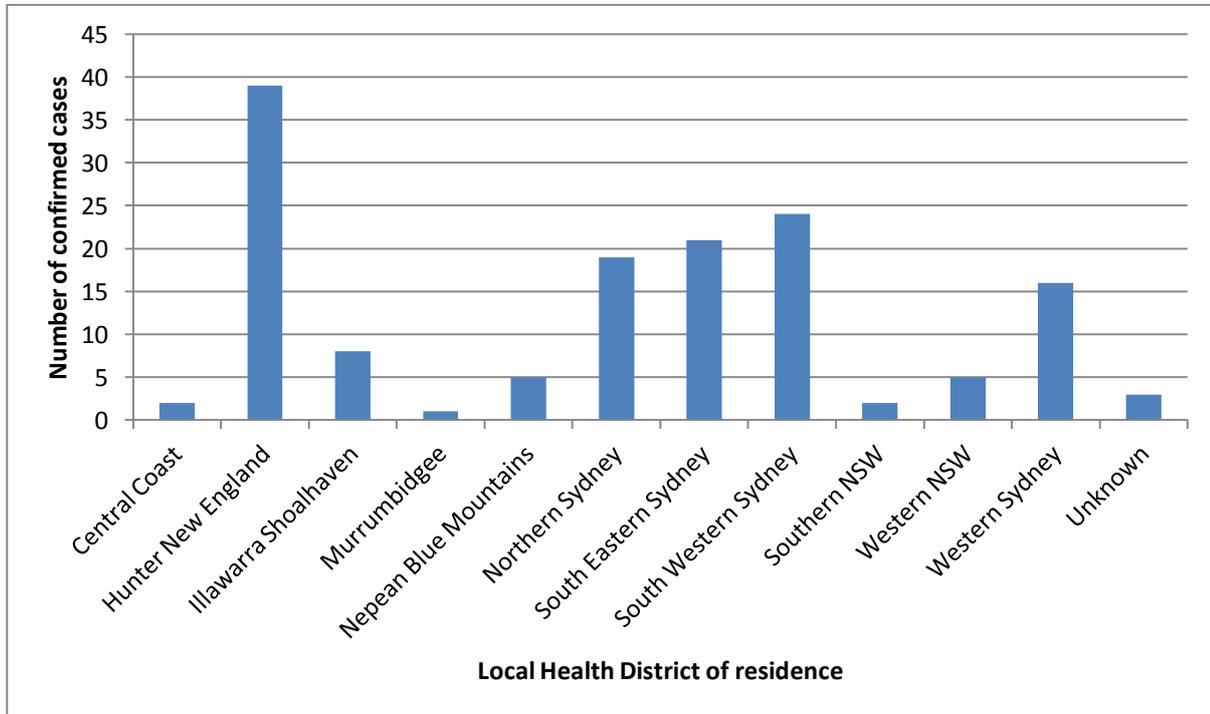
Reports were received about cases older than 3 months, and from other NSW hospitals that admit children. Figure 1 shows all the cases in babies less than 12 months of age reported by week of disease onset and by hospital.

Figure 1. Number of confirmed human parechovirus cases detected from 1 Oct 2013 to 19 Jan 2014 in infants by week of onset (n = 145 cases state wide) in NCIMS as at 23/01/2014



Of all 145 confirmed cases in infants, 43% were females and 57% males. Of the 125 cases for which clinical information has been reported, 95% had a fever, 84% showed signs of irritability, 61% had a rash and 30% had diarrhoea. Figure 2 shows the Local Health District of residence of the cases and demonstrates that there were cases from across NSW.

Figure 2. Number of confirmed cases in infants by Local Health District of residence as at 23/01/2014.



Parechovirus infection usually causes mild respiratory or gastrointestinal symptoms, however occasionally it may lead to more severe symptoms. Some infected babies get quite unwell quickly, but typically recover in a few days. Parechovirus is usually spread from person to person through contact with respiratory droplets, saliva or faeces from an infected person.

Preventing the spread of parechovirus is best achieved by good personal hygiene. 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 the [parechovirus factsheet](#) and [media release \(29 Nov 2013\)](#).

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Shewanella infection

In early to mid January 2014, seven boys aged 9 to 14 years presented to the Children's Hospital at Westmead with infected circumcision wounds. *Shewanella algae* bacteria were cultured from the wounds in four cases. One case had infection with *Shewanella putrefaciens*.

The boys were all of Tongan or Samoan heritage, where almost all adolescent boys are circumcised. The circumcisions were performed in different places by different practitioners in Sydney, Samoa and Tonga. Six of the cases have been interviewed and all six swam in the sea after the circumcision procedure; however they swam at different locations, including Cronulla, Mosman, Brighton-Le-Sands and Samoa. No other common factors that could explain the infections have been identified.

Shewanella bacteria are found throughout the world, predominantly in marine environments. They are found more frequently in warm seawater than cold: in Denmark the organisms can be detected when the sea water temperature is above 13°C. *Shewanella* bacteria are also found in other forms of water and soil.

Two *Shewanella* species are known to cause infections in humans; *Shewanella algae* and *Shewanella putrefaciens*. Most human infections are due to *Shewanella algae*, which is thought to cause more serious infections. The most common clinical picture is a skin or soft tissue infection, associated with breaches in the skin such as ulcers or following trauma. Ear infections also occur. Abdominal and respiratory infections are also reported in the literature, and these infections may be associated with health care. Exposure to sea water is a risk factor for *Shewanella* infection. People with immunocompromising conditions have an increased risk of infection with *Shewanella*.

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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 13 January to 19 January 2014, by date received.

		This week	Last week	Year to date			Full Year	
				2014	2013	2012	2013	2012
Enteric Diseases	Cryptosporidiosis	16	14	46	96	32	1132	655
	Giardiasis	43	40	112	170	159	2245	2013
	Hepatitis A	1	1	2	4	0	62	41
	Hepatitis E	1	0	1	1	0	16	10
	Rotavirus	12	5	24	59	53	508	1761
	Salmonellosis	133	101	319	367	324	3484	2941
	Shigellosis	7	12	21	10	25	136	131
	STEC/VTEC	4	2	6	2	4	24	14
	Typhoid	2	1	3	8	0	58	43
Respiratory Diseases	Influenza	71	70	166	119	50	8400	8039
	Legionellosis	3	0	3	6	14	102	105
	Tuberculosis	5	10	18	28	30	409	445
Sexually Transmissible Infections	Chlamydia	451	446	1137	1650	1572	21062	21261
	Gonorrhoea	134	74	268	361	315	4269	4115
Vaccine Preventable Diseases	Adverse Event Following Immunisation	4	3	7	5	12	500	264
	Measles	1	1	4	2	2	33	172
	Mumps	2	0	3	5	11	85	110
	Pertussis	45	49	108	268	786	2373	5996
	Pneumococcal Disease (Invasive)	1	6	10	34	26	492	563
Vector Borne Diseases	Barmah Forest	6	8	17	34	16	438	344
	Dengue	3	4	8	26	22	268	285
	Ross River	13	9	26	50	31	509	596
Zoonotic	Q fever	4	5	10	10	8	148	124

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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