Communicable Diseases Weekly Report

Week 46, 10 November to 16 November 2019

In summary, we report:

- Foodborne methaemoglobinaemia – two cases reported
- Viral gastroenteritis – elevated hospital presentations and childcare centre outbreaks
- 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.

Foodborne methaemoglobinaemia

Two cases of methaemoglobinaemia were reported this week in people who had eaten the same meal at a Sydney restaurant. The two cases were women from separate dining groups. Both developed dizziness and nausea and cyanosis (bluish discolouration of the skin and mucous membranes) within 10-15 minutes eating. Both women attended a hospital emergency department that afternoon and were diagnosed with methaemoglobinaemia. Consumption of a specific dish prepared by adding sodium nitrite was the likely cause.

Sydney Local Health District Public Health Unit and The NSW Food Authority commenced an investigation. No other patients with similar symptoms have attended NSW emergency departments through a review of the Public Health Rapid, Emergency, Disease and Syndromic Surveillance (PHREDSS) system. The restaurant has ceased using nitrite and there is no ongoing risk to the public.

Methaemoglobinaemia is a condition where there is an elevated blood level of methaemoglobin (MetHb). People with mild acquired methemoglobinemia generally have self-limiting symptoms which resolve as MetHb is naturally converted back into normal haemoglobin in the body. More serious cases develop cyanosis, fatigue, tachycardia, dizziness and headache. Severe cases are a medical emergency leading to syncopal (fainting) episodes, convulsions and potentially coma. Rapid treatment with methylene blue is indicated.

Further information

- More information about methemoglobinemia is available in this article.
- Specific information about the toxicological profile of nitrates and nitrites, and public health impacts are available on the US Centres for Disease Control website.

Viral gastroenteritis

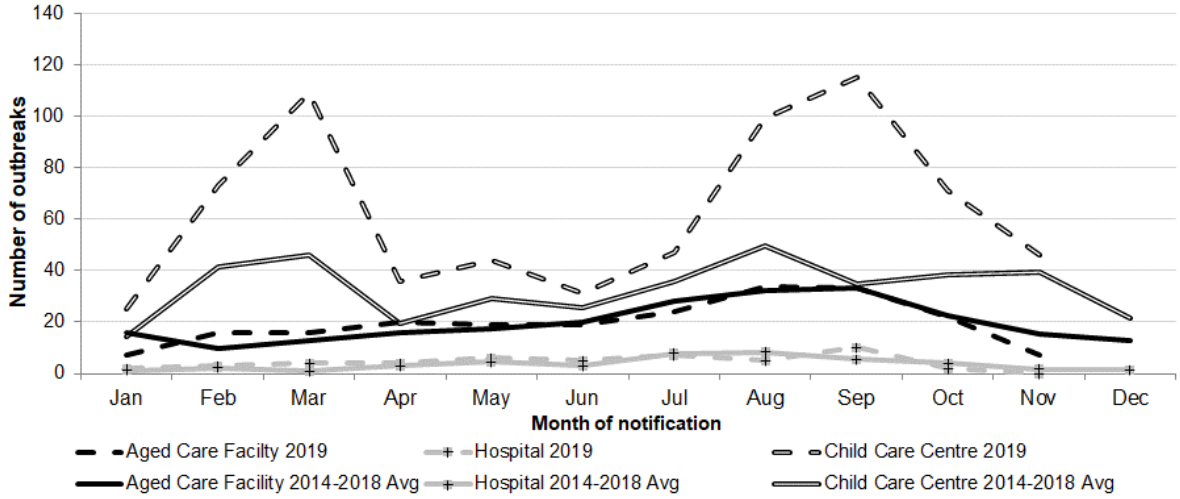
Between 1 October 2019 and 16 November 2019, 155 outbreaks of gastroenteritis in institutions were notified, affecting at least 1,685 people. Half of those affected were children aged 5 years or younger in child care centres, from which 118 outbreaks (75%) were reported in this period. Outbreaks were also reported from residential aged care facilities (29), hospitals (three), schools and school camps (four) and group home settings (one).

Norovirus was the most common cause of illness identified, detected in ten outbreaks (six residential aged care facilities, two childcare centres and two hospitals). Rotavirus was also identified as the

cause of six outbreaks (four in childcare centres and two in residential aged care facilities). Other organisms which more rarely cause gastro-like illness have also been detected, but are not believed to be the cause of the gastroenteritis outbreaks. Results for the remaining outbreaks are either pending or stool specimens were not collected. However, all of the outbreaks are suspected to have been caused by a virus, most likely norovirus, and spread from person to person.

The increase in outbreaks compared to the previous months (Figure 1) is largely due to higher than average numbers of outbreaks in child care centres. Outbreaks among other institutional types are within average ranges.

Figure 1. Gastroenteritis outbreaks in institution notifications by month and facility, NSW, 2014-2019 (*note notifications to 16 November 2019)



Gastroenteritis presentations to emergency departments were also above average levels, particularly amongst children aged under 5 years, and particularly over a number of weeks in Western NSW Local Health District (LHD) (Figures 2 and 3).

Figure 2. Weekly counts of ED presentations for gastroenteritis, for 2019 (black line), compared with the 5 previous years (coloured lines), *children aged under 5 years*, 67 NSW hospitals.

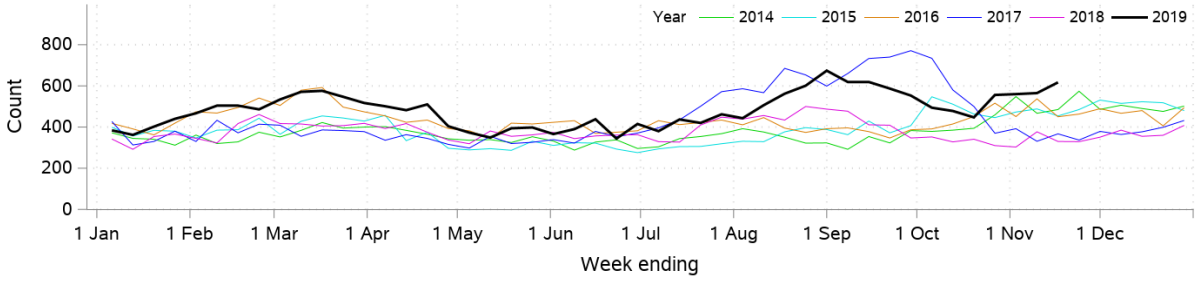
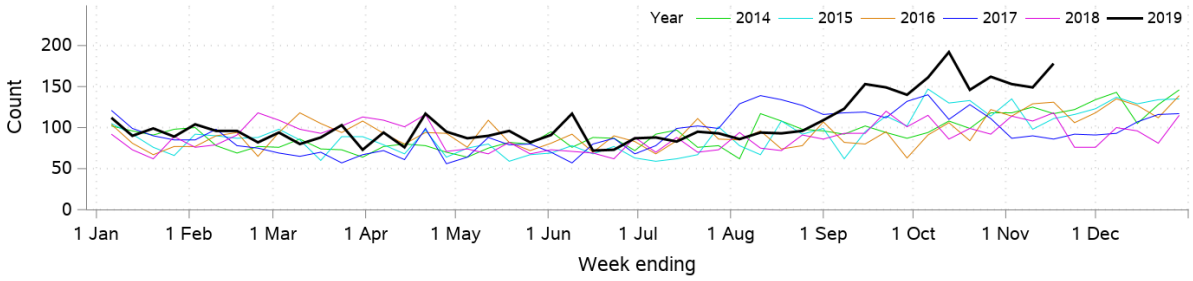


Figure 3. Weekly counts of ED presentations for gastroenteritis, for 2019 (black line), compared with the 5 previous years (coloured lines), persons of all ages, *Western NSW LHD*.



Viral gastroenteritis is a common illness due to infection with one of a number of different viruses which cause vomiting and diarrhoea. The most common causes are norovirus and rotavirus, with norovirus being the most common and occurring more frequently during the cooler months.

Rotavirus is the most common cause of severe gastroenteritis in early childhood globally. Immunisation to prevent rotavirus infection is recommended and is free for children under 6 months of age. The vaccine used in NSW is given as two oral doses, one at six weeks and the other at four months of age, with completion of the course required by 24 weeks of age.

Most of the recent outbreaks are believed to have been due to norovirus. However, there is currently a slight increase in rotavirus activity in NSW as is usually seen during spring. During the period 1 October 2019 to 16 November 2019, there were 323 notifications of rotavirus, compared to the five year average of 302 cases during the same period (7% increase).

High numbers of gastroenteritis outbreaks sometimes occur when new genotypes of norovirus or rotavirus appear, against which the population has not developed immunity. Molecular typing work is carried out each year to track these genetic changes but there is no information currently available to suggest a new genotype has emerged in either norovirus or rotavirus.

Viral gastroenteritis is highly infectious and is spread by the vomit or faeces of an infected person through close contact with infected persons, contact with contaminated surfaces, or consumption of contaminated food or drink. The viruses are often transmitted from person to person on unwashed hands.

As well as vomiting and diarrhoea, other symptoms of viral gastroenteritis may include nausea, fever, abdominal pain, headache and muscle aches. Symptoms can take between one and three days to develop and usually last between one and two days, sometimes longer. Dehydration may follow bouts of vomiting and diarrhoea, particularly in young children. Those infected should rest well and increase the amount of fluids they drink, and if concerned see their local doctor.

The best way to prevent the spread of viral gastroenteritis is to wash hands thoroughly with soap and running water for at least 10 seconds, particularly after using the toilet, assisting someone with diarrhoea or vomiting, attending nappy changes, and before preparing and eating food. It is vital that people with gastroenteritis stay home from work, school and childcare for at least 24 hours after the last symptom of gastroenteritis. People who are sick with gastroenteritis should also avoid visiting others in vulnerable settings such as hospitals or aged care facilities. Workers who handle food, or look after children, the elderly or patients, should not return to work until 48 hours after symptoms have stopped.

Further information

For further information see the norovirus and rotavirus factsheets. Follow the link for more information on controlling viral gastroenteritis outbreaks.

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 10 November – 16 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	1	24	31	38	38	40
Enteric Diseases	Cryptosporidiosis	13	10	541	648	1194	708	1266
	Giardiasis	45	44	2947	2630	2863	2937	3134
	Rotavirus	78	47	1160	727	2141	808	2319
	STEC/VTEC	1	1	60	49	45	57	53
	Salmonellosis	50	53	3146	2932	3327	3337	3680
	Shigellosis	16	20	767	439	204	531	236
	Typhoid	5	0	63	50	52	58	55
Respiratory Diseases	Influenza	287	260	114385	16071	103064	17409	103841
	Legionellosis	1	2	133	141	125	171	138
	Tuberculosis	8	12	519	454	479	508	544
Sexually Transmissible Infections	Chlamydia	635	607	28388	27840	25770	31182	28987
	Gonorrhoea	224	206	10413	9510	8138	10610	9149
	LGV	4	1	60	75	44	85	50
Vaccine Preventable Diseases	Measles	1	0	55	17	31	18	32
	Meningococcal Disease	1	0	54	62	85	72	91
	Mumps	1	0	50	66	111	72	127
	Pertussis	172	155	5586	4883	4876	6280	5363
	Pneumococcal Disease (Invasive)	15	19	624	612	643	681	682
Vector Borne Diseases	Chikungunya	3	1	25	9	41	13	47
	Dengue	7	7	401	259	275	299	306
	Malaria	2	1	61	63	65	66	68
	Ross River	4	6	548	531	1601	571	1653
Zoonotic Diseases	Q fever	1	4	214	209	185	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.