Communicable Diseases Weekly Report

Week 14, 30 March to 05 April 2015

In summary, we report:

- **Barmah Forest virus** – increased notifications on the north coast
- **STEC and HUS** – one case of STEC and one case of HUS in siblings
- **Summary of notifiable conditions activity in NSW**

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

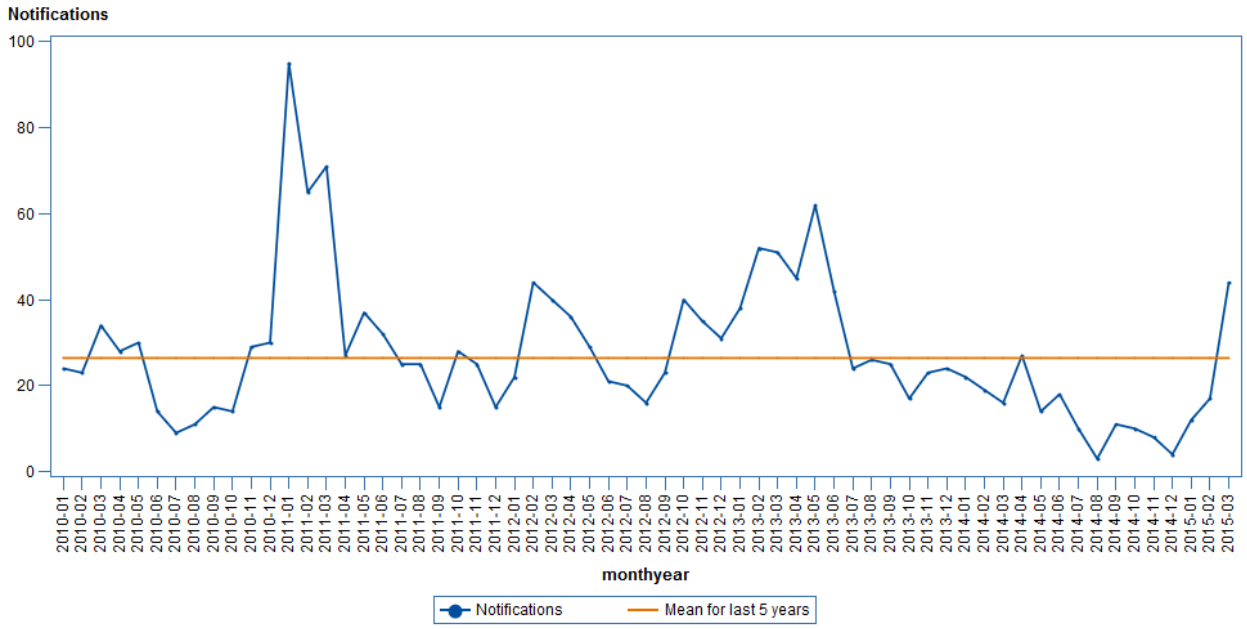
Follow the A to Z of Infectious Diseases link for more information on specific diseases.

For links to other surveillance reports, including influenza reports, see the NSW Health Infectious Diseases Reports webpage.

Barmah Forest virus

There were 16 notifications of Barmah Forest virus (BFV) infection in the past week (Table 1), the same number as the previous week. This continues the notable increase in BFV notifications seen during March of this year (Figure 1). Nearly three quarters of BFV notifications in the past month have been from the Northern and Mid North Coast Local Health Districts; these districts have also seen, and continue to see, increased numbers of Ross River virus (RRV) notifications this year.

Figure 1. Barmah Forest virus notifications in NSW residents by month of disease onset, 2010 to March 2015.



In this reporting week the NSW arbovirus surveillance and mosquito monitoring program (NSWAP) reported no BFV isolates but found RRV from a mosquito collection site along the Georges River in Sydney. BFV isolates were found earlier in the year from mosquitoes collected at Griffith and the Central Coast. The NSWAP also reported this week that mosquito collections from coastal collection sites remain high but were low in most inland collection sites.

The continuing elevated risk of arboviruses in many parts of NSW has prompted a recent warning for NSW residents including those travelling during Easter and the school holidays – see http://www.health.nsw.gov.au/news/Pages/2015-nsw-health.aspx.

BFV is one of a group of arboviruses ('arthropod-borne' viruses) characterised by transmission through the bite of infected mosquitoes. The most likely natural hosts for BFV (and RRV) are native mammals, such as kangaroos and wallabies. Most parts of Australia are affected by BFV but the level of risk depends upon the location and time of year, with infections less common in metropolitan areas and during the winter months.

Some people who are infected with BFV do not develop symptoms, while others experience flu-like symptoms that include fever, chills, headache and aches and pains in the muscles and joints. Some joints can become swollen, and joint stiffness may be particularly noticeable in the morning. A rash may also appear on the torso, arms or legs. The rash and other symptoms usually resolve after 7 to 10 days, although some people may experience symptoms such as joint pain and tiredness for 3-6 months.

There are no vaccines to protect against the arboviruses that cause human infections in NSW; therefore prevention relies on measures to avoid being bitten by mosquitoes and to reduce mosquito breeding near homes. Mosquitoes that carry these viruses are usually most active in the hours after sunset and again around dawn, but may bite throughout the day.

During summer and autumn months remember to cover up and take care to reduce your chances of picking up a serious mosquito-borne infection by following these simple precautions:

- Use an effective mosquito repellent on exposed skin areas and re-apply repellent every few hours, according to the instructions. Protection wears off more quickly from perspiration, particularly on hot nights or during exercise.
- Use mosquito repellents containing diethyl toluamide (DEET) or picaridin. Botanical based products (e.g. eucalyptus, citronella) provide only short periods of protection.
- Topical repellents are not recommended for use on children below the age of 3 months.
- Note that prolonged or excessive use of repellents can be dangerous, particularly on babies and young children. Avoid putting repellent near eyes and mouth, spread sparingly over the skin, and rinse off once you are indoors.
- Provide mosquito netting, where necessary – both indoors and outdoors.
- Cover up as much as possible with loose fitting clothing and sensible footwear.
- Cover your clothes with repellent as mosquitoes can bite through material, but be careful as some repellents stain clothes.
- Use mosquito coils outdoors and plug-in devices with vaporising mats indoors.

For further information:

- NSW Arbovirus surveillance and vector monitoring program (external link)
- NSW Health Mosquitoes are a Health Hazard factsheet with tips on prevention
- NSW Health *Fight the Bite!* campaign posters and media resources
- NSW Health Barmah forest virus notifications data.

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Shiga Toxigenic *Escherichia coli* (STEC) Infection and Haemolytic Uraemic Syndrome (HUS)

There was one case of Shiga toxigenic *Escherichia coli* (STEC) and one case of haemolytic uraemic syndrome (HUS) reported this week (Table 1). The children affected were siblings both aged less than 10 years. Both had experienced an acute illness characterised by diarrhoea and abdominal pain and both were hospitalised.

The younger child tested positive for STEC O157 while the older child tested negative for STEC but went on to develop HUS. Both children made full recoveries. While the source of their illness is not known, both children had recently returned from a family holiday in the USA (Hawaii) which included a meal where undercooked meat was served.

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 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. STEC infections are the most common cause of HUS, a severe and sometimes life-threatening illness characterised by haemolytic anaemia (a type of anaemia where the red blood cells break up), acute kidney failure (uraemia), and a low platelet count (thrombocytopenia). The O157:H7 strain of STEC has the strongest association with HUS, although infection with other strains can also result in HUS. Children with STEC infections are more likely to develop HUS than adults.

Dairy and beef cattle are the primary reservoirs of STEC O157:H7 and they can carry it without symptoms and shed it in their faeces. Other animals can also 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. Key precautions include the following:

- 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, such as hamburger patties and sausages, should be cooked thoroughly until the juices run clear – they should not be 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 household pets or farm animals, and after using the toilet or changing nappies.

Further information is available from the STEC HUS factsheet.

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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 30 March to 05 April 2015, by date received

		Weekly		Year to date			Full Year	
		This week	Last week	2015	2014	2013	2014	2013
Enteric Diseases	Cryptosporidiosis	32	32	384	171	646	429	1132
	Giardiasis	89	99	1148	1001	779	2942	2242
	Haemolytic Uremic Syndrome	1	0	2	4	6	7	10
	Hepatitis A	3	2	38	32	31	80	62
	Listeriosis	1	1	8	9	18	23	33
	Rotavirus	4	5	106	107	140	714	508
	STEC/VTEC	1	0	8	19	12	31	24
	Salmonellosis	86	89	1681	1738	1345	4305	3483
	Shigellosis	3	3	57	99	44	210	136
Respiratory Diseases	Influenza	81	102	1110	886	481	20888	8403
	Legionellosis	1	1	25	24	26	72	109
	Tuberculosis	2	3	84	123	120	472	444
Sexually Transmissible Infections	Chlamydia	347	483	6284	7039	6257	22900	21090
	Gonorrhoea	77	100	1471	1427	1331	4878	4267
Vaccine Preventable Diseases	Pertussis	130	170	1693	593	773	3051	2379
	Pneumococcal Disease (Invasive)	5	6	68	77	88	512	490
Vector Borne Diseases	Barmah Forest	16	16	78	67	153	163	438
	Dengue	5	2	115	147	81	379	303
	Malaria	2	0	13	29	29	87	93
	Ross River	91	116	925	141	150	677	512
Zoonotic	Q fever	1	0	46	64	49	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.
- 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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