Communicable Diseases Weekly Report

Week 23, 6 June to 12 June 2016

In summary, we report:

- Preparing for the Rio Olympics (and other destinations) – timing is everything for safe travel
- STEC infection – three new cases notified
- Summary of notifiable conditions activity in NSW

For further information on infectious diseases on-line see NSW Health Infectious Diseases. Also see NSW Health Infectious Diseases Reports for links to other surveillance reports.

Preparing to stay healthy when travelling overseas

Many people are now preparing to travel to Brazil to watch the Olympic Games, while others will be planning travel to other warmer destinations during the school holidays, such as Bali or Pacific islands. While recent attention has focused on the risk of Zika virus infection in some parts of the world, it is important to remember that there is a wide range of communicable disease risks to consider and prepare for prior to travelling overseas.

Due to the confirmed role of Zika virus causing congenital abnormalities in foetuses of some women infected during pregnancy, all pregnant women are advised to not travel to areas with active Zika virus transmission. Further, all travellers to Zika affected areas are advised to take measures to avoid mosquito bites and practice safe sex (use of condoms for vaginal, anal or oral sex, or abstinence) both during and after travel. As of 2 June, 10 countries had reported 22 instances of sexual transmission of Zika virus infection following return of travellers from Zika-affected countries. The Australian Department of Health maintains a list of current Zika virus affected countries.

People intending to travel overseas should make an appointment to see their General Practitioner or travel doctor 6-8 weeks before the departure date. This gives an opportunity to discuss general health and allows enough time to have vaccinations related to the trip, including boosters for routine vaccinations and special vaccinations for particular destinations, and for malaria prophylaxis to be commenced if recommended.

Common infections acquired by travellers include those that follow ingestion of contaminated food, water or other drinks. Most of these are diarrhoeal diseases due to a range of gut pathogens but infections such as hepatitis A and typhoid fever are also acquired this way. Vaccines against hepatitis A, typhoid and cholera are available but these don't cancel the need for food safety precautions.

Mosquito-borne infections, such as malaria, dengue, and Zika virus, are important causes of fever in Australian travellers returning from areas where these infections are prevalent. Yellow fever occurs only in parts of Africa and Central and South America, while tick-borne encephalitis occurs in parts of Europe and Asia. Japanese encephalitis is found in rural areas of Asia, particularly near rice paddies. Trypanosomiasis is a parasitic disease transmitted by the bite of tsetse flies in sub-Saharan Africa or 'kissing bugs' in Latin America, including Brazil. Make sure you pack an effective insect repellent if you are travelling to any regions where these infections circulate.

Vaccines are available for protection against yellow fever and Japanese encephalitis. Prophylactic antibiotics to protect against malaria often needed to be started several weeks prior to travel. Other supplies to help prevent mosquito bites, such as bed-nets may also need to be purchased.

Yellow fever vaccination is required for travellers who have never been vaccinated for yellow fever and who intend to travel to countries where there is a risk of transmission. Yellow fever vaccinations must be provided by an approved yellow fever vaccination clinic. These clinics will provide a vaccination certificate in the form approved by the World Health Organization (WHO), and completed according to WHO requirements. WHO now advises that a single dose of yellow fever vaccine provides life-long immunity to the disease. With the commencement of the

Biosecurity Act 2015 on 16 June 2016, yellow fever vaccination certificates are now considered valid for life.

Vaccine-preventable infections such as influenza, meningococcal disease, measles, mumps and varicella (Chickenpox) are a risk for travellers and can be prevented through routine vaccinations. Tuberculosis is a rare infection in travellers, but is a significant risk for expatriates who live in endemic areas for long periods.

Blood-borne and sexually transmitted infections, such as hepatitis B, hepatitis C and human immunodeficiency virus (HIV), may pose a threat to some Australian travellers. Travellers may also be put at risk in some parts of the world where health care has less stringent infection control practices and non-sterile medical equipment is used. Hepatitis B vaccination will be relevant for many travellers.

Travellers may be exposed to a variety of other exotic infectious agents, such as rabies (from bites or scratches from rabid dogs and other land-based mammals in many countries), schistosomiasis (from exposure to water infested with the parasites, in Africa in particular), and leptospirosis (through activities like rafting or wading in contaminated streams), . Of these, only rabies can be prevented by vaccination.

Further information on safe travel and travel precautions is available from the NSW Health factsheets Staying healthy when travelling overseas and Mosquitoes are a health hazard.

For more information of specific infections, see the NSW Health Communicable Disease factsheets website.

There are several websites with reliable up-to-date information on risks to health in the countries you are planning to visit:

- The Australian Department of Health website has a range of important information for Australian travellers, including information on Zika virus and yellow fever, including current yellow fever vaccination requirements.
- The Australian Immunisation Handbook provides specific advice on vaccination for international travel.
- The Australian Government Smartraveller website has general information on health as well as areas where travel may be dangerous. This site also allows you to register your trip in case of an emergency while you are overseas.
- The US Centers for Disease Control and Prevention (CDC) travel website has country-specific and disease-specific advice for travellers as well as for health professionals.

Shiga Toxigenic Escherichia coli (STEC) Infection

There were three cases of Shiga toxigenic *Escherichia coli* (STEC) reported this week (Table 1). The affected cases were all locally acquired with no travel history, and included a child and two adults. None of the cases appear related. One case was from metropolitan Sydney and had no high-risk contacts identified. The other two cases were from regional NSW, with one person reporting recent contact with farm animals. Two of the cases have been confirmed as from the O157 serogroup while further laboratory characterisation is pending for the third case.

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 may cause bleeding in the gut so people with STEC gastroenteritis often have diarrhoea containing blood. STEC infections are also a cause of haemolytic uremic syndrome (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 may 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 or 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 NSW Health on STEC and HUS and STEC notification data.

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 6 to 12 June 2016, by date received

		Weekly		Year to date			Full Year	
		This week	Last week	2016	2015	2014	2015	2014
Enteric Diseases	Cryptosporidiosis	29	21	684	572	236	1038	429
	Giardiasis	79	60	1948	1758	1472	3415	2942
	Listeriosis	1	2	23	13	15	26	23
	Rotavirus	8	4	228	158	167	1036	714
	STEC/VTEC	3	1	21	11	23	29	31
	Salmonellosis	63	76	2544	2335	2448	4045	4275
	Shigellosis	11	4	140	73	114	172	212
Respiratory Diseases	Influenza	233	197	3479	2008	1315	30302	20888
	Legionellosis	1	0	64	50	36	96	72
	Tuberculosis	7	7	196	186	188	445	475
Sexually Transmissible Infections	Chlamydia	453	465	11598	10211	10522	22549	22900
	Gonorrhoea	101	115	2910	2336	2205	5402	4877
Vaccine Preventable Diseases	Adverse Event Following Immunisation	7	3	119	92	153	182	256
	Meningococcal Disease	1	1	23	16	14	46	37
	Pertussis	158	183	5250	2957	834	12079	3051
	Pneumococcal Disease (Invasive)	9	15	171	151	141	494	511
Vector Borne Diseases	Dengue	6	8	246	173	222	342	378
	Malaria	1	1	22	19	46	47	87
	Ross River	8	6	309	1243	289	1638	673
Zoonotic Diseases	Brucellosis	1	0	4	4	1	10	3

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.