

Communicable Diseases Weekly Report

Week 6, 2 to 8 February 2015

In summary, we report:

- [Diphtheria](#) – one cutaneous case acquired in Fiji
- [Japanese encephalitis](#) – one new case acquired in Indonesia
- [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.

Diphtheria

A case of cutaneous diphtheria was reported this week in a teenager who developed small boils on his foot while on holiday in Fiji. A swab of the wound grew toxin-producing *Corynebacterium diphtheriae*. The vaccination status of the teenager could not be confirmed. The case was treated with antibiotics and vaccinated. The local public health unit have followed up with the individual's family and close contacts and arranged testing, antibiotic treatment and vaccination, as indicated. Although of public health interest, it does not meet the full case definition, and so is absent as a notification in Table 1.

Diphtheria is a contagious and potentially life-threatening bacterial infection caused by toxin-producing strains of *Corynebacterium diphtheriae*. Diphtheria was a common cause of death in children up until the 1940s but now has almost disappeared in Australia due to immunisation.

Respiratory diphtheria occurs when toxigenic *Corynebacterium diphtheriae* infect the back of the throat. The first symptoms are a sore throat, loss of appetite and a mild fever. In two to three days, a membrane forms over the throat and tonsils that makes swallowing and breathing difficult. The lymph glands and tissues on both sides of the neck become swollen ("bull neck"). The toxin formed by the diphtheria bacteria can cause inflammation of heart muscle and nerves that can be fatal, with death occurring in 5-10% of cases.

Corynebacterium diphtheriae bacteria can also cause skin infections resulting in a poorly healing ulcer. Not all strains of *Corynebacterium diphtheriae* produce the toxin, and public health units receive notifications of skin infections caused by non-toxigenic *Corynebacterium diphtheriae* acquired in Australia from time to time. Skin infections caused by toxin-producing strains are potentially serious in unvaccinated people because of the effects of the toxin on the heart and nervous system. Cutaneous diphtheria is more common in the tropics than in areas where the climate is more temperate.

Diphtheria is usually spread by close contact with an infected person via droplets from the nose or throat, or contact with infected skin sores. It has also been associated with consumption of unpasteurised milk. Symptoms usually begin about two to five days after exposure to the bacteria. After receiving appropriate antibiotic treatment a person is considered non-infectious. Without antibiotics, infected people are usually infectious for two weeks from the onset of symptoms, and rarely for longer periods up to six months. Some strains of *Corynebacterium diphtheriae* are resistant to some antibiotics, so bacteria causing disease should always be tested for antibiotic resistance.

Diphtheria is prevented by vaccination. The vaccine induces antibodies to the toxin, preventing the toxic effects of infection. High levels of diphtheria vaccination result in excellent herd immunity protecting the whole community. Outbreaks of respiratory diphtheria do occur in countries with low vaccination coverage; between 1990 and 1997 there were 150,000 cases and 5,000 deaths due to diphtheria reported in Russia, countries of the former Soviet Union and Mongolia.

Diphtheria vaccine is on the National Immunisation Program vaccination schedule and a primary course is given in a combination vaccine at ages 6-8 weeks, 4 months, and 6 months, with a booster at four years and another in the first year of high school. Adults should receive a booster at 50 years of age, and prior to travel to some countries (particularly South East Asia, Papua New Guinea, the states of the former Soviet Union, Baltic countries or eastern European countries) if more than 10 years have elapsed since their last dose of diphtheria vaccine.

The occurrence of a case of diphtheria is an urgent public health priority and should be notified to the local public health unit. For more information see the NSW Health diphtheria [Factsheet](#) and [Control Guidelines](#)

Follow the links for further information on [diphtheria notifications](#) and [diphtheria vaccination](#).

[Back to top](#)

Japanese encephalitis

One new cases of Japanese encephalitis (JE) was reported this reporting week (Table 1). The case was in an international traveller who had spent one month in Indonesia at locations in and around the island of Bali (Kuta, Canggu, Ubud, Nusa Lembongan, and Gili Trawangan) prior to the onset of symptoms. The case had not been immunised against JE and had a severe illness requiring hospitalisation.

This case follows the recent report of a case of Japanese encephalitis in a Victorian resident thought to have been acquired in Bali, Indonesia (see the ProMED mail report:

<http://www.promedmail.org/direct.php?id=20150210.3158049>)

Japanese encephalitis (JE) is a rare disease caused by the Japanese encephalitis virus. It is spread to humans by infected mosquitoes. The majority of JE infections in people cause no symptoms. Some infected people experience a mild illness with fever and headache. Those with a severe infection may experience neck stiffness, disorientation, tremors, coma, convulsions (especially in children) and paralysis. JE can cause permanent neurological complications or death.

JE is spread by the bite of infected mosquitoes. Certain types of mosquitoes can become infected with JE. When symptoms occur they usually develop 5 to 15 days after being bitten by infected mosquitoes. Humans are not able to pass the virus to other humans.

JE occurs throughout most of Asia and parts of the western Pacific. Transmission primarily takes place in rural agricultural areas, often associated with rice cultivation and flooding irrigation. For most travellers the risk of acquiring JE is very low. People at the greatest risk of becoming infected are those who are staying more than a month in rural areas in countries where the disease is endemic or in some of the Torres Strait Islands.

Avoid being bitten by mosquitoes. Mosquitoes that carry the JE virus (and other serious infections such as dengue and chikungunya) are most active in the hours after sunset and again around dawn but can bite throughout the day.

- When outside cover up as much as possible with light-coloured, loose-fitting clothing and covered footwear.
- Use an effective repellent on all exposed skin. Re-apply repellent within a few hours, according to instructions, as protection wears off from perspiration, particularly on hot nights or during exercise. The best mosquito repellents contain Diethyl Toluamide (DEET) or Picaridin. Botanical based products (e.g. Eucalyptus, Citronella) provide only limited periods of protection.
- The stronger the concentration of an insect repellent, the less frequently it will need to be applied to stop mosquito bites. Repellents containing low concentrations of DEET or Picaridin provide shorter periods of protection and need to be reapplied more frequently so it is important to read the product information.
- Cover your clothes with repellent as mosquitoes can bite through material, but be careful, some repellents stain clothes.
- Topical repellents are not recommended for use on children under 3 months. Use of physical barriers such as netting of prams, cots and play areas is preferred. Repellents containing less than 10% DEET or Picaridin are safe for older children if applied according to instructions. Parents or carers should apply repellent.
- 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.
- Use mosquito coils outdoors and use vaporising mats indoors. Note, however, that devices that use light to attract and electrocute insects have not been proved to be effective in reducing mosquito numbers.
- Cover all windows, doors, chimneys, vents and other entrances with insect screens.
- Sleep under mosquito bed nets at night.
- When camping, use flyscreens on caravans and tents or sleep under mosquito nets.

Two JE vaccines are available but these are usually only recommended for travellers intending to spend one month or more in rural areas in countries where the disease is endemic or in some of the Torres Strait Islands. For more information on JE vaccines and recommendations for travellers see the Australian Immunisation Handbook (10th Edition) online at:

<http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/Handbook10-home>

[Back to top](#)

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 2 to 8 February 2015, by date received*

		Weekly		Year to date			Full Year	
		This week	Last week	2015	2014	2013	2014	2013
Enteric Diseases	Cryptosporidiosis	28	30	114	97	210	427	1132
	Giardiasis	86	80	439	341	328	2938	2242
	Hepatitis A	2	3	9	14	14	79	62
	Hepatitis E	1	0	2	2	4	36	16
	Listeriosis	1	1	3	5	11	23	33
	Rotavirus	6	4	54	50	84	709	508
	STEC/VTEC	1	0	3	14	6	31	24
	Salmonellosis	156	158	798	765	712	4296	3483
	Shigellosis	5	7	28	49	18	207	136
Respiratory Diseases	Influenza	73	81	402	446	204	20750	8403
	Legionellosis	4	1	14	8	12	73	108
	Tuberculosis	5	5	25	60	53	462	438
Sexually Transmissible Infections	Chlamydia	506	504	2677	3159	2933	22884	21089
	Gonorrhoea	98	127	602	691	607	4863	4267
	LGV	1	2	6	1	4	14	29
Vaccine Preventable Diseases	Adverse Event Following Immunisation	1	0	10	28	48	246	509
	Mumps	2	3	7	16	11	80	89
	Pertussis	151	157	717	318	462	3029	2378
	Pneumococcal Disease (Invasive)	4	1	30	28	49	509	490
	Rubella	1	0	1	2	0	10	12
Vector Borne Diseases	Barmah Forest	8	1	14	29	68	163	438
	Chikungunya	1	2	6	2	2	27	22
	Dengue	6	14	42	64	43	376	303
	Japanese Encephalitis	1	0	1	0	0	0	0
	Malaria	4	0	6	13	17	87	93
	Ross River	72	35	222	53	75	680	512
Zoonotic	Q fever	3	0	16	44	27	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.

[Back to top](#)