# Communicable Diseases Weekly Report

## Week 44, 29 October to 4 November 2017

In summary, we report:

- *Haemophilus influenzae* type b – infant death
- Dengue – five cases reported
- Hepatitis A – five cases reported
- Summary of notifiable conditions activity in NSW

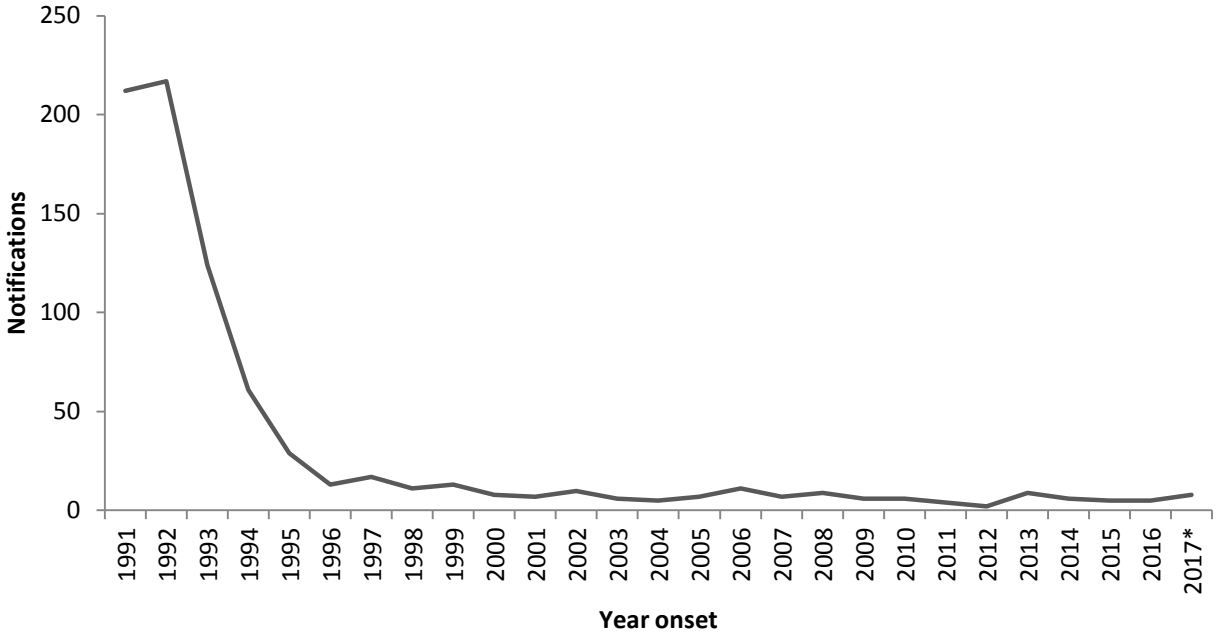
For further information see NSW Health infectious diseases page. This includes links to other NSW Health infectious disease surveillance reports and a diseases data page for a range of notifiable infectious diseases.

## *Haemophilus influenzae* type b

There was one new case of invasive *Haemophilus influenzae* type b (Hib) disease reported this week (Table 1) in an infant who was too young to have received the full Hib vaccine course, which requires four doses (received at 6 weeks and 4, 6 and 12 months) to give optimal protection. Unfortunately, despite extensive efforts, the infant did not respond to treatment and died. Contacts of the infant have been followed up by the public health unit, however none required clearance antibiotics.

This is the eighth notification of invasive Hib disease to date this year in NSW, and the second death from the disease. Hib notifications are now rare in NSW, with notifications dramatically declining following the addition of Hib vaccine onto the childhood vaccination schedule in 1993. Notifications of Hib in NSW have declined from 212 in 1991 to an average of five per year in the last five years (Figure 1). This pattern has been seen nationally with a 95 % reduction in notifications across Australia since 1993. Although there has been an increase in the number and severity of cases seen in 2017, there is no relationship between the cases by age or location, with as many cases notified in adults as in children.

**Figure 1. Number of Hib notifications by year of onset in NSW, 1991 - 4 November 2017**




Hib disease is caused by infection with *Haemophilus influenza*e type b bacteria. The organism can be carried asymptomatically in the back of the nose and throat. Hib is predominantly transmitted from asymptomatic carriers by direct contact with respiratory droplets or discharges from the nose and throat. It can also rarely be transmitted from people with Hib disease. Hib does not survive in the environment living only in human hosts.

Invasive Hib disease is a serious disease and can be fatal despite treatment. Prior to implementation of the Hib vaccination program, Hib was the commonest cause of meningitis in Australia, predominantly causing disease in children aged less than five years, and also caused epiglottitis (infection of the epiglottis, resulting in obstruction of the airway) in this age group.

Rarely, both before and since routine childhood Hib vaccination, invasive Hib disease occurs in older children, adolescents and adults.

Hib vaccine is recommended in NSW for all infants at six weeks, four, six and twelve months of age and is provided as part of free routine immunisation in combination with other vaccines due at those ages.

Follow the links for further information on Haemophilus influenzae type b and vaccination.

Further information is available from NSW Health.

## Dengue

There were five new cases of dengue notified this week (Table 1). Three of these cases were in people who became infected during travel in India, a country where dengue is endemic and where a large increase in dengue activity in 2016 and 2017 has been reported.

Of the 234 dengue cases reported so far in NSW in 2017 (by onset date), the most common countries where the infection has been acquired are Indonesia (17.5%), India (14.5%), Vanuatu (14.1%), Thailand (12.0%) and Sri Lanka (10.3%).

Dengue is usually spread by one of two types of mosquito: the ‘yellow fever’ or ‘dengue mosquito’ (Aedes aegypti) and the ‘Asian tiger mosquito’ (Aedes albopictus). These mosquitoes become infected when they feed on someone who has the dengue virus in their bloodstream. Once the mosquito is infected, the virus multiplies inside the mosquito over several days and can infect other people when the mosquito feeds again.

Dengue usually presents with severe flu-like symptoms. Symptoms usually begin 4 to 7 days (range 3 to 14 days) after being bitten by an infected mosquito, and include sudden fever, chills, severe headache with pain behind the eyes, swollen glands, muscle and joint pain and extreme fatigue. There may also be abdominal pain, nausea and vomiting. A faint red rash sometimes develops on the upper body around the third day. The fever typically lasts around 6 days. Severe dengue is a rare but potentially deadly complication characterised by bleeding and/or circulatory collapse. A blood test is required to correctly diagnose dengue and distinguish it from other similar mosquito-borne infections.

People who travel to dengue-affected areas are at risk. Affected areas include many countries in Asia, the Pacific, Latin America and the Caribbean, and parts of sub-Saharan Africa and the Middle East. For a map showing areas where dengue is likely to be present see the HealthMap - dengue site.

There are currently no vaccines available in Australia against dengue. Travellers to affected areas should avoid being bitten by mosquitoes. Peak biting activity of the dengue mosquito is during daylight hours; they will often enter buildings and hide in dark places such as under furniture. They tend to bite around the feet and ankles, and the bites often go unnoticed.

Travellers to dengue-affected areas should stay in accommodation with screened windows and doors and wear light-coloured clothing that covers the arms and legs. Travellers should apply insect repellent containing DEET or picaridin to exposed skin, and re-apply during the day according to the manufacturer's instructions. Repellents containing oil of lemon eucalyptus (OLE) or para menthane diol (PMD) also provide adequate protection.

Travellers, particularly pregnant women and couples planning pregnancy, should also be aware of the risk of Zika virus, another mosquito-borne infection related to dengue. For specific advice on Zika virus see the NSW Health Zika virus information page.

For additional advice on steps to avoid being bitten by mosquitoes see the Mosquitoes are a Health Hazard Factsheet.

Follow the link for further information on dengue notifications in NSW residents and a dengue fact sheet.

## Hepatitis A

Four new cases of hepatitis A infection were reported this week (Table 1). All infections were in adults and acquired overseas (one in France, one in Nepal, and two in Bangladesh). This continues the above-average number of hepatitis A notifications since July this year, compared to the average of three hepatitis A cases reported in NSW per month.

The Sydney hepatitis A outbreak remains at 29 cases notified since July 25 2017. Molecular typing of the viruses isolated from 27 of these cases has shown that they share an identical common partial genome sequence, and molecular typing is pending on two cases. Twenty-eight of the cases are in males, and most are residents of Sydney.

The molecular typing of hepatitis A viruses in this cluster shows they are very similar to a strain currently circulating in Europe associated with a large, multi-country outbreak. Since June 2016, 1,500 confirmed hepatitis A cases and 2,660 probable or suspected cases have been reported in Europe, predominantly among MSM (see the ECDC report).

It is suspected that the earlier cases and some of the later cases have been exposed to a common source as they share overlapping incubation periods. Secondary cases have also been identified, with evidence that some infections have been transmitted from person to person. Men who engage in sexual activity with other men (MSM) are being reminded to get vaccinated as anal sex and oral-anal sex have been identified as risk factors for infection (see media release). Despite extensive investigation, to date no food item or other possible exposure has been found in common with all the cases. NSW public health units are continuing to investigate possible sources of infection in conjunction with the NSW Food Authority (see the related media release).

Hepatitis A is a viral infection of the liver. Symptoms include feeling unwell, lack of appetite, aches and pains, fever, nausea, and abdominal discomfort, followed by dark urine, pale stools and jaundice (yellowing of the skin and eyes). The illness usually lasts from one to three weeks. People who experience these symptoms are advised to see their GP.

Infected people can transmit the virus to others from two weeks before the development of symptoms until one week after the appearance of jaundice. The virus is spread by the faecal-oral route, including through the consumption of contaminated food or water or by direct contact with an infected person. While infectious, people diagnosed with hepatitis A should avoid preparing food or drink for other people, sharing utensils or towels, or having sex for at least one week after onset of jaundice.

There is no specific treatment for hepatitis A and people sometimes require hospitalisation for supportive care. A safe and effective vaccine is available, with two doses spaced at least six months apart shown to provide high levels of protection against infection for many years. Hepatitis A vaccination is routinely recommended for people at higher risk of infection and those who are at increased risk of severe liver disease. These include travellers to countries where hepatitis A is common (most developing countries), some occupational groups, men who have sex with men, people with developmental disabilities and people with chronic liver disease.

People exposed to hepatitis A can be protected from developing the disease if they receive the vaccine or protective antibodies within two weeks of exposure.

Follow the links for NSW Health hepatitis A notification data and the NSW Health hepatitis A fact sheet.

## 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 29 October – 4 November 2017, by date received***

| | | Weekly | | Year to date | | | Full Year | |
|---|---|---|---|---|---|---|---|---|
| | | This week | Last week | 2017 | 2016 | 2015 | 2016 | 2015 |
| Bloodborne Diseases | Hepatitis C - Newly Acquired | 3 | 0 | 33 | 24 | 27 | 25 | 29 |
| | Hepatitis D | 1 | 1 | 16 | 16 | 8 | 20 | 9 |
| Enteric Diseases | Cryptosporidiosis | 8 | 8 | 1182 | 918 | 756 | 1184 | 1040 |
| | Giardiasis | 58 | 47 | 2623 | 3060 | 2923 | 3480 | 3413 |
| | Hepatitis A | 4 | 0 | 57 | 34 | 67 | 41 | 72 |
| | Listeriosis | 1 | 0 | 15 | 32 | 22 | 36 | 26 |
| | Rotavirus | 73 | 61 | 1914 | 523 | 838 | 750 | 1033 |
| | STEC/VTEC | 1 | 0 | 45 | 43 | 18 | 65 | 29 |
| | Salmonellosis | 67 | 78 | 3191 | 3904 | 3424 | 4544 | 4022 |
| | Shigellosis | 5 | 3 | 195 | 261 | 149 | 310 | 172 |
| | Typhoid | 1 | 0 | 49 | 32 | 38 | 37 | 41 |
| Other Diseases | Acute Rheumatic Fever | 1 | 0 | 14 | 12 | 3 | 14 | 4 |
| Respiratory Diseases | Influenza | 378 | 481 | 102720 | 34174 | 29898 | 35540 | 30295 |
| | Legionellosis | 4 | 1 | 112 | 109 | 86 | 134 | 96 |
| | Tuberculosis | 15 | 4 | 413 | 444 | 374 | 534 | 445 |
| Sexually Transmissible Infections | Chlamydia | 535 | 590 | 24210 | 22192 | 19299 | 25994 | 22525 |
| | Gonorrhoea | 154 | 171 | 7812 | 5904 | 4630 | 7004 | 5395 |
| Vaccine Preventable Diseases | Adverse Event Following Immunisation | 2 | 4 | 245 | 227 | 166 | 258 | 186 |
| | Haemophilus influenzae type b | 1 | 0 | 8 | 4 | 5 | 5 | 5 |
| | Meningococcal Disease | 2 | 3 | 81 | 62 | 40 | 70 | 46 |
| | Mumps | 3 | 5 | 98 | 56 | 48 | 67 | 65 |
| | Pertussis | 85 | 95 | 4699 | 9224 | 8698 | 10956 | 12078 |
| | Pneumococcal Disease (Invasive) | 17 | 17 | 613 | 473 | 448 | 544 | 494 |
| Vector Borne Diseases | Barmah Forest | 1 | 1 | 97 | 30 | 175 | 35 | 184 |
| | Chikungunya | 1 | 1 | 31 | 24 | 38 | 39 | 38 |
| | Dengue | 5 | 6 | 239 | 413 | 288 | 481 | 344 |
| | Malaria | 3 | 1 | 65 | 48 | 38 | 59 | 47 |
| | Ross River | 11 | 16 | 1475 | 392 | 1521 | 542 | 1635 |

*** 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 chronic blood-borne virus case reports are not included here but are available from the Infectious Diseases Data webpage.