# Communicable Diseases Weekly Report

## Week 20, 16 to 22 May 2016

In summary, we report:

- Invasive meningococcal disease – two new cases
- Shigellosis – increase in locally acquired infections
- Legionnaires' disease
- 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.*

## Invasive meningococcal disease

Two cases of invasive meningococcal disease (IMD) were notified this reporting week (Table 1). One case was an adolescent in Northern Sydney Local Health District (LHD). The other was an adult from Murrumbidgee LHD, who sadly died from the condition. There were no links between the cases. Local public health units have identified close contacts for information and clearance antibiotics, as appropriate. The case from Murrumbidgee LHD was caused by serogroup W and the case from Northern Sydney LHD was caused by serogroup Y.

A total of 21 cases of IMD have been reported so far in 2016 (based on onset date), including four people who died from their infection. In the same period of 2015 there were 13 cases notified. Cases in 2016 have occurred in both adults and children with an age range of 0 to 88 years. Meningococcal serogroup information is available for 19 of the cases in 2016, with seven cases caused by serogroup B, seven by serogroup W, four by serogroup Y, and one by serogroup C.

IMD is caused by infection with the bacterium *Neisseria meningitidis*. The bacteria are spread through direct contact of mucous membranes with the organism, such as exposure to respiratory droplets from the nose and throat of an infected person. Contact may result in the bacteria becoming established and reproducing in the throat of the exposed person; in most people this does not cause any symptoms. In only a very small proportion of people, the bacteria may spread from the throat to other parts of the body, causing disease. Disease is typically meningitis (infection of the lining of the brain), septicaemia (infection of the blood) or both. Up to 10 per cent of invasive meningococcal infections are fatal even with appropriate antibiotic treatment, and survivors may be left with long-term complications.

There are several serogroups of *Neisseria meningitidis* which cause invasive disease. Vaccination against meningococcal C infection is included in the national immunisation schedule at 12 months of age. Combined vaccines against the A, C, Y and W serogroups are generally only recommended for travellers to countries where these strains are more common, and for some people with certain high risk conditions that predispose them to developing IMD such as people without a spleen. A vaccine against some serogroup B strains has recently become available in Australia; it is recommended for young children and adolescents but is not part of the National Immunisation Program.

Follow the links for more information on meningococcal disease and vaccination.

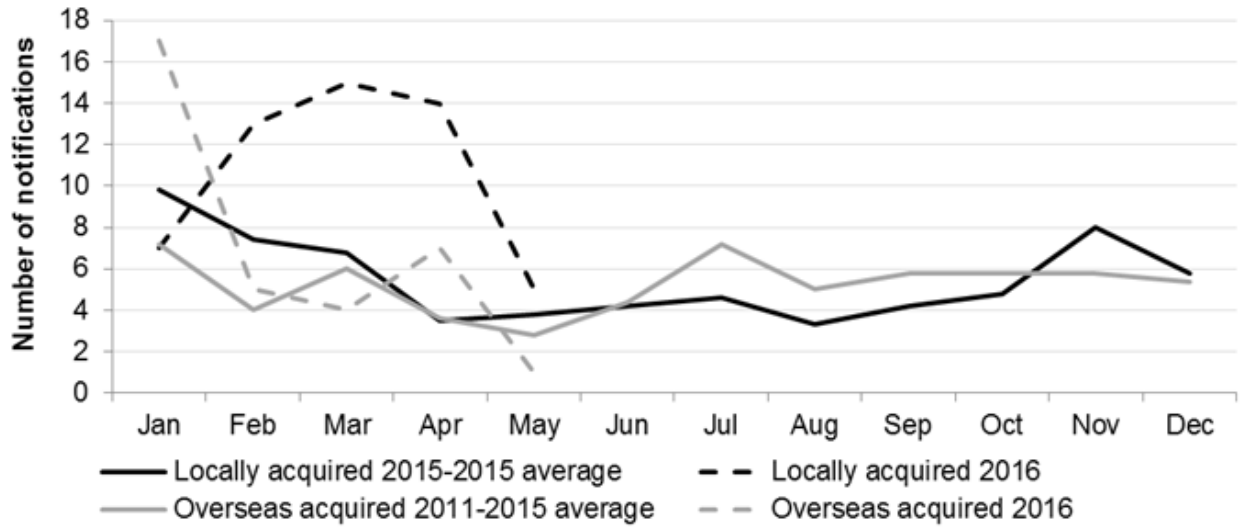
## Shigellosis

There were seven notifications of shigellosis reported this week (Table 1). Three are yet to be interviewed, three were likely acquired locally from male to male sexual contact and one was likely acquired from a household contact with a similar illness. All cases are *Shigella sonnei*; four are biotype G, and the other three are yet to be biotyped.

Shigellosis notifications are the highest year to date in 2016 since notifications began in 2001. In 2016, there has been an average of 25 cases per month (compared to 14 as the 5-year average

monthly count for the same period). In January there were more notifications of overseas acquired infections than in previous years while in February to May the increase was due to a higher number of locally acquired infections (Figure 1).

**Figure 1. Shigellosis notifications by month and place of acquisition**




Shigellosis is a diarrhoeal disease caused by *Shigella* bacteria. Symptoms include diarrhoea (often containing blood and mucous), fever, nausea, vomiting and abdominal cramps. The symptoms usually begin around one to three days after exposure.

*Shigella* infection spreads easily from person to person by the faecal-oral route. Ingestion of only a small number of organisms is sufficient to result in infection. Shigellosis can be prevented by thorough hand washing after any possible exposures to human faecal material, including after toileting, changing nappies and sexual activity. People who have shigellosis should not have sex where there is any contact with the anus, to avoid transmitting *Shigella* bacteria to the mouth of their sexual partner.

People with shigellosis should not go to work or school until their diarrhoea has stopped. Children in child care should be excluded until their diarrhoea has ceased for 24 hours. People who are food handlers, or care for patients, children or the elderly should not attend work until 48 hours after their symptoms have resolved.

Follow the links for further information on shigellosis and *Shigella* notifications.

## Legionnaires' disease

There were seven cases of Legionnaires' disease reported over the last two weeks. The Sydney Local Health District (LHD) Public Health Unit have initiated an outbreak investigation as four of the cases were in people who had been in the Burwood or Concord areas during their exposure period. Another case who had also been in the same areas had been reported a week earlier, this case sadly passed away. All infections were caused by *Legionella pneumophila* serogroup 1 (LP1) strain. Four of the five cases were men, and all were aged between 50 and 90 years. Most reported either smoking or significant underlying health conditions which predispose to *Legionella* infection. All cases were hospitalised; but have since been discharged.

An environmental investigation is underway to identify environmental sources of *Legionella pneumophila* bacteria, such as cooling towers and water fountains, in the areas where the cases had been during their exposure period. All owners and operators of cooling towers in the Burwood and Concord areas were requested to immediately check the tower plant maintenance and disinfection. Field teams of environmental health officers from public health and the Burwood and

Concord local councils have conducted inspections and testing of cooling towers and other possible sources, and ordered remedial actions to be undertaken where required.

The public health unit is continuing to undertake active surveillance. No further cases have been identified.

In addition to the Burwood outbreak, a further three *L. pneumophila* serogroup 1 cases have been recently reported. The relevant public health units are investigating these cases for potential exposure sources.

Legionellosis is a type of pneumonia and the symptoms include fever, chills, cough and shortness of breath. Some people also have muscle aches, headache, tiredness, loss of appetite and diarrhoea. Risk factors for legionellosis include increasing age (most cases are aged over 50 years), smoking, and immunosuppression as a result of chronic medical conditions, cancer or taking high dose corticosteroids. People with legionellosis often have severe symptoms and infection is associated with a 10–15% mortality rate.

Legionellosis is caused by *Legionella* bacteria. There are around 50 different species of *Legionella* bacteria, but most infections in NSW are caused by *L. pneumophila* or *L. longbeachae*.

Legionellosis is not spread from person to person, but can occur from inhaling contaminated water aerosols or dust.

*L. longbeachae* is found in potting mix, compost and soils and infection is associated with gardening and the use of potting mix. To prevent legionellosis it is recommended that people handling potting mix wet the mix beforehand to reduce dust, wear gloves and a mask and wash their hands after handling potting mix or soil.

*L. pneumophila* is found in water and can contaminate air conditioning cooling towers, spas, plumbing systems and other bodies of warm water. Outbreaks are sometimes associated with contaminated cooling towers that are part of air conditioning systems in large buildings. Regular inspection, disinfection and maintenance of cooling towers and plumbing systems limit the growth of the bacteria and prevent outbreaks of Legionnaires' disease.

The NSW *Public Health Act 2010* and the *Public Health Regulation 2012* control various man-made environments and systems which are conducive to the growth of *Legionella* bacteria and which are capable, under the right conditions, of transmitting legionellosis. Follow the link for more information on the regulatory control of Legionnaires' disease.

Follow the links for more information on Legionnaires' disease and on notifications of Legionnaires' disease.

## 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 16 to 22 May 2016, by date received**

| | | Weekly | | Year to date | | | Full Year | |
|---|---|---|---|---|---|---|---|---|
| | | This week | Last week | 2016 | 2015 | 2014 | 2015 | 2014 |
| Enteric Diseases | Cryptosporidiosis | 20 | 26 | 614 | 538 | 217 | 1038 | 429 |
| | Giardiasis | 98 | 81 | 1724 | 1557 | 1284 | 3415 | 2942 |
| | Rotavirus | 7 | 6 | 199 | 133 | 142 | 1036 | 714 |
| | STEC/VTEC | 2 | 0 | 17 | 11 | 21 | 29 | 31 |
| | Salmonellosis | 84 | 84 | 2313 | 2156 | 2187 | 4045 | 4275 |
| | Shigellosis | 7 | 9 | 121 | 70 | 110 | 172 | 212 |
| | Typhoid | 1 | 0 | 24 | 22 | 21 | 41 | 44 |
| Respiratory Diseases | Influenza | 134 | 151 | 2759 | 1699 | 1129 | 30302 | 20888 |
| | Legionellosis | 3 | 4 | 59 | 40 | 34 | 96 | 72 |
| | Tuberculosis | 6 | 2 | 173 | 153 | 161 | 444 | 475 |
| Sexually Transmissible Infections | Chlamydia | 425 | 549 | 10144 | 8846 | 9189 | 22549 | 22900 |
| | Gonorrhoea | 73 | 148 | 2491 | 2050 | 1902 | 5402 | 4877 |
| Vaccine Preventable Diseases | Adverse Event Following Immunisation | 7 | 15 | 101 | 76 | 139 | 182 | 256 |
| | Meningococcal Disease | 2 | 2 | 21 | 13 | 14 | 46 | 37 |
| | Pertussis | 132 | 162 | 4754 | 2437 | 735 | 12079 | 3052 |
| | Pneumococcal Disease (Invasive) | 9 | 12 | 140 | 113 | 107 | 494 | 511 |
| Vector Borne Diseases | Barmah Forest | 2 | 1 | 16 | 127 | 98 | 185 | 163 |
| | Chikungunya | 1 | 0 | 8 | 23 | 8 | 37 | 27 |
| | Dengue | 5 | 14 | 220 | 154 | 188 | 341 | 378 |
| | Ross River | 6 | 11 | 285 | 1180 | 235 | 1638 | 673 |
| Zoonotic Diseases | Q fever | 2 | 2 | 90 | 92 | 74 | 267 | 190 |

**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.