Communicable Diseases Weekly Report

Week 32 3 August - 9 August 2015

In summary, we report:

- **Botulism** – one new suspected case
- **Invasive meningococcal disease** – higher number of cases to date than for 2014
- **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.

Botulism

A case of suspected botulism was reported this week. The case is an 83 year old female who presented with double vision, nausea, vomiting, and increasing weakness of the muscles in her face and limbs. Laboratory results are currently pending. Botulism antitoxin was sourced and administered. No 'typical' food or other high-risk sources were identified. Other diagnoses, including Guillain-Barré Syndrome, are also being considered.

Botulism, a rare but serious illness caused by toxins produced by the bacterium, *Clostridium botulinum*, has varying forms of illness which are classified according to transmission.

Intestinal (infant) botulism is the most common form of botulism and almost always occurs in babies under one year of age. It occurs when *Clostridium botulinum* spores found in dust, soil or raw honey are ingested and these spores hatch so that the bacteria grow inside the intestine and produce toxin. Older children and adults are not usually affected because they have natural defences in the gut to prevent production of the toxin. Intestinal botulism typically begins with constipation followed by lethargy, weakness, poor feeding, difficulty swallowing, loss of head control and hypotonia.

Foodborne botulism is caused by ingesting toxins produced in foods where: *Clostridium botulinum* is present; there is a low-acid, anaerobic environment that enables the bacteria to proliferate; and the food is then eaten without sufficient heating to destroy the toxin. High risk foods include inadequately processed meats, fish, vegetables or fruits such as home-canned or preserved foods.

Wound botulism is rare and occurs following contamination of a wound, generally from bacterial spores found in soil or gravel.

Inhalational botulism does not occur naturally but may result from accidental (e.g. laboratory exposure) or intentional (e.g. bioterrorism) events which result in aerosolisation of the toxin.

Foodborne, wound and inhalation botulism present similarly and may include marked lassitude, weakness and dizziness, usually followed by double vision, dry mouth and progressive difficulty in speaking and swallowing (cranial nerve involvement) and may progress to descending weakness or flaccid paralysis, with a case fatality rate of up to 10%.

Laboratory confirmation is important but should not delay treatment. Stool and serum samples should be collected for toxin detection and culture following discussions with a microbiologist. Botulinum antitoxin (ABE) is used for the treatment of foodborne or wound botulism in older children and adults and human-derived botulism immune globulin (BabyBIG®) is used for treatment of infant botulism.

Following a notification of a case of suspected botulism, public health units initiate an urgent response to confirm the clinical presentation, facilitate laboratory investigations, facilitate access to antitoxin or immune globulin as required, and identify and control likely sources to prevent further exposures. Where possible, samples of suspicious food items are collected for laboratory testing.

Botulinum toxin is the active ingredient in "Botox" commonly used in cosmetic procedures to cause paralysis of small muscles of the face to reduce wrinkling. It is also important in the treatment of some conditions where there is excessive spasticity of muscle groups such as in some forms of cerebral palsy.

Follow the links for further information on botulism and botulism notifications data.

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Invasive meningococcal disease

There were no new cases of invasive meningococcal disease in Week 32. However, there have been a total of 27 cases reported so far this year compared to 20 in the same period of 2014.

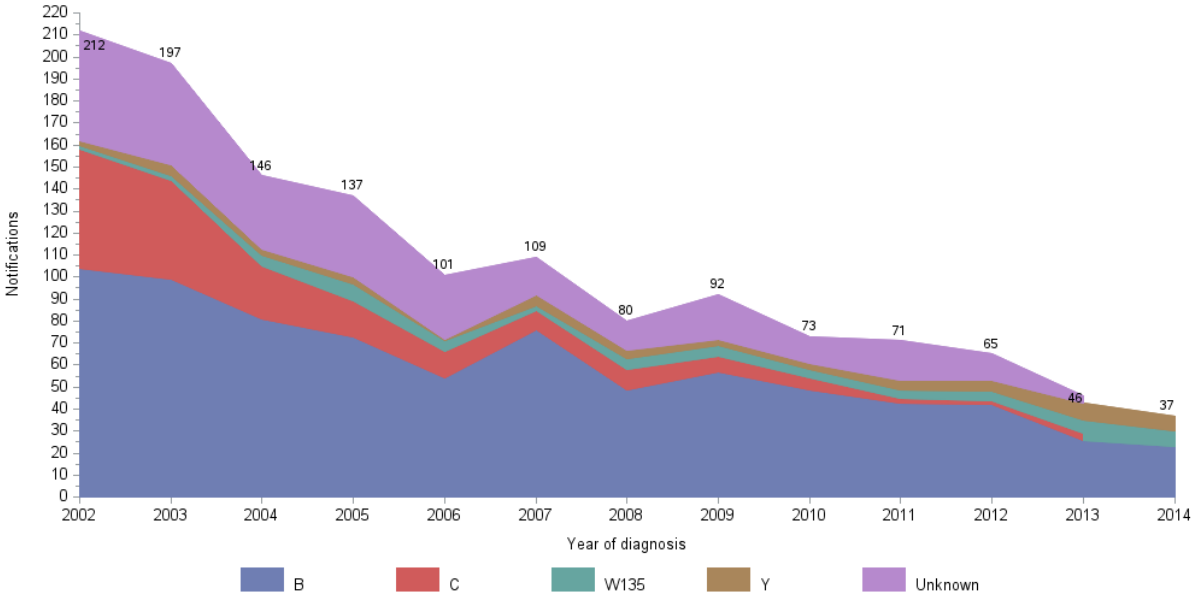
Invasive meningococcal disease (IMD) is caused by infection with the bacteria *Neisseria meningitidis* that typically results in meningitis, septicaemia or both. The infection is spread by droplets from the nose and throat and illness begins between one and ten days (usually three to four days) after exposure to the bacteria. Up to 15 per cent of IMD cases are fatal even with appropriate antibiotic treatment, and survivors are often left with long-term complications.

IMD is more common in younger age groups with peak incidence seen in the under 5 and 15-24 years age groups. Cases can also occur in older people where infection tends to be associated with higher mortality. In the past ten years there have been an average of seven cases per year in NSW affecting people aged over 65 years.

There are several serogroups of *Neisseria meningitidis* which cause invasive disease. Of the 22 IMD samples analysed in 2015, 17 were serogroup B, two were serogroup W135, two were serogroup Y, and only one was serogroup C. Vaccine against meningococcal C infection is included in the national immunisation schedule with vaccination due at 12 months of age. Combined vaccines against the A, C, Y and W135 serogroups are generally only recommended for travellers to countries where these 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.

There has been a sustained decline in serogroup C IMD (and serogroup B) meningococcal disease since the meningococcal C vaccine was added to the National Immunisation Program in 2003. Serogroup B notifications have also decreased during this period. Figure 1 shows IMD notifications broken down by serogroups between 2002 and 2014.

Figure 1: Invasive Meningococcal notifications and serogroup breakdown, by disease onset, between 2002 and 2014



Follow the links for further information on meningococcal disease, notifications and immunisation.

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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 3 August 2015 to 9 August 2015, by date received.

		Weekly		Year to date			Full Year	
		This week	Last week	2015	2014	2013	2014	2013
Enteric Diseases	Cryptosporidiosis	2	6	647	288	975	429	1132
	Giardiasis	43	50	2253	1940	1544	2942	2242
	Rotavirus	15	12	230	304	261	714	508
	Salmonellosis	46	46	2816	2989	2393	4302	3483
	Shigellosis	5	4	109	141	78	210	136
	Typhoid	1	0	29	31	43	44	58
Respiratory Diseases	Influenza	1471	959	7050	9295	2874	20888	8403
	Tuberculosis	1	5	237	279	258	473	443
Sexually Transmissible Infections	Chlamydia	330	372	13660	14802	13534	22897	21089
	Gonorrhoea	60	92	3156	3062	2786	4876	4265
Vaccine Preventable Diseases	Pertussis	239	240	4753	1291	1491	3051	2379
	Pneumococcal Disease (Invasive)	11	18	262	298	315	511	490
Vector Borne Diseases	Barmah Forest	3	2	153	130	311	163	438
	Dengue	1	4	209	301	202	378	303
	Ross River	12	21	1409	401	384	677	512
Zoonotic	Q fever	1	3	126	116	104	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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