

# Communicable Diseases Weekly Report

## Week 10, 7 March to 13 March 2021

In summary, we report:

- [Vaccine preventable diseases](#) – three new cases of vaccine-preventable invasive disease
- [Novel coronavirus 2019 \(COVID-19\)](#)
- [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.

## Vaccine preventable diseases

Three new cases of invasive disease due to vaccine preventable infections were notified in the last two reporting weeks. One case of invasive *Haemophilus influenzae* type b disease (Hib) was notified last reporting week ([CDWR Week 9](#)), and two cases of invasive meningococcal disease (IMD) were notified during this reporting week ([Table 1](#)).

The bacteria which cause IMD (*Neisseria meningitidis*) and Hib (*Haemophilus influenzae* type b) can both be carried asymptotically in the pharynx (back of the nose and throat). Asymptomatic carriage rates of *N. meningitidis* bacteria range from 3-25% of the population and is most common between ages 15 - 24 years. Carriage rates for *H. influenzae* bacteria are estimated to be much lower.

Both bacteria can be transmitted from asymptomatic carriers to other people through close or prolonged contact, such as among household members, or via intimate kissing. Transmission most commonly results in transient carriage and subsequent clearance of the bacteria. Occasionally, transmission will result in infection. If the bacteria enter a normally sterile site, such as the blood or cerebrospinal fluid, this is classified as an invasive infection.

Invasive infection is more likely to occur in the presence of bacterial capsules which increase the virulence (ability to cause disease) of the bacteria. These capsules allow for *H. influenzae* and *N. meningitidis* bacteria to be classified into different groups, depending on the characteristics of the capsules.

For *H. influenzae*, there are six of these groups, called serotypes (a-f). All can cause infection; however, type b is most commonly associated with invasive disease and has been the cause of outbreaks in the past. Prior to vaccination Hib was the leading cause of bacterial meningitis in Australian children under 5 years of age.

For *N. meningitidis*, there are 13 of these groups called serogroups, of which six (A, B, C, W, X and Y) account for the majority of invasive meningococcal disease worldwide. In Australia, almost all IMD is caused by serogroups B, C, W or Y. Rarely, invasive disease can be caused by unencapsulated (ungroupable) *N. meningitidis* bacteria.

*Neisseria meningitidis* can cause meningitis, bacteraemia (bloodstream infection) or both. Symptoms may include fever, headache, altered mental status and rash. Patients can develop symptoms and deteriorate very quickly so timely recognition and specialist medical care is essential. Mortality rate is between 5-10%. *Neisseria meningitidis* can also cause septic arthritis, pericarditis (inflammation of the lining of the heart), urethritis, pneumonia and symptomatic pharyngitis.

Disease due to *H. influenzae* can include bacteraemia, meningitis, ear, nose and throat infections, pneumonia, cellulitis (a skin infection) and septic arthritis (infection of the fluid surrounding the joints). Case fatality rate is at least 3% and meningitis survivors can have neurological sequelae.

Some groups are at greater risk of developing invasive disease from *N. meningitidis* or Hib. For instance, the incidence of invasive meningococcal disease due to serogroup B is around 4 times higher in Aboriginal and Torres Strait Islanders < 2 years compared to non-indigenous children.

### **Invasive meningococcal disease (IMD) cases and vaccine information**

One case of IMD reported this week occurred in an adolescent from regional NSW. The infection was caused by an ungroupable *N.meningitidis* bacteria. The other case occurred in a young adult from Greater Sydney and was caused by *N. meningitidis* serogroup B.

In both cases several close contacts were provided with antibiotics which aim to ‘clear’ the bacteria from the nose and throat of those who may be asymptotically carrying the bacteria and have passed it onto the case. Clearing the bacteria from asymptomatic carriers reduces the risk of any additional cases occurring among those within the case’s social networks who may also have been in contact with the same carrier.

In NSW meningococcal vaccines are provided free of charge under the National Immunisation Program (NIP) to the following groups:

<b>Vaccine</b>	<b>Groups eligible for free vaccine</b>
Meningococcal ACWY vaccine	All children at 12 months of age Children aged 15-19 years (via the School Vaccination Program or their GP) People with certain medical conditions that cause increased risk of infection (including asplenia, hyposplenia, complement deficiency and those receiving eculizumab treatment)
Meningococcal B vaccine	Aboriginal children < 2 years of age People with certain medical conditions that cause increased risk of infection (including asplenia, hyposplenia, complement deficiency and those receiving eculizumab treatment)

Anyone outside of these groups wishing to protect themselves against meningococcal disease can access the vaccines via private prescription from their GP.

More information on meningococcal disease is available from:

- NSW Health [meningococcal disease website](#) and [meningococcal disease factsheet](#)
- The [Australian Immunisation Handbook](#) for more information on meningococcal vaccines
- NSW Health [meningococcal disease data](#)

### ***Haemophilus influenzae* type b disease (Hib) case and vaccine information:**

The case of Hib notified last reporting week occurred in a fully vaccinated child from Greater Sydney. A full course of Hib vaccine (3 doses) has been found to be 97% effective at preventing Hib disease. A vaccine failure form (required when infection occurs in a person who has been vaccinated against the cause of their infection) has been submitted to the Therapeutic Goods Administration (TGA) for this case.

Clearance antibiotics for Hib cases are only provided in specific situations (such as when a household contains an immunocompromised/inadequately vaccinated person). No contacts required clearance antibiotics following contact with this case.

In NSW Hib vaccines are provided under the National Immunisation Program (NIP). The NIP provides free Hib vaccines to all children at 6 weeks, 4, 6 and 18 month and people 5 years or older with asplenia or hyposplenia.

More information on Hib disease is available from:

- NSW Health [Hib fact sheet](#)
- NSW Health [Hib notifications data](#)

- Australian Immunisation Handbook chapter on [Hib vaccination](#)

## Novel coronavirus 2019 (COVID-19)

For up-to-date information regarding the COVID-19 outbreak and the NSW response, please visit the [NSW Health COVID-19 page](#).

## 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 07 March – 13 March 2021, by date received\***

		Weekly		Year to date			Full Year	
		This week	Last week	2021	2020	2019	2020	2019
Enteric Diseases	Cryptosporidiosis	13	15	188	242	239	550	669
	Giardiasis	47	41	384	596	912	1791	3271
	Listeriosis	1	0	3	2	2	20	16
	Rotavirus	6	4	47	268	142	463	1755
	STEC/VTEC	5	1	28	23	20	113	80
	Salmonellosis	93	99	986	1175	1032	2888	3556
	Shigellosis	2	1	17	289	184	494	867
Respiratory Diseases	Influenza	3	0	10	5836	5275	7489	116443
	Legionellosis	1	7	50	24	41	168	153
	Tuberculosis	4	9	106	93	99	631	590
Sexually Transmissible Infections	Chlamydia	642	559	6164	6693	6388	27282	32498
	Gonorrhoea	158	168	1879	2333	2268	9907	11703
Vaccine Preventable Diseases	Meningococcal Disease	2	0	4	6	9	22	59
	Pneumococcal Disease (Invasive)	9	9	70	85	70	360	691
Vector Borne Diseases	Barmah Forest	2	1	27	21	12	271	63
	Ross River	22	23	209	44	117	1987	593
Zoonotic Diseases	Q fever	4	5	41	57	70	206	248

### \* Notes on Table 1: NSW Notifiable Conditions activity

- Only conditions which had one or more case reports received during the reporting week appear in the table.
- Due to the rapidly evolving nature of the situation, data on COVID-19 notifications can be found separately on the NSW Health [Latest Updates on COVID-19](#) page.
- 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 (i.e. by report date).
- Note that [notifiable disease data](#) available on the NSW Health website are reported by onset date so case totals are likely to vary from those shown here.
- Cases involving interstate residents are not included.
- The shigellosis case definition changed on 1 July 2018 to include probable cases (PCR positive only), hence case counts cannot be validly compared to previous years.
- 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](#).
- Chronic blood-borne virus conditions (such as HIV, hepatitis B and C) are not included here. Related data are available from the [Infectious Diseases Data](#), the [HIV Surveillance Data Reports](#) and the [Hepatitis B and C Strategies Data Reports](#) webpages.
- Notification is dependent on a diagnosis being made by a doctor, hospital or laboratory. Changes in awareness and testing patterns influence the proportion of patients with a particular infection that is diagnosed and notified over time, especially if the infection causes non-specific symptoms.