

## Communicable Diseases Weekly Report

### Week 23, 05 June to 11 June 2022

In this report we provide information regarding invasive meningococcal disease (IMD), *mycobacterium chimera*, and gonorrhoea, and a summary of notifiable conditions activity in NSW over the reporting period, 05 June to 11 June 2022.

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.

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

Information on notifiable conditions is available at the 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.

### Invasive meningococcal disease

One case of invasive meningococcal disease (IMD) was notified in this reporting week ([Table 1](#)). The case is a child from metropolitan Sydney. Laboratory testing revealed the infection was caused by *Neisseria meningitidis* (meningococcal bacteria) serogroup B. So far in 2022, seven cases of IMD have been reported in NSW.

IMD is a rare disease that can occur year-round but tends to increase in late winter and early spring. Measures to reduce transmission of COVID-19, such as wearing face masks, social distancing and staying at home, can also reduce transmission of IMD and have likely contributed to the lower numbers of IMD cases reported since 2020.

There are six serogroups of meningococcal bacteria associated with IMD in humans (A, B, C, W, X, Y), of which four (B, C, W, Y) cause almost all IMD in Australia. People of all ages are susceptible to contracting IMD, but the disease is more common in children under 5 years of age and people aged 15-24 years.

Meningococcal bacteria are not easily spread from person to person but can be passed between people in secretions from the back of the nose and throat. Spread of the bacteria from one person to another generally requires close and prolonged contact such as living in the same household or intimate kissing.

The initial symptoms of IMD are often non-specific and can mimic other illnesses like gastroenteritis or COVID-19, making diagnosis in the early stages difficult. Symptoms can vary, but may include sudden fever, nausea, vomiting, abdominal pain, headache, neck stiffness, photophobia (sensitivity to bright lights), joint pain and irritability. A red-purple rash that is non-blanching (i.e. does not disappear when pressure is applied) is typical but does not always appear, or may only occur late in the disease.

In young children, symptoms may also include irritability, difficulty waking up, high-pitched crying, rapid or laboured breathing and refusal to eat.

IMD can result in meningitis, meningococcaemia (bloodstream infection with the bacterium) or both. People with IMD can become very unwell very quickly, and the disease can be fatal within hours of the first symptom appearing. Anyone who thinks they, or someone they care for, might be experiencing symptoms of IMD should seek urgent medical care.

Meningococcal disease can be prevented through vaccination. In NSW, meningococcal vaccines are provided free of charge under the National Immunisation Program (NIP) to the following groups:

Vaccine	Groups eligible for free vaccine
Meningococcal ACWY vaccine	All children at 12 months of age Children aged 15-19 years (via the NSW School Vaccination Program, or catch-up vaccination via their GP) People with certain medical conditions that cause increased risk of infection (including asplenia, hyposplenia,
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 or appropriately trained pharmacist. If there are concerns that a teenager has missed their meningococcal ACWY vaccination, this can be checked on the Australian Immunisation Register (AIR). If required, GPs and trained pharmacists can arrange catch up vaccination.

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

## Mycobacterium chimaera

A man aged in his 80's who had heart valve replacement surgery at Prince of Wales Hospital in 2015 has recently been diagnosed with *Mycobacterium chimaera* infection. The onset of symptoms related to his infection started at least 3 years ago. Genetic sequencing strongly links him to 6 other cases diagnosed following surgery at Prince of Wales Hospital. There is a worldwide outbreak of *M. chimaera* infection following exposure to the rare bacteria during open heart surgery involving over 120 patients.

In NSW, some heater-cooler units made by LivaNova (Sorin) in Switzerland were found to be contaminated with this rare bacterium. There is a small risk that exposure to these units in the operating theatre may lead to infections in exposed patients that can appear months to years after surgery. These devices, which were widely used around the world, are thought to have been contaminated during manufacture.

Because *M. chimaera* are slow-growing bacteria, patients need to remain alert for symptoms of infection after their open-heart surgery involving the affected equipment, particularly if surgery included implants, such as heart valves, and seek medical advice straight away if symptoms develop. The most common symptoms reported by patients with this infection following open heart surgery are persistent fevers, increasing or unusual shortness of breath, and unexplained weight loss. To date, the longest time after surgery for an infection to be identified is 12 years, reported in a patient from Italy.

*M. chimaera* is one of a group of bacteria called *non-tuberculous Mycobacterium* bacteria (NTM) that are commonly found in the environment, such as water and soil. *M. chimaera* only very rarely causes infections in people. Infections tend to develop very slowly and in people who are more susceptible to infections because of other health conditions.

For more information please see the [NSW Health Alert relating to \*M. chimaera\*](#).

## Gonorrhoea

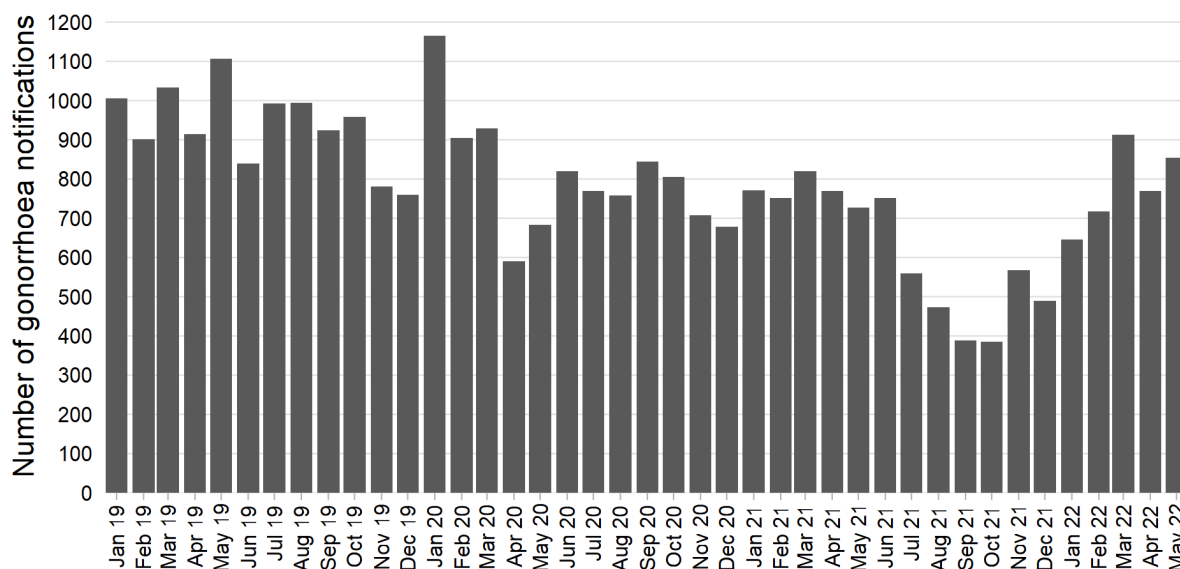
Since March 2022 twelve cases of gonorrhoea with either critical resistance to azithromycin or decreased susceptibility to ceftriaxone, the two main antibiotics used to treat gonorrhoea in Australia, have been notified in NSW. Three cases were infected with a strain of gonorrhoea with high level resistance to azithromycin, likely imported from South America. Nine cases were diagnosed with infections with decreased susceptibility to ceftriaxone. This gonococcal strain with decreased susceptibility to ceftriaxone appears to be spreading across multiple sexual networks in NSW. Most cases are based in metropolitan Sydney, and include females, heterosexual males, men who have sex with men (MSM), and range in age from 20 to 60 years. This strain will likely respond to ceftriaxone and oral azithromycin, but treatment failures are possible. Following the [Australian STI management guidelines](#) and treating all confirmed and suspected gonorrhoea with ceftriaxone and oral azithromycin is important.

Many strains of the bacteria *Neisseria gonorrhoeae*, both overseas and within Australia, are resistant to a wide range of antibiotics. Gonococcal infections with antimicrobial resistance are of major public health concern, as they may require complex treatment with increased disease burden and associated health care costs.

In Australia, resistance to ceftriaxone and high-level resistance to azithromycin is rarely observed. These antimicrobial resistant gonococcal strains detected in Australia typically originate from overseas. The detection of endemic spread of gonococcal infections with decreased susceptibility to ceftriaxone in NSW is concerning.

During 2020 and 2021 the number of gonorrhoea notifications in NSW was relatively low and the reduction in international travel was protective against imported strains of gonorrhoea with antimicrobial resistance. However, in 2022 gonorrhoea notifications are returning to pre-pandemic levels, particularly in metropolitan Sydney Local Health Districts (Figure 1).

**Figure 1: Number of gonorrhoea notifications by month, NSW, January 2019–2022 Year to date – as at 31 May 2022**



Gonorrhoea is a sexually transmissible infection caused by *N. gonorrhoeae* bacteria. It can infect the throat, anus, urethra (urine passage), cervix (neck of the womb) and eyes. People with gonorrhoea often have no symptoms, particularly women and those with gonorrhoea of the throat or rectum. People often have gonorrhoea and pass it on to others without knowing it. If untreated, the infection can spread via the blood stream to the skin, joints, heart valves and lining of the brain (meningitis). Untreated gonorrhoea in women can also spread to the womb and fallopian tubes (pelvic inflammatory disease or PID) and this can result in infertility or a pregnancy in the fallopian tube (ectopic pregnancy). Infertility can also occur in men if the infection spreads down the urethra and into the testes.

People who have unprotected sex are most at risk of gonorrhoea. Gonorrhoea can be prevented by the use of condoms for vaginal and anal sex and dental dams for oral sex.

For free and confidential sexual health support and information people can contact the Sexual Health InfoLink (SHIL) on 1800 451 624. SHIL is a NSW Ministry of Health funded information and referral telephone line that is staffed by specialist sexual health nurses from 9:00am to 5:30pm weekdays.

Follow the links for more information on [gonorrhoea](#) and [gonorrhoea notifications](#).

## Summary of notifiable conditions activity in NSW

The following table summarises notifiable conditions activity over the reporting period alongside reports received in the previous week, year to date and in previous years (Table 1).

**Table 1. NSW Notifiable conditions from 05 June – 11 June 2022, by date received\***

		Weekly		Year to date				Full year		
		This week	Last week	2022	2021	2020	2019	2021	2020	2019
Enteric Diseases	Campylobacter	191	207	4618	5679	4182	5160	11953	10008	11482
	Cryptosporidiosis	4	8	204	282	392	395	444	549	669
	Giardiasis	17	18	547	891	1066	1883	1504	1871	3328
	Hepatitis A	1	1	12	0	17	34	8	18	61
	Listeriosis	1	0	15	9	7	5	22	20	16
	Rotavirus	7	10	182	162	345	297	356	500	1777
	Salmonellosis	46	55	1686	1757	1883	2004	3096	2883	3555
	Shigellosis	1	11	121	41	364	404	60	494	867
	STEC/VTEC	3	5	66	61	48	31	126	115	79
	Typhoid	3	0	20	0	32	39	2	37	64
Respiratory Diseases	Influenza	18277	16314	57189	46	7283	22768	124	7488	116430
	Legionellosis	1	7	119	104	76	80	213	170	153
	Tuberculosis	5	12	195	273	249	255	557	625	589
Sexually Transmissible Infections	Chlamydia	546	473	11056	13483	12663	14342	25369	27243	32475
	Gonorrhoea	196	193	4395	4235	4610	5329	7624	9882	11688
Vaccine Preventable Diseases	Meningococcal Disease	1	0	7	12	9	12	23	22	59
	Pertussis	1	1	20	27	1295	2790	43	1400	6386
	Pneumococcal Disease (Invasive)	16	9	145	190	149	187	386	358	690
Vector Borne Diseases	Barmah Forest	1	1	41	62	135	40	111	271	63
	Dengue	2	0	20	1	74	217	4	76	456
	Malaria	2	0	13	2	19	27	8	25	73
	Ross River	13	9	522	500	1565	362	659	1990	595
Zoonotic Diseases	Leptospirosis	1	1	12	69	7	5	96	12	9
	Q fever	1	4	80	97	110	134	188	207	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.
- 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.