Communicable Diseases Weekly Report

Week 10, 5 to 11 March 2023

In this report we provide information regarding invasive meningococcal disease and a summary of notifiable conditions activity in NSW over the reporting period Week 10, 5 to 11 March 2023.

For surveillance data on COVID-19 and influenza please see the latest *NSW Respiratory Surveillance Report.*

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

Invasive meningococcal disease (IMD) is a rare, but serious and sometimes fatal, acute bacterial infection caused by *Neisseria meningitidis*. There are several serogroups of *N. meningitidis* bacteria which can cause IMD. In Australia serogroups B, C, W, and Y have caused the majority of IMD, with the predominant serogroup changing over time, influenced by vaccination. In 2022 serogroup B was the predominant serogroup

Symptoms of IMD are varied and depend on the site of infection (usually the blood or the fluid surrounding the brain and spinal cord) and can differ based on the age of the case. Early symptoms can mimic other illnesses, however meningococcal disease generally progresses rapidly and can become very severe or fatal very quickly.

There are some symptoms that are specific to IMD, and others that are non-specific (Table 1).

Table 1. Symptoms of meningococcal disease

Non-specific symptoms	Fever, nausea, vomiting, headache, joint pain
Specific symptoms	Neck stiffness, unexplained severe limb pain, dislike of bright lights (photophobia), severe headache, a red purple rash which does not disappear when pressed*
Symptoms in younger children	Irritability, difficulty waking up, high-pitched crying, rapid or laboured breathing, refusal to feed

** Rash does not always appear and often appears late in the illness. Do not wait for a rash to seek help/consider IMD.*

Recent symptomatology among IMD cases

Recently, there have been a number of IMD cases presenting with gastrointestinal symptoms without the characteristic IMD-specific symptoms such as photophobia and neck stiffness.. .

From 1 January 2022 to 20 March 2023 there have been 44 IMD cases notified in NSW. Among these cases, the most commonly reported symptoms were fever (n=34; reported in 77% of cases), headache (n=26; 59%) and vomiting (n=25; 57%) (Table 2). Rash was also common (n=21; 48%), although this generally occurs later in the progression of disease so may not have been present on initial clinical presentation. Timing of symptoms was not specifically investigated as part of this analysis.

Within this period, 23 cases (52%) were not reported to have the typical IMD-specific symptoms of photophobia or neck stiffness (Table 3). Among cases who did not exhibit these specific symptoms, half (52%) had gastrointestinal symptoms (n=12/23, including nausea, vomiting, abdominal pain and/or diarrhoea). Of those with gastrointestinal symptoms, 11 also had a fever.

Sadly, three IMD cases passed away between 1 January 2022 and 20 March 2023. None of these cases we reported to have had photophobia or neck stiffness. Two had presented initially with gastrointestinal symptoms (vomiting and fever) and the other one presented with other non-specific symptoms.

Of the 44 cases during this period, 39 were serogroup B (89%), 2 were serogroup Y, 1 was serogroup C and 2 had an unknown serogroup. There were no notable differences in the types of presentations by serogroup (Table 2).

It is important for clinicians to have a high degree of suspicion for potential IMD. Recognising that IMD can initially present in various ways, including with exclusively non specific symptoms,is important in ensuring rapid provision of appropriate treatment for IMD. IMD should be considered as a differential diagnosis in those with gastrointestinal symptoms, fever and rapid deterioration.

Table 2. Number and proportion of IMD cases that have reported each symptom by serogroup, among cases notified between 1 January 2022 to 20 March 2023*

Reported symptoms	Serogroup B	Serogroup C	Serogroup Y	Unknown serogroup	Total	Proportion of cases with symptom
Fever	31	1	2	0	34	77%
Headache	24	0	1	1	26	59%
Vomiting	23	0	2	0	25	57%
Rash	20	0	0	1	21	48%
Drowsiness	19	0	0	0	19	43%
Neck stiffness	17	0	1	1	19	43%
Sepsis	18	0	0	0	18	41%
Nausea	16	0	1	0	17	39%
Other	13	1	0	2	16	36%
Arthralgia	11	0	0	0	11	25%
Photophobia	9	0	1	1	11	25%
Confusion	9	1	0	0	10	23%
Difficult to arouse	10	0	0	0	10	23%
Irritability	10	0	0	0	10	23%
Abdominal pain	5	0	1	0	6	14%
Diarrhoea	5	0	0	0	5	11%

**This table counts cases reporting each symptom. Cases have reported multiple symptoms which are not exclusive.*

Table 3. Presence of gastrointestinal symptoms, photophobia or neck stiffness among IMD cases notified 1 January 2022 to 20 March 2023

		Any gastrointestinal symptoms*		
		No	**Yes**	**Total**
Any photophobia or neck stiffness	**No**	11	12	23
	Yes	6	15	21
	Total	17	27	44

**Gastrointestinal symptoms included cases reporting at least one of the following symptoms: nausea, vomiting, abdominal pain and/or diarrhoea*

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

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 5 to 11 March 2023, by date received*

		Weekly		Year to date					Full Year			
		This week	Last week	2023	2022	2021	2020	2019	2022	2021	2020	2019
Enteric Diseases	Campylobacter	251	224	2667	2399	2850	2640	2481	12900	12790	10819	11930
	Cryptosporidiosis	13	10	138	74	189	249	238	463	444	548	669
	Giardiasis	57	58	455	236	400	656	904	1389	1548	1953	3386
	Hepatitis A	2	2	19	4	0	16	18	37	8	19	61
	Rotavirus	40	47	735	75	57	275	134	1803	356	500	1777
	Salmonellosis	72	65	808	820	984	1211	1018	2967	3100	2885	3552
	Shigellosis	19	24	196	46	16	297	186	460	60	494	867
	STEC/VTEC	5	6	38	22	29	25	20	144	126	115	79
	Typhoid	4	5	26	6	0	26	27	47	2	37	64
Other Diseases	Invasive Group A Streptococcus	12	8	129	0	-	-	-	144	-	-	-
Respiratory Diseases	Influenza	620	463	3861	78	14	5979	5276	116315	124	7481	116402
	Legionellosis	9	2	48	53	54	25	41	268	214	171	154
	Respiratory syncytial virus (RSV)	689	643	3346	1	-	-	-	5669	-	-	-
	Tuberculosis	6	15	113	70	107	99	97	529	559	625	589
Sexually Transmissable Infections	Chlamydia	589	631	6207	4470	5998	6881	6383	25851	25309	27228	32474
	Gonorrhoea	254	245	2420	1684	1831	2396	2253	10226	7625	9880	11686
Vaccine Preventable Diseases	Pneumococcal Disease (Invasive)	4	4	70	35	66	83	69	544	386	342	686
Vector Borne Diseases	Barmah Forest	3	3	35	18	26	23	12	89	111	271	63
	Dengue	8	6	59	5	1	52	92	164	4	76	456
	Ross River	12	10	120	331	223	44	116	725	660	1990	596
Zoonotic Diseases	Leptospirosis	1	1	4	6	7	3	3	44	96	12	9
	Q fever	3	1	33	42	47	59	69	197	206	212	249

*** 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.
- Surveillance data on COVID-19 can be found in the *NSW Respiratory Surveillance Report.*
- 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.