2023 Meningococcal Disease Guide

for healthcare professionals

IMMUNISATION COALITION

Meningococcal disease progresses very rapidly. Deaths can occur in as little as a few hours. Since the introduction of MenACWY vaccination programs, the incidence of MenW disease has reduced and the overall rate of invasive meningococcal disease (IMD) fell to 0.3 per 100,000 in 2021.

Currently, MenB and MenW cause most meningococcal disease in Australia. The number of notifications and deaths more than doubled between 2015 and 2017.

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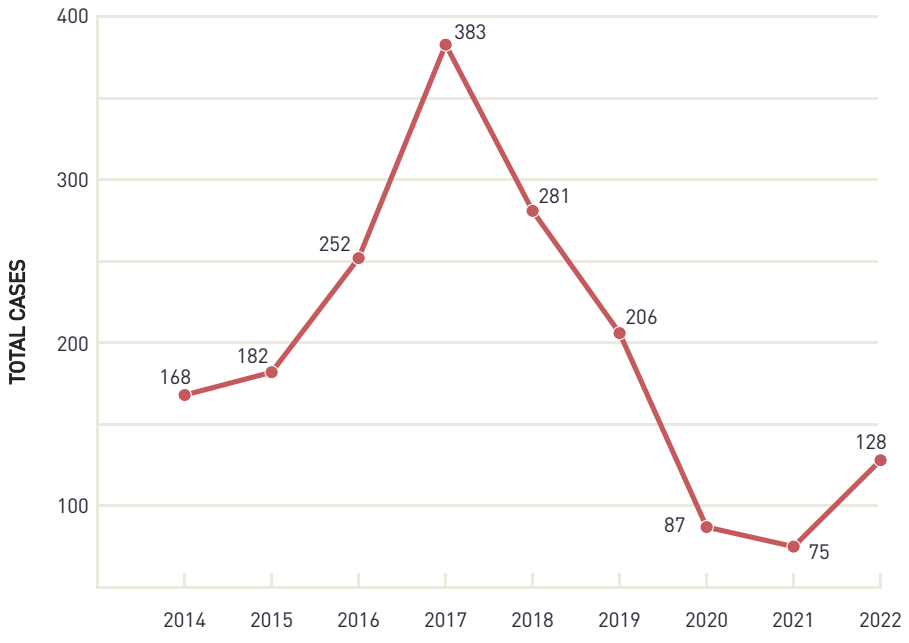
In 2018 MenW (36%) and MenB (42%) emerged as predominant strains with MenB (119 cases), surpassing MenW (100 cases).

The incidence of meningococcal disease fluctuates naturally over time. MenB is usually the most common strain including over the past 3 years. MenW briefly became the predominant strain in Australia back in 2016.

Notifications of MenW doubled from 2014 (17) to 2015 (34), then more than tripled in 2016 (109) surpassing strain B (92 cases). In 2017, MenW notifications dramatically increased to 141 and MenB notifications to 138.

CHART 1: NUMBER OF INVASIVE MENINGOCOCCAL DISEASE NOTIFICATIONS, AUSTRALIA BY YEAR



What are the symptoms?

People with meningococcal disease can become extremely unwell very quickly. They may feel sicker than they have ever felt before.

After being infected, it usually takes one to ten days for symptoms to appear. The possible symptoms are: sudden onset of fever, rash of red-purple pin pricks or bruises, headache, neck stiffness, photophobia, muscle aches, cold hands and feet, confusion, irritability, joint pain, nausea and vomiting.

YOU CAN HELP TO STOP THE SPREAD!

ADVISE
Advise patients and parents about the importance and safety of vaccination.

PREVENT
Prevent meningococcal disease in adolescents. Vaccine effectiveness of a 4vMenCV adolescent vaccination program in the United States has been estimated at 80 to 85%.

PREVENT
Prevent the spread of meningococcal disease to the broader community (herd immunity).

TEST
Test for invasive meningococcal disease in older patients who may have atypical presentations (septic arthritis and epiglottitis).

DIAGNOSIS & MANAGEMENT
Be on the lookout for diagnosis and provide early management

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About **one in 10 people** can have meningococcal bacteria in their throat or nose.

for more go to: www.immunisationcoalition.org.au/resources/meningococcal

Scan

What causes meningococcal disease?

Meningococcal disease is transmitted by close, prolonged household and intimate contact. The spread of the disease is through the infected secretions from the back of the nose and throat.

The bacteria can only survive a few seconds outside the body so they cannot be picked up from surfaces, swimming pools, buildings or animals.

About one in 10 people can have meningococcal bacteria in their throat or nose. These very rarely cause illness, but can be transmitted to others more susceptible and cause illness.

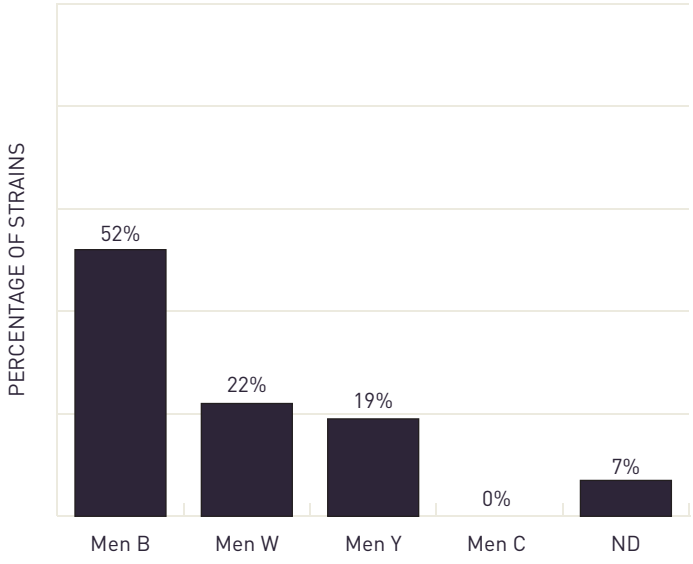
Teenagers have the highest carriage rates, peaking in 19-year-olds, and so play an important role in transmission.

Meningococcal disease is caused by the bacterium Neisseria meningitidis. The most common strains worldwide are A, B, C, W and Y.

MenW emerged as an increasing cause of meningococcal disease, making up almost half of the Australian cases in 2016. In 2017, MenB strains increased to levels similar to MenW. In 2018, following MenACWY school vaccination programs, MenB emerged as predominant strains.

MenC, the target of a national immunisation programme since 2003, has dramatically declined (225 in 2002, 3 in 2016, 14 in 2017, 4 in 2018, 6 in 2019, 1 in 2020)). There was a decrease in MenY in 2018.

CHART 2: PERCENTAGE SHARE OF MENINGOCOCCAL STRAINS IN 2021



Complications

A common presentation of MenW in Australia has been severe sepsis. MenW disease has been associated with atypical presentations, such as septic arthritis, pneumonia and epiglottitis, in up to 20% of cases.

Some people may experience permanent brain damage, and 1 in 10 may die. One in five people who recover may have lingering health problems:

- Skin scarring
- Limb deformity
- Limb loss
- Deafness
- Impaired vision
- Learning difficulties

Risk Factors

Individuals at greater risk of meningococcal infection:

- Immunocompromised due to certain disorders of the immune system (particularly complement deficiencies) – HIV infection, Haemotapoetic stem cell transplant
- Certain medical treatments (e.g. eculizimab)
- Asplenia
- Occupational exposure in labs
- Exposure to smokers (who are more likely to be carriers)
  Crowded living conditions
- Intimate kissing
- Recent or current viral infection
- Aboriginal and/or Torres Strait Islander people (Up to 19 years of age)

What age groups are most affected?

Most meningococcal disease occurs in children aged less than 5 years of age and adolescents.

MenW also has its peak in these age groups, however it has a diverse age range.

Who Can Get Vaccinated

Meningococcal ACWY vaccine

Trade Name (Age available)	Formulation
MenQuadfi Quadrivalent meningococcal (groups A, C, Y, W135) polysaccharide tetanus toxoid conjugate vaccine (from 12 months onwards)	Quadrivalent tetanus toxoid conjugate
Menveo (from 2 months onwards)*	Quadrivalent CRM 197 conjugate
Nimenrix (from 12 months onwards)*	Quadrivalent tetanus toxoid conjugate

* ATAGI recommends Menveo and Nimenrix can be given from 6 weeks of age

Who Should be Vaccinated

Those with increased medical, occupational or other exposure including travel risks of meningococcal disease caused by serogroups A, C, W and Y.

Infants 12 months of age

Adolescents/ young adults 14–19 years of age

Vaccination may be offered to anyone aged 2 months or older wishing to reduce the risk of MenACWY.

Availability

Funded for adolescents or children (for varying and limited periods of time):

Funded (Nimenrix) on NIP for children 12 months of age

WA has a catch up for 13 months to under 5 years of age

Funded on NIP through school-based program for 14-16 yr olds

15-19 yr olds who did not receive the vaccine at school can receive it from their GP

From 1 July 2020, funded through NIP for people with certain medical conditions at increased risk of IMD. See Immunisation Handbook for details.

Vaccines are otherwise available on private prescription. Contact your state or territory health department for more information.

Administering Quadrivalent Meningococcal Vaccines

MenQuadfi is in a liquid form and simply drawn up and administered to the individual. Menveo and Nimenrix consist of a powder and a liquid which need to be combined before they are administered.

Vaccine Safety

Meningococcal vaccines are safe and well tolerated. 4vMenCV's most frequent side effects: fever, headache, dizziness and erythema around the injection site. Erythema resolves in 48–72 hours.

Meningococcal B vaccine (MenBV for serogroup B)

Trade Name	Formulation
Bexsero In SA: Bexsero for childhood program Bexsero/Trumenba for school immunisation program and under 21 catch up program	Recombinant Multicomponent MenB

Who Should be Vaccinated

Infants and young children, particularly those older than 2 years, adolescents and those with increased medical or occupational exposure risks of MenB disease.

From 1 July 2020, funded on NIP for people with medical conditions that increase risk of IMD (i.e. asplenia, hyposplenia, complement deficiency and those receiving treatment with eculizumab).

On NIP for Aboriginal and Torres Strait Islander children at 2, 4 and 12 months of age. (Catch up available up to 2 years of age until 30 June 2023.)

MenBV is registered for use from 2 months of age. However, the first dose can be given as early as 6 weeks of age to align with the schedule for other routine infant vaccines.

Availability

Private prescription.

Funded vaccination available in SA:

- 6 weeks to 12 months of age: Meningococcal B childhood program commencing October 2018/ ongoing
- Year 10 Men B vaccination commencing February 2019/ongoing.

Vaccine effectiveness

Based on laboratory tests, estimated vaccine induces protective antibodies against 76% of MenB strains in Australia.

Vaccine Safety

Fever is the most common side effect in infants and young children especially when given concurrently with other vaccines. Prophylactic paracetamol is recommended with MenBV administration in children aged under 2 years of age.

Meningococcal C conjugate vaccines (MenCCV for serogroup C)

Trade Name	Formulation
NeisVacC	MenC conjugate vaccine

Who Should be Vaccinated

Monovalent vaccine replaced by Hib-MenCCV combination vaccine for use under NIP since July 2013.

In July 2018, MenACWY replaced Hib-MenC on the NIP at 12 months

In July 2018, an injection of Hib became available on NIP at 18 months as Hib no longer available at 12 months.

Availability

Monovalent MenC vaccine available on the NIP for those requiring catch-up of the 12-month childhood dose (when they are not eligible to receive MenACWY vaccine.

Vaccine effectiveness

Use from 2003 in Australia resulted in a 96% reduction in MenC invasive disease in all age groups by 2012.

Vaccine Safety

Common side effects: pain, tenderness and occasional erythema at injection site which resolves in 1 day, transient headache.