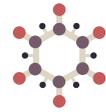


# the meningococcal

## 2019 guide for general practitioners

Meningococcal disease progresses very rapidly.  
Deaths can occur in as little as a few hours.



IMMUNISATION  
COALITION

## MEN ACWY vaccination programs have seen a drop in Men W and Men Y with Men B becoming predominant strain again in 2018.<sup>1</sup>

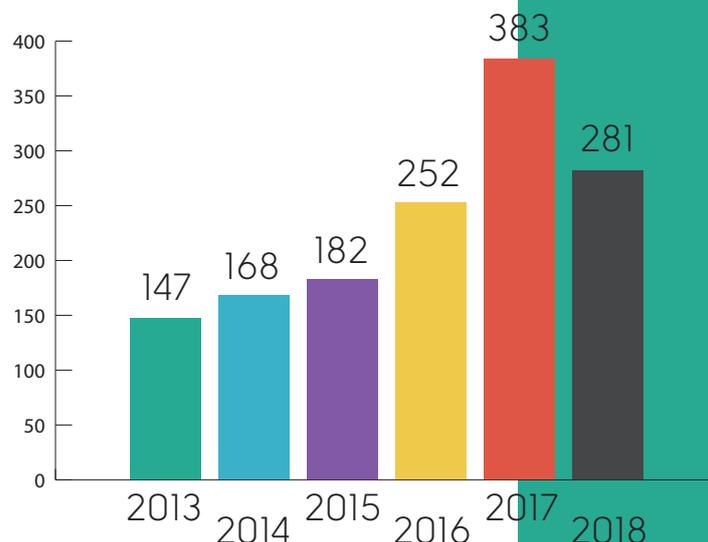
The number of notifications and deaths more than doubled between 2015 and 2017. Number of deaths: 2015 (12), 2016 (11), 2017 (28) and 2018 (16).

In 2018 Men W (36%) and Men B (42%) emerged as predominant strains with Men B (119 cases), surpassing MenW (100 cases).<sup>2</sup> Many of the MenW cases belong to a hyper-virulent strain associated with a higher risk of invasive disease and a higher case fatality rate.<sup>3</sup>

The incidence of meningococcal disease fluctuates naturally over time. MenW was the predominant strain in Australia in 2016. Notifications of MenW doubled from 2014 (17) to 2015 (34), then more than tripled in 2016 (109) surpassing strain B (92 cases)<sup>3</sup>. In 2017, Men W notifications dramatically increased to 141 and Men B notifications to 138.<sup>2</sup>

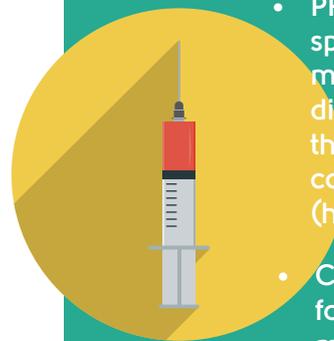
### Number of invasive meningococcal disease notifications, Australia

Australian Government Department of Health. National Notifiable Diseases Surveillance System. Accessed 11 August 2019.



## GPs can help to stop the spread!

- ADVISE patients and parents about the importance and safety of vaccination.
- PREVENT meningococcal disease in adolescents. Vaccine effectiveness of a 4vMenCV adolescent vaccination program in the United States has been estimated at 80 to 85%.<sup>4</sup>
- PREVENT the spread of meningococcal disease to the broader community (herd immunity).
- Consider TESTING for invasive meningococcal disease in older patients who may have atypical presentations (septic arthritis and epiglottitis).<sup>5</sup>
- Be on the lookout for DIAGNOSIS and provide early MANAGEMENT.



# 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 pinpricks or bruises, headache, neck stiffness, photophobia, muscle aches, cold hands and feet, confusion, irritability, joint pain, nausea and vomiting.<sup>6</sup>

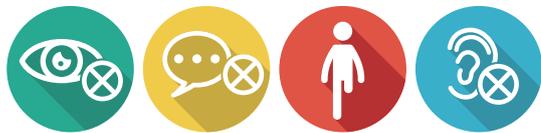


## Complications

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.<sup>7</sup>

Some people may experience permanent brain damage, and 1 in 10 may die. One in five people<sup>8</sup> who recover may have lingering health problems:

- Skin scarring
- Limb deformity
- Limb loss
- Deafness
- Impaired vision
- Learning difficulties<sup>9</sup>



## Risk factors<sup>6,10</sup>

- Immunocompromised e.g. complement deficiencies
- Medical treatments e.g. eculizumab
- Asplenia
- Occupational exposure in labs
- Exposure to smokers
- Crowded living conditions
- Intimate kissing
- Recent viral infection
- Aboriginal and Torres Strait Islanders



# 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.

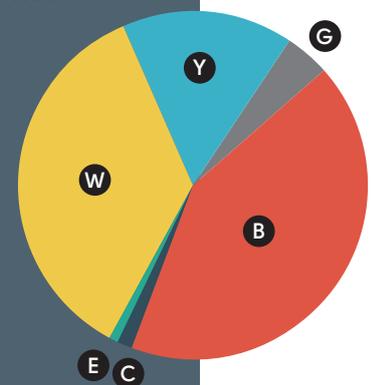
The bacteria can only survive a few seconds outside the body so they cannot be picked up from surfaces, swimming pools, buildings or animals.

About one in 10 people<sup>11</sup> 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.<sup>12</sup>

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

Men W 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, Men B 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<sup>2</sup>). There has been a decrease in MenY.



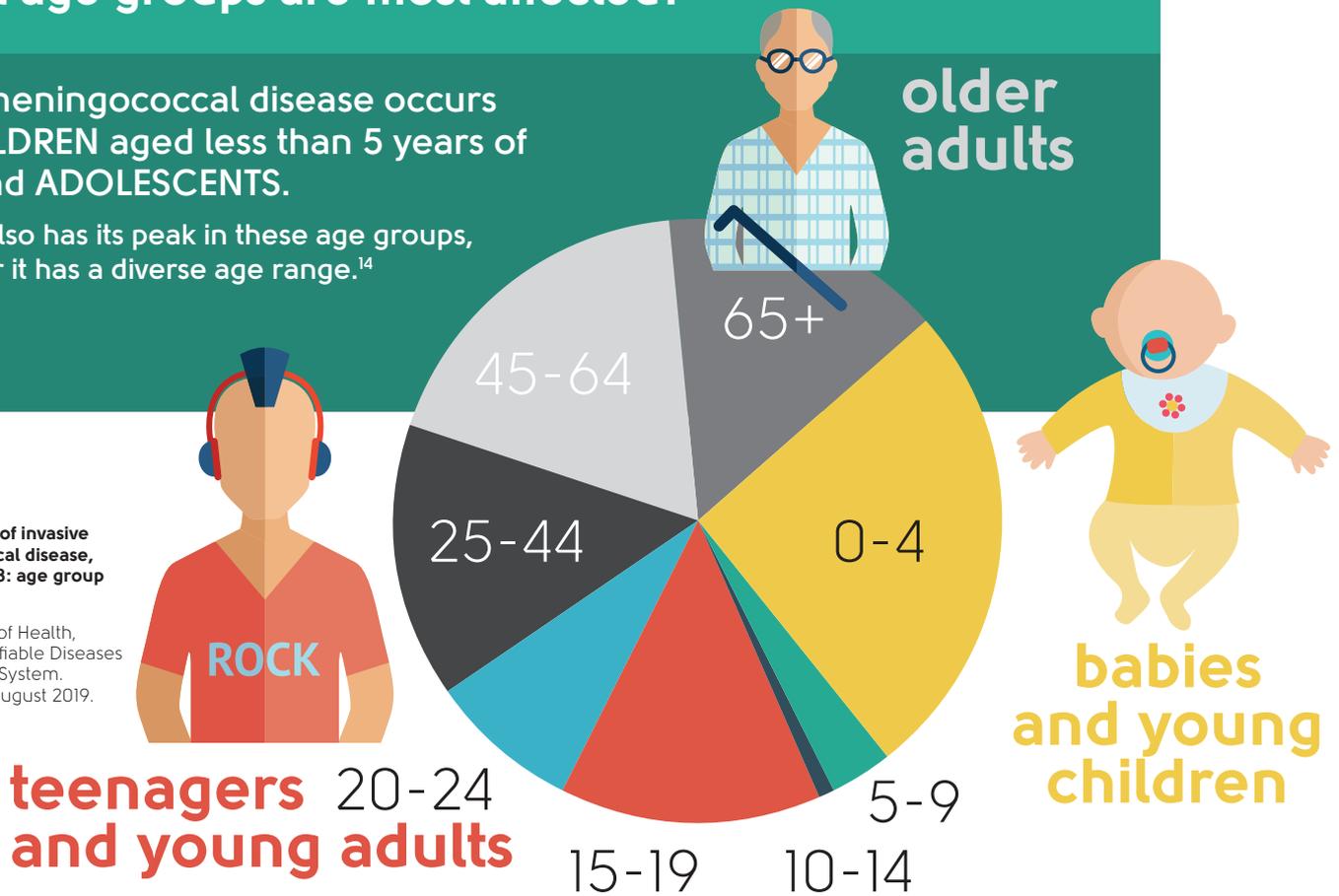
## What age groups are most affected?<sup>13</sup>

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.<sup>14</sup>

Notifications of invasive meningococcal disease, Australia 2018: age group distribution

Department of Health, National Notifiable Diseases Surveillance System. Accessed 11 August 2019.



## What vaccinations are available?<sup>15,19</sup>

Quadrivalent meningococcal vaccine (4vMenCV for serogroups A, C, W and Y)  
Nimenrix available on NIP for 14-19 year olds

Trade Name/ Age available	Formulation	Who should be vaccinated?
Menactra (from 9 months of age onwards)**	Quadrivalent diphtheria toxoid conjugate	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
Menveo (from 2 months onwards)*	Quadrivalent CRM 197 conjugate	<b>Vaccination may be offered to anyone aged 2 months or older wishing to reduce the risk of Men A, C, W and Y.</b>
Nimenrix (from 12 months onwards)*	Quadrivalent tetanus toxoid conjugate	<b>AVAILABILITY:</b> Funded for adolescents or children (for varying and limited periods of time*): <ul style="list-style-type: none"> <li>• Funded on NIP for children 12 months of age</li> <li>• WA has a catch up for 13 months to &lt; 5 years</li> <li>• Funded on NIP through school-based program for 14-16 yr olds</li> <li>• 15-19 yr olds who did not receive the vaccine at school can receive it from their GP</li> <li>• TAS Free for anyone over 6 weeks born after 1 August 1997.</li> </ul> Vaccine is otherwise available on private prescription*. *Contact your state or territory health department for more information.

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

\*\* Do not co-administer Menactra with 13vPCV

\*\* Menveo and Nimenrix are preferred in individuals ≥ 2 years of age. If unavailable, use Menactra.

### Administering quadrivalent meningococcal vaccines

Menactra 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 injection site. Erythema resolves in 48–72 hours.

## Meningococcal B vaccine (MenBV for serogroup B)

Trade Name	Formulation	Who should be vaccinated?
Bexsero In SA: Bexsero for childhood program  Bexsero/Trumenba for school immunisation program and under 21 catch up program	Recombinant multicomponent MenB	<p>Infants and young children, particularly those &lt;2 years, adolescents and those with increased medical or occupational exposure risks of MenB disease.</p> <p>Vaccination can be offered to anyone aged 6 weeks** or older who wants to reduce the risk of MenB disease.</p> <p><b>AVAILABILITY:</b> Private prescription. Funded vaccination available in SA:<sup>16</sup></p> <ul style="list-style-type: none"> <li>• <b>6 weeks to 12 months of age: Meningococcal B childhood program</b> commencing October 2018/ongoing</li> <li>• <b>Catch up program over 12 months to 4 years of age:</b> October 2018–31 December 2019</li> <li>• <b>Year 10 Men B vaccination</b> commencing February 2019/ongoing</li> <li>• <b>Year 11 Men B catch up program</b> commencing February 2019–31 December 2019</li> <li>• <b>17-year-old to less than 21 years of age Meningococcal B young adult catch up program</b> commencing February 2019–December 2019</li> </ul>

\*\*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.<sup>5</sup>

**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.

**Vaccine effectiveness** Based on laboratory tests, estimated vaccine induces protective antibodies against 76% of MenB strains in Australia.<sup>17</sup>

## Meningococcal C conjugate vaccines (MenCCV for serogroup C)

Trade Name	Formulation	Who should be vaccinated?
NeisVacC	Men C conjugate vaccine	<p>Monovalent vaccine replaced by Hib-MenCCV combination vaccine for use under NIP since July 2013.</p> <p>In July 2018, Men A, C, W and Y replaced Hib-Men C on the NIP at 12 months</p>
Menitorix	Hib-MenC conjugate combination vaccine	<p>In July 2018, an injection of Hib became available on NIP at 18 months as Hib no longer available at 12 months<sup>18</sup></p> <p><b>AVAILABILITY:</b> Monovalent Men C 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<sup>19</sup></p>

**Vaccine effectiveness** Use from 2003 in Australia resulted in a 96% reduction in MenC invasive disease in all age groups by 2012.<sup>20</sup>

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

### REFERENCES

Scan the QR code to access references, or go to [www.immunisationcoalition.org.au/resources/meningococcal-disease/](http://www.immunisationcoalition.org.au/resources/meningococcal-disease/)

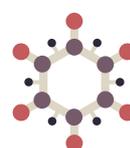
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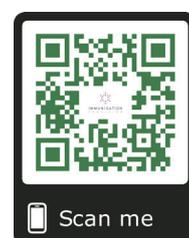
The Immunisation Coalition is a not for profit advocacy group with a mission to create awareness regarding the importance of immunisation. Immunisation still provides the best protection against infectious diseases. We work with consumers, health professionals and organisations with an interest in immunisation and government health agencies, ensuring that the information provided to consumers through our website and other communication channels is current, easily understood and scientifically informed.

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