

# Meningococcal W meningitis and septicaemia: questions and answers

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## Queensland Program

Queensland adolescents and teenagers between the ages of 15 and 19 will be entitled to a dose of MenACW<sub>135</sub>Y vaccine commencing in Term 2 of 2017 through a school program and then from the 1<sup>st</sup> June 2017 for all other teenagers via General Practitioners and other vaccine service providers.

The two vaccines available will be Menveo and Menactra. Further information about these vaccines is provided later in the document. Menactra is a liquid vaccine prepared in a prefilled syringe but Menveo requires reconstitution prior to administration. It is unlikely that either vaccine will be available in Queensland before the end of May.

### **Again, vaccine will not be available in General Practices until the 1<sup>st</sup> June.**

A new school program will be rolled out progressively over the course of 2017 but it will target adolescents in Year 10 only. Adolescents and teenagers in Year 11 and 12 and in University or in the workforce between the ages of 15 and 19 will need to source vaccine through other providers.

In addition to General Practices, the Gold Coast Public Health Unit will conduct some mass clinics in an attempt to improve coverage.

Previous campaigns to vaccinate these adolescents and teenagers for meningococcal C vaccine and booster measles vaccine doses have failed to attract significant uptake.

A marketing campaign will be conducted by the GC Public Health Unit and messaging about the availability of vaccine in general practices and other clinics will be sent to all parents of students in Years 11 & 12. It is likely that clinics will also be conducted at student health services at local universities.

Information about the rise of the disease and the vaccines follows. More information including question and answer sheets for parents and General Practitioners will follow when it becomes available.

## Meningococcal disease

Meningococcal disease is an uncommon, but sometimes life-threatening illness. The disease is a result of a bacterial infection of the blood and/or the membranes that line the spinal cord and brain. Although treatable with antibiotics, the infection can progress very rapidly.

At any one time, approximately 10 per cent of healthy people carry meningococcal bacteria harmlessly in their nose or throat, and do not become ill.

Rarely, the meningococcus causes serious invasive infections, including septicaemia, meningitis and other illnesses.

Meningococcal disease can be a severe infection, but most people make a full recovery. However, about 10 per cent of cases suffer a long term disability (e.g. deafness, intellectual disability). In very rare cases, meningococcal infection can result in death. Meningococcal disease usually takes 3 to 4 days to develop but can take as long as 10 days. It is important that people with the symptoms seek medical advice early. The disease is serious and can be life-threatening, but most people recover completely with early antibiotic treatment.

Symptoms of meningococcal disease include headaches, fever, vomiting, muscle pain and in the later stages, may be accompanied by the appearance of a spotty red-purple rash that looks like small bleeding points beneath the skin or bruises.

## **What is Meningococcal W disease?**

Meningococcal infection is the leading cause of meningitis. Six different kinds, serogroups A, B, C, W, X, and Y cause the most disease. For a long time meningococcal B has been the main serogroup, and meningococcal C was also common until the MenC vaccine was introduced, reducing cases to just a handful each year.

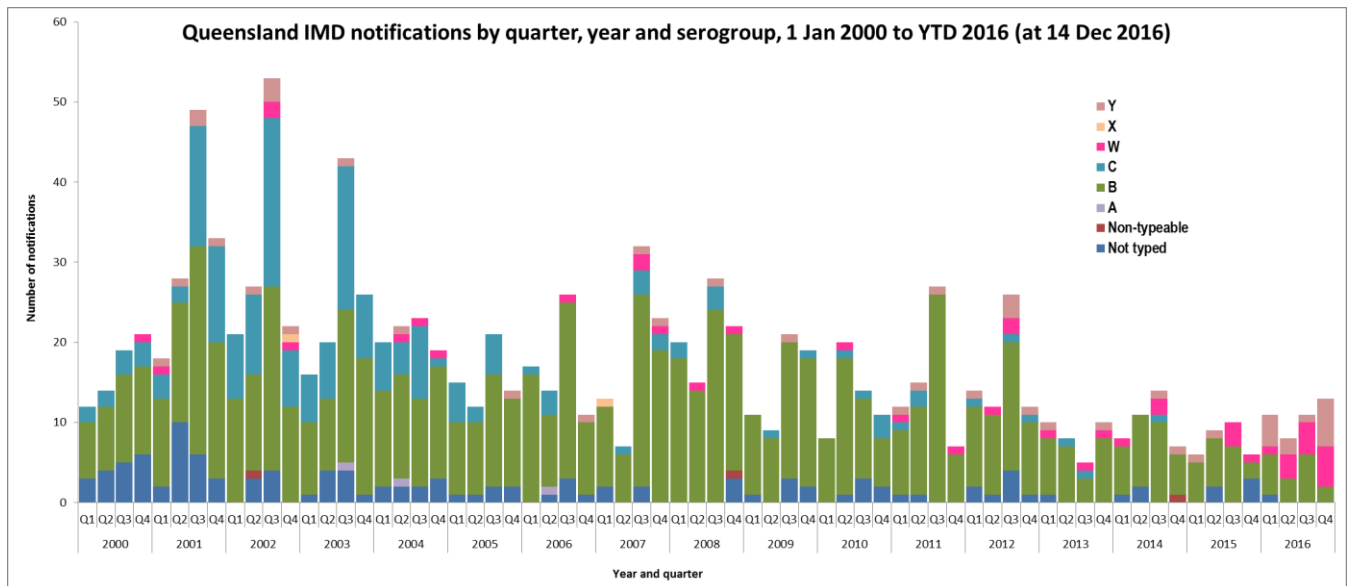
Cases of meningococcal W (MenW) have risen steadily over the last few years. After causing relatively few cases, in 2015 it accounted for over 20% of Australian cases and it continues to increase. In England in 2014/15 MenW accounted for 24% of cases of meningococcal disease compared to only 1-2% in 2008/9. Almost all of the increase in MenW disease is attributable to a particularly virulent type of meningococcal bacteria called ST-11.

The rise in this ST-11 MenW disease is particularly alarming because it is striking mainly healthy people across all age groups. The ST-11 strain is associated with severe illness which often requires treatment in intensive care and has a higher associated death rate than other strains of meningococcal disease.

MenW often has different symptoms to other kinds of meningococcal disease:

- Rather than meningitis or septicaemia, some people with MenW infection may get septic arthritis or a severe respiratory tract infection, such as pneumonia, epiglottitis or supraglottitis.
- Several adults with MenW septicaemia have had mainly gastrointestinal symptoms but without the characteristic non-blanching rash and progressed rapidly to death.

This is the strain that has been causing epidemic disease in Argentina, Brazil and in Chile, where it is associated with a death rate of 28%<sup>3</sup> compared to 10% for other strains.



## Is there a vaccine against Meningococcal W disease?

There are three conjugated vaccines available against MenW disease. These vaccines also cover MenA, MenC and MenY disease.

A vaccine against MenB disease also exists although there is a world-wide shortage at the moment and it is not readily available in Australia.

### Quadrivalent meningococcal conjugate vaccines (4vMenCV)

- **Menactra** – Sanofi-Aventis Australia Pty Ltd (meningococcal serogroups A, C, W<sub>135</sub>, Y–diphtheria toxoid conjugate). Each 0.5 mL monodose vial contains 4 µg each of serogroups A, C, W<sub>135</sub> and Y polysaccharides conjugated with a total of approximately 48 µg of a diphtheria toxoid protein.
- **Menveo** – CSL Limited/Novartis Vaccines and Diagnostics Pty Ltd (meningococcal serogroups A, C, W<sub>135</sub>, Y–CRM<sub>197</sub> conjugate). Lyophilised powder containing serogroup A (MenA) in a monodose vial with a pre-filled syringe or vial containing serogroups C, W<sub>135</sub> and Y (MenCWY) in saline suspension. Each 0.5 mL reconstituted dose contains 10 µg of serogroup A and 5 µg each of serogroups C, W<sub>135</sub> and Y oligosaccharides individually conjugated with up to 33.3 µg of non-toxic *C. diphtheriae* CRM<sub>197</sub> protein; sucrose.
- **Nimenrix** – GlaxoSmithKline Australia Pty Ltd (meningococcal serogroups A, C, W<sub>135</sub>, Y–tetanus toxoid conjugate). Lyophilised powder in a monodose vial with solvent supplied in a pre-filled syringe or ampoule. Each 0.5 mL reconstituted dose contains 5 µg each of serogroups A, C, W<sub>135</sub> and Y polysaccharides conjugated with a total of 44 µg of tetanus toxoid; trometamol; sucrose.

## Is the vaccine against Meningococcal W disease funded?

All Australian children are currently offered vaccination against Men C disease at 12 months of age.

After a substantial increase in W disease initially in the Kalgoorlie region of Western Australia (WA) but then in other parts of WA, the WA government announced that vaccination to protect against meningococcal strains A, C, W and Y would be offered to 15-19 year olds starting in school Term 2.

Subsequent to this announcement, the NSW government and then the Victorian Government also announced programs for 15-19 year olds with some differences in the years eligible for a school program. The Queensland program will start in schools when vaccine is available in term 2.

Vaccination is not currently funded in other states but discussions continue at a Federal level about the benefits of a broader program.

### **Are the vaccines safe?**

Men ACWY vaccines have a good safety profile. As with all drugs, vaccines can cause side effects. Side effects of MenACWY vaccines are similar to other routine vaccines and may include soreness/redness/swelling or hardness of skin at the injection site, fever, headache, nausea, muscle aches, tiredness/fatigue, loss of appetite, generally feeling unwell.

The vaccines have been used extensively in the UK and around the world amongst pilgrims attending Hajj to combat meningitis outbreaks that have occurred among Hajj pilgrims in the past. MenACWY vaccine is compulsory for people attending Hajj, and since 2010, there have been 2-3 million Hajj pilgrims each year worldwide. The vaccines have also been used amongst people at higher risk of the infections as a result of medical conditions and one brand, Menveo,<sup>®</sup> has been used as part of the routine immunisation programme in Chile and the US to routinely immunise teenagers.

### **Why are teenagers being given vaccine?**

Meningococcal W disease occurs at all ages but teenagers are among the most susceptible and they are the biggest carriers of the meningococcal bacteria in the community.

Targeting teenagers is considered to have the most effect in reducing the incidence of the disease more widely across the community in other age groups as well.

- This information sheet has been developed by the Gold Coast Public Health Unit