

Information for healthcare professionals

In 2015, Public Health England (PHE) reported an increase in endemic *Neisseria meningitidis* capsular group W sequence Type 11 clonal complex (MenW:cc11) associated with severe invasive disease in England and Wales.

The rise was initially recorded in 2009, with cases in England increasing steadily from 22 in 2009 to 117 cases in 2014. For the first time in a decade, MenW-related deaths were observed in young children and an increase in MenW cases among students attending universities suggested that carriage and transmission of this particular hypervirulent strain had become established across the country.

In Northern Ireland (NI), there had been 3 cases reported in 2014 and 5 in 2015, giving an early indication of a similar increase in meningococcal W infection locally.

The [JCVI minutes in February 2015](#) noted that the increase in MenW cases in England and Wales constituted a national outbreak and recommended a national immunisation programme aimed at protecting adolescents against meningococcal capsular groups A, C, W and Y (MenA, MenC, MenW and MenY) strains. This was considered the best option to protect adolescents directly and, at the same time, providing indirect (herd or population) protection across all age groups.

The MenACWY vaccination programme comprised of the introduction of routine adolescent MenACWY vaccination at 13 to 15 years of age and a catch up programme for 15 to 17 year olds on 31 August 2015. Those entering university or other Higher Education Institutions who had not received MenACWY vaccine were eligible for the vaccine through general practice until their 25th birthday.

Following the MenACWY programme introduction,

MenW invasive disease in England peaked at 255 cases in the annual surveillance period 2016 to 2017, and then decreased incrementally in the following years. The programme was also associated with substantial reductions in MenY cases across all age groups, with MenC cases already at very low levels due to the successful MenC vaccination programme; MenA cases are extremely rare in the UK.

Recent data demonstrates the significant impact of the success of the MenACWY programme with 17 cases of MenW invasive disease reported in England in 2023/2024 and no MenW135 cases in Northern Ireland in the period 2020-2023.

What is meningococcal disease?

Meningococcal disease is caused by invasive infection with the bacterium *Neisseria meningitidis*, also known as the meningococcus. There are 12 identified capsular groups of which groups B, C, W and Y were historically the most common in the UK. Since the introduction of the routine MenC vaccination programme, cases of invasive meningococcal disease in the UK due to capsular group C have reduced dramatically, with capsular group B now accounting for the majority of cases.

Meningococci colonise the nasopharynx of humans and are mostly harmless commensals. Between 5% and 11% of adults and up to 25% of adolescents carry the bacteria without any signs or symptoms of the disease. In infants and young children, the carriage rate is low.

Meningococcal disease is transmitted by respiratory aerosols, droplets or by direct contact with the respiratory secretions of someone carrying the bacteria. The incubation period is from two to seven days and the onset of disease varies from insidious with mild prodromal symptoms to fulminant with acute and overwhelming systemic infection.

Meningococcal infection most commonly presents as either meningitis or septicaemia, or a combination of both. Infection with the hypervirulent MenW:cc11 were associated with atypical clinical presentations, including septic arthritis and severe respiratory tract infections (including pneumonia, epiglottitis, and supraglottitis) being over-represented among MenW cases compared with other meningococcal groups. Adolescents and young adults with MenW:cc11 disease also presented primarily with gastrointestinal symptoms without the characteristic rash making clinical diagnosis of the disease difficult.

Who does it affect?

Meningococcal disease can affect all age groups, but the highest rates of disease are in children under five years of age, with the peak incidence in those under one year of age. There is a second peak in incidence in young adolescents aged 15 to 19 years.

Vaccination against meningococcal disease for adolescents

What is the purpose of the routine programme?

In September 2015 the routine MenC vaccine (meningococcal capsular group C) was directly replaced with the MenACWY conjugate vaccine to offer direct protection against meningococcal capsular group W to those in academic school year 11 (14–15 year olds). Offering protection to this age group prevents carriage of the meningococcus bacteria in the nose and throat before the age at which the highest rates of carriage have been observed.

There was also a time-limited initial catch up for older teenagers and for new university entrants (freshers) in order to curtail the outbreak. Although this is no longer in place, the vaccine is available to adolescents and young adults who missed their school offer until their 25th birthday.

Offering protection and preventing carriage of the meningococcus bacteria in the adolescent population also provides indirect protection to all

other age groups by generating population level herd immunity, thus preventing transmission of the bacteria. Protection is best achieved across all age groups by replacing the adolescent MenC booster vaccine administered around 14 years of age with MenACWY conjugate vaccine. This vaccine will continue to offer protection against meningococcus capsular group C as well as offering additional protection against W, A and Y groups.

Why offer MenACWY conjugate vaccine to adolescents

In 2015, the JCVI reviewed all the available evidence and advised:

- Transmission of meningococcal capsular group W has been seen across age groups and across all regions in England, indicating that the strain was endemic.
- The highest rates of carriage have been observed in the adolescent population with evidence of sustained transmission, particularly within students attending universities.
- Those at highest risk of complications are young children and for the first time in the past decade, meningococcal capsular group W related deaths have occurred in this age group.

The JCVI recently concluded that due to the decline of invasive meningococcal A, C, W and Y disease in the UK (primarily due to the success of the teenage MenACWY vaccination programme), a MenC-containing vaccine is no longer required in infancy.

A dose of meningococcal C-containing vaccine is therefore no longer recommended in the childhood schedule at age 12 months, as of 1 July 2025.

What is the recommended vaccine for the programme and why?

The recommended vaccines for the programme are the conjugate MenACWY vaccines Menveo, Nimenrix and MenQuadfi. These three vaccines will continue to offer protection against MenC, while offering additional protection against groups A, W and Y. All

three vaccines are licensed for use in adolescents and adults and can be safely given with other routine adolescent vaccines.

Menquadfi is currently the only MenACWY vaccine brand supplied to Northern Ireland. However, the MenACWY vaccine brand will be dependent on product availability as guided by HSC Trust Pharmacy/RPhPS. Your routine vaccine supplier can provide more information regarding MenACWY vaccine brand availability if required.

Who is the vaccine recommended for?

The MenACWY immunisation programme is recommended for:

- all teenagers – this is usually administered in school year 11 or 12 (at around age 14 years)
- anyone, once eligible for the routine programme, until their 25th birthday if they have an unknown or incomplete MenACWY vaccination history

Further education students

There is an increased risk of invasive meningococcal disease for new university entrants, with exposure to the bacteria often occurring in the first few days to months of starting university, particularly during the 'freshers' period at the start of the university year.

University and further education college entrance provides an opportunity to raise awareness of the signs and symptoms of invasive meningococcal disease, to promote vaccination and to check an individual's vaccination history and offer any missed doses of vaccine. The vaccine should ideally be administered at least 2 weeks before attending university or college to ensure timely protection.

If a prospective student's immunisation history cannot be confirmed, it is acceptable to offer a dose of MenACWY conjugate vaccine. A toolkit for higher education institutions that covers IMD and vaccination messaging and details of how to order the free

supporting resources is available to download.

Individuals with previously confirmed invasive meningococcal disease

Individuals who have previously had meningococcal disease should be offered the vaccine if they are in one of the eligible groups. This will provide protection against additional meningococcal capsular groups.

Other eligible groups

Individuals with an increased risk of meningococcal disease due to an existing medical condition or treatment, travel, occupational exposure or close contact with a case of meningococcal disease may also be eligible to receive the MenACWY conjugate vaccine. Please see the Green Book, chapter 22, meningococcal for further information. Not all indications are HSC funded vaccination programmes

How often should MenACWY vaccine be offered?

MenACWY vaccine should be administered as a single dose only. The need for, and the timing of, a booster dose of MenACWY vaccine in individuals has not yet been determined and therefore a booster is not currently recommended.

What should you do if a person has already received the MenC conjugate vaccine at the age of 10 years or over?

Those who have already received a MenC vaccine over the age of 10 years should still be offered MenACWY conjugate vaccine at the recommended age to ensure protection against the additional capsular groups A, W and Y.

Allowing a minimum 4 week interval will result in boosting of protection against MenC. However, if in the opinion of the healthcare professional, allowing an interval may lead to further delays in protection against the additional 3 strains, the MenACWY conjugate vaccine can be administered at any interval after MenC vaccine to bring the child up to date with the NI schedule as soon as possible.

What should you do if a person has already received MenACWY conjugate vaccine at the age of 10 years or over?

Those who have already received a MenACWY conjugate vaccine at the age of 10 years or over (with the exception of close contacts of a confirmed case of MenACWY infection), for example, for travel purposes, do not require an additional dose as part of the MenACWY immunisation programme.

Individuals who are identified as a close contact of a confirmed case of meningococcal disease due to serogroups A, C, W or Y will be offered a dose of MenACWY conjugate vaccine if they have not received a dose in the preceding 12 months.

What should you do if a person has already received MenACWY conjugate vaccine under the age of 10 years?

Those who have received a MenACWY conjugate vaccine under the age of 10 years (for example, for travel purposes or because they were a close contact of a confirmed case of meningococcal infection), will require an additional dose when they are 10 years and over as part of the MenACWY immunisation programme at around age 14 years.

What should I do if a person has already received a MenACWY polysaccharide vaccine previously?

Meningococcal polysaccharide vaccines are discontinued and no longer licensed in the UK. Previous vaccination with meningococcal polysaccharide vaccines should not be counted as a valid dose when taking a history from the individual, their parent or carer.

The benefits of immunisation with conjugate vaccine outweigh any potential or theoretical harm associated with re-vaccination after polysaccharide vaccine. Therefore, MenACWY conjugate vaccine should be given irrespective of the time interval since any MenACWY polysaccharide vaccine.

Vaccine administration

How is the vaccine administered?

Menveo and Nimenrix vaccines should be reconstituted according to the manufacturer's instructions. MenQuadfi does not require reconstitution and comes in a single dose vial.

All 3 vaccines should be administered via intramuscular injection (IM) into the deltoid muscle in the arm (or the anterolateral aspect of the thigh if necessary).

Healthcare professionals should be familiar with the manufacturer's summary of product characteristics (SPC) and the patient group direction (PGD) to ensure that vaccines are reconstituted, supplied and administered correctly.

1. [MenQuadfi® Summary of Product Characteristics \(SPC\)](#)
2. [Nimenrix® Summary of Product Characteristics](#)
3. [Menveo Summary of Product Characteristics: <https://www.medicines.org.uk/emc/product/2939/smpc>](https://www.medicines.org.uk/emc/product/2939/smpc)

What is the shelf life of Menveo® MenQuadfi® and Nimenrix®?

Menveo® has a shelf life of 2 years, Nimenrix has a shelf life of 3 years and MenQuadfi has a shelf life of 42 months when stored in their original packaging in a refrigerator at the recommended temperatures of +2°C to +8°C.

Store in original packaging in order to protect from light. Do not freeze.

After reconstitution of Menveo® and Nimenrix®, the vaccine should be used immediately. However, stability after reconstitution has been demonstrated for 8 hours below 25°C (below 30°C for Nimenrix®). Discard any reconstituted vaccine not used within 8 hours.

MenQuadfi® and Nimenrix® stability data indicate the unopened vaccine may be used up to 72 hours following exposure to temperatures up to 25°C.

The vaccine supplied may have a shorter shelf life and healthcare practitioners must check the expiry date of all vaccines being administered.

Registered healthcare practitioners should place small regular orders with their supplying vaccine holding centre.

What are the contraindications for receiving MenACWY vaccines?

There are very few individuals who cannot receive meningococcal vaccines. Where there is doubt, appropriate advice should be sought from the Public Health Agency Duty Room (0300 555 0119) or a consultant with immunisation expertise rather than withholding immunisation.

MenACWY conjugate vaccines should not be administered to those who have had:

1. A confirmed anaphylaxis to a previous dose of the vaccine OR
2. A confirmed anaphylaxis to any constituent or excipient of the vaccine.

For the composition and full list of excipients of the vaccine, please refer to the manufacturer's Summary of Product Characteristics (SPC).

Do the MenACWY conjugate vaccines contain latex?

Neither Menveo® MenQuadfi® nor Nimenrix® contains latex.

What should I do if less than the recommended dose of vaccine is inadvertently administered?

In the event that MenACWY vaccines are administered at less than the recommended dose, the vaccination will need to be repeated because the dose that the individual received may not be

sufficient to evoke a full immune response. Where possible, the dose of MenACWY vaccine should be repeated on the same day or as soon as possible after.

Health professionals should report the administration error via their local governance system(s), so that appropriate action can be taken, lessons can be learnt and the risk of future errors minimised.

What action should be taken if health professionals forget to reconstitute the MenACWY component of the Nimenrix® vaccine and only administer the contents of the pre-filled syringe?

Nimenrix® vaccine must be reconstituted by adding the entire content of the pre-filled syringe of solvent to the vial containing the ACWY powder. In the event a health professional administers the contents of the pre-filled syringe without reconstituting the vaccine powder, the vaccination will need to be repeated as the solvent alone will not offer any protection against meningococcal capsular groups ACWY.

Where possible, the dose of MenACWY vaccine should be repeated on the same day or as soon as possible after. Health professionals should report the administration error via their local governance system(s), so that appropriate action can be taken, lessons can be learnt and the risk of future errors minimised.

What action should be taken if Menveo vaccine is administered without the MenA component?

Health professionals should inform the patient of the administration error and reassure them that no further action is required. The purpose of the routine adolescent programme is to ensure protection against meningococcal capsular groups C and W. In the UK, MenA infections are extremely rare and, therefore, they do not require an additional dose of vaccine. If in the future the patient plans to travel to a country where protection against MenA is required, then they should be advised to be immunised with a further dose of MenACWY conjugate vaccine at that time.

Can the vaccine be offered to those outside of the immunisation programme?

Nimenrix, MenQuadfi and Menveo vaccines are licensed for use in children (from 6 weeks, 12 months and 2 years respectively), adolescents and adults at risk of invasive disease from *Neisseria meningitidis* A, C, W and Y (see Green Book Chapter 7). Those not eligible to receive the vaccine as part of the routine programme, but who wish to receive the vaccine, should speak to their GP to discuss the possibility of obtaining the vaccine directly (privately) from the manufacturer. Parents/patients who request the vaccine privately will be liable for the costs of the vaccine and any additional administration charges. GPs should not use centrally procured stock for the national programme.

Useful links

- Public Health Agency leaflet Are you aged 14–18 years old? Protect yourself against meningitis and septicaemia www.publichealth.hscni.net/publications/teenage-immunisations-ages-14-18-english-and-translations
- Are you aged up to 25 years and starting university for the first time? (MenACWY immunisation leaflet) <https://www.publichealth.hscni.net/publications/are-you-aged-25-years-and-starting-university-first-time-menacwy-immunisation-leaflet>
- UK Health Security Agency, Immunisation against infectious diseases: meningococcal chapter 22. www.gov.uk/government/publications/meningococcal-the-green-book-chapter-22
- Meningitis Research Foundation: www.meningitis.org/
- Meningitis Now: www.meningitisnow.org/
- NHS: www.nhs.uk/conditions/meningitis
- Joint Committee on Vaccination and Immunisation: <https://www.gov.uk/government/groups/joint-committee-on-vaccination-and-immunisation>

References

1. Ladhani, S. Beebeejaun, K. Lucidarme, J. Campbell, H. Gray, S. Kaczmarek, E. Ramsay, M.E., Borrow, R. (2015). Increase in Endemic *Neisseria meningitidis* Capsular Group W Sequence Type 11 Complex Associated With Severe Invasive Disease in England and Wales. *Clin Infect Dis.* (2015) 60 (4): 578-585. [internet] accessed 28 June 2022. <https://doi.org/10.1093/cid/ciu881>
2. Campbell H, Andrews N, Parikh S, White J, Edelstein M, Bai X, Lucidarme J, Borrow R, Ramsay M and Ladhani S. 'Impact of an adolescent meningococcal ACWY immunisation programme to control a national outbreak of group W meningococcal disease in England' *Lancet Child Adolescent Health* February 2022: issue 2, pages 96 to 105.

Acknowledgement

This publication is adapted from information originally developed by the UK Health Security Agency and is used under the Open Government Licence v 3.0



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