



Public Health
England

Protecting and improving the nation's health

Meningococcal ACWY vaccination programme

Information for healthcare practitioners

About Public Health England

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Change history

Version number	Change details	Date
01.00	<ul style="list-style-type: none"> • new information document 	2015
02.00	<ul style="list-style-type: none"> • document updated 	2015
03.00	<ul style="list-style-type: none"> • document updated 	2016
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Background

Although cases of meningococcal disease overall have been in decline since 2000, cases of meningococcal W were observed in previously healthy adults in 2009 and by 2011, cases had extended across all age groups and across all regions in England, indicating that the strain had become endemic. For the first time in a decade, meningococcal W related deaths were observed in young children and an increase in meningococcal W cases among students attending universities across the country suggested that carriage and transmission of the bacteria had become established.

In 2015, Public Health England (PHE) reported an [increase in endemic *Neisseria meningitidis* capsular group W sequence Type 11 complex associated with severe invasive disease in England and Wales](#). The rise was initially recorded in 2009 and, from then, there was a [continuing increase in meningococcal group W \(MenW\) disease in England](#) with cases steadily rising from 22 cases in 2009 to 117 cases in 2014. In January 2015, 34 laboratory confirmed cases were notified to PHE, compared to 18 cases in 2014 and 9 cases in 2013 in the same period.

The [JCVI minutes from February 2015](#) noted that the current increase in MenW cases in England and Wales constituted an outbreak situation and recommended a vaccination programme aimed at protecting adolescents against meningococcal capsular groups A, C, W and Y strains. This was felt to be the best option to generate population-level herd protection to all age groups.

The details of the MenACWY vaccination programme were set out in the [bipartite letter](#) which was published on 22 June 2015.

The distribution of invasive meningococcal capsular groups for the last epidemiological year (week 27 2018 to week 26 2019) is reported in [Invasive meningococcal disease in England: annual laboratory confirmed reports for epidemiological year 2018 to 2019](#) which summarises the distribution as “MenB accounting for 58% (305/525) of all cases, followed by MenW (n=113, 22%), MenY (n=59, 11%) and MenC (n=43, 8%). This was similar to the distribution in 2017/18; with 53% MenB (403/754), 26% MenW (n=194), 12% MenY (n=88) and 8% MenC (n=64).”

After peaking at 255 cases in 2016/17, annual MenW cases decreased by 42% from 194 cases in 2017/2018 to 113 cases in 2018/2019.

The Gov.UK website has resources including guidance documents and leaflets relating to the [Meningococcal ACWY \(MenACWY\) vaccination programme](#)

Meningococcal disease

The **meningococcal chapter of the green book** includes detailed information on meningococcal disease, the history and epidemiology of the disease and the vaccination programme.

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, and capsular group B now accounts 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. **A study looking at Social Behavior and Meningococcal Carriage in British Teenagers** found that, 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 2 to 7 days and the onset of disease varies from fulminant with acute and overwhelming features, to insidious with mild prodromal symptoms.

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

Meningococcal disease can affect all age groups, but the highest rates of disease are in children under 5 years of age, with the peak incidence in those under 1 year of age. There is a second peak in incidence in young adolescents aged 15 to 19 years.

Meningococcal ACWY vaccination programme

Purpose of the routine programme

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

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

To ensure best protection was achieved across all age groups, JCVI recommended that the adolescent MenC vaccine (meningococcal capsular group C), which was routinely administered at around 14 years of age, be directly replaced with the MenACWY conjugate vaccine from 1 September 2015 as an outbreak control measure. The aim was to provide direct protection against meningococcal capsular group W to those in academic school years 9 or 10 (13 to 15 year olds), and to prevent carriage and transmission within the adolescent population, ensuring indirect protection against meningococcal W to all other age groups through herd immunity.

The MenACWY vaccine continues to offer protection against meningococcus capsular group C as well as offering additional protection against groups W, Y and A.

Eligible cohort

The purpose of the MenACWY programme is to actively offer a single dose of MenACWY vaccine to:

- all teenagers – this is usually administered in school year 9 or 10 (at ages 13 to 14 years) regardless of their intention to continue into further education
- anyone born after 1 September 1996 and until their 25th birthday if they have an unknown or incomplete MenACWY vaccination history
- anyone aged 10 years up to their 25th birthday if they have an incomplete or unknown MenC vaccination history

Meningococcal freshers programme

The vaccine should also be offered to first time entrants to further or higher education (UCAS registered establishments, up to 25 years of age, that have not previously had a dose of MenACWY conjugate vaccine over the age of 10 years. This includes both UK born and international students.

The **Enhanced service specification for the meningococcal freshers programme** describes the purpose of this programme as being to prevent cases of the disease and deaths in freshers attending university for the first time

Individuals previously eligible since the start of the MenACWY programme in September 2015 remain eligible until they reach 25 years of age and should be offered the vaccine opportunistically. Those born on/after 1/9/1996 remain eligible for MenACWY until their 25th birthday. The vaccine can be given regardless of prior MenC status but vaccination is not required for those who have already received a dose of MenACWY conjugate vaccine after the age of 10 years.

Students with an unknown or uncertain immunisation history

If a prospective student's immunisation history cannot be confirmed before attending university, it is acceptable to offer a dose of MenACWY conjugate vaccine. Ideally the dose should be administered at least 2 weeks before attending university to ensure timely protection.

Those aged from 10 years up to 25 years who have never received a MenC-containing vaccine should be offered MenACWY.

Students in their second or subsequent years of university

Students in their second or subsequent years of university should not be offered the MenACWY vaccine as part of the freshers programme. Fully immunised students returning for their second or subsequent years of university do not have the same level of risk compared to those entering university for the first time. The increased risk of meningococcal infection is higher for those entering university for the first time with exposure to the bacteria occurring in the first few days to months, particularly during the 'freshers' period.

Students returning to university should be reassured that increased exposure to meningococcal bacteria occurring in the first year of university leads to asymptomatic carriage that boosts immunity to provide direct protection over subsequent years, thus there is no need for additional immunisations.

Returning students requesting the MenACWY conjugate vaccine should have their immunisation history checked to ensure that they are up to date with all immunisations. Those aged less than 25 years who have never, or are not certain if they have, received a MenC-containing vaccine and those who are in the eligible cohort for the MenACWY vaccine (born on/after 1 September 1996) but have not previously had it should be offered a single dose of the MenACWY conjugate vaccine.

Students that have previously had confirmed meningococcal disease

Students that 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 strains of meningococcus.

Other eligible groups

All individuals under 25 years of age who have never received a dose of MenC conjugate vaccine are eligible to receive this vaccine

Individuals with an increased risk of meningococcal disease due to existing medical condition or treatment, travel, occupational exposure or close contact with a case of meningococcal disease may also be recommended to receive the MenACWY vaccine.

Pregnant individuals in the eligible cohort

Healthcare professionals should discuss the benefits of vaccination with pregnant and breastfeeding women and can give the vaccine under a patient specific direction (PSD) rather than a PGD.

Many countries, including the UK, routinely recommend inactivated vaccines for pregnant women to offer protection against a number of serious illnesses such as influenza and pertussis (whooping cough). These are offered as part of the established vaccine in pregnancy programme, with no safety concerns being reported for such programmes by the MHRA.

Those who are pregnant should be advised that meningococcal vaccines offer direct protection against a virulent MenW strain that causes serious illnesses including meningitis and septicaemia. The vaccines do not contain any live bacteria and can be safely administered to pregnant or breast-feeding women, without any evidence of harm to the baby.

While pregnancy itself does not elevate the risk of acquiring meningococcal disease, those in the eligible age cohort have been recommended to receive the vaccine by the JCVI and should be encouraged to be immunised while they remain eligible.

Opportunistic provision of MenACWY vaccine

The General Medical Service (GMS) Statement of Financial Entitlement (SFE) makes provision for GP practices to offer MenACWY vaccine opportunistically to adolescents who miss out on the routine school-based MenACWY vaccination programme that usually takes place during school years 9 or 10.

Vaccination of those outside of the immunisation programme

Both Nimenrix and Menveo vaccines are licensed for use in children (from 6 weeks and 2 years respectively), adolescents and adults at risk of invasive disease from *Neisseria meningitidis* A, C, W and Y. Those who are not eligible to receive the vaccine as part of the national programme, but who wish to pay privately for the vaccine should discuss their request with a private provider.

GPs are not able to charge their own patients (those registered at their practice) a private fee for the vaccine and should not use centrally procured stock for the national programme to vaccinate private patients. Those seeking the vaccine privately should be made aware that they will be liable for the full costs of the vaccine and any additional administration charges that the private provider may apply.

Individuals that have 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. The MenACWY conjugate vaccine can be administered at any interval after MenC vaccine.

Individuals that have 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 meningococcal infection) for example, for travel purposes, do not require an additional dose as part of the MenACWY immunisation programme.

Individuals that have already received MenACWY conjugate vaccine under the age of 10 years

Those who have already 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 age 14 years unless required earlier).

Individuals that have received previous MenACWY polysaccharide vaccine

MenACWY polysaccharide vaccines provide short term protection that lasts approximately 3 to 5 years in adults and older children. Adolescents who have previously received the MenACWY polysaccharide vaccine should continue to receive the MenACWY conjugate vaccine as part of the national programme. The benefits of immunisation with conjugate vaccine outweigh any potential or theoretical harm associated with re-vaccination. Therefore, MenACWY conjugate vaccine should be given irrespective of the time interval since any MenACWY polysaccharide vaccine.

Freshers who have received polysaccharide MenACWY vaccine in the 12 months before starting university should have sufficient immunity against MenACWY infection to cover their university student years. Therefore, vaccination with MenACWY conjugate vaccine is not necessary, unless the polysaccharide vaccine was administered more than 12 months ago.

MenACWY vaccine

The recommended vaccine

The recommended vaccines for the programme are the MenACWY conjugate vaccines Menveo or Nimenrix. These 2 vaccines will continue to offer protection against meningococcal capsular group C, while offering additional protection against groups A, W and Y. Both vaccines are licensed for use in adolescents and adults and can be safely given with other routine adolescent vaccines.

Vaccine ordering

Conjugate MenACWY vaccines are available to order via ImmForm.

On rare occasions, ordering restrictions may be in place or vaccines may be temporarily unavailable so only one or other of the 2 MenACWY vaccine brands may be available to order. Healthcare professionals are reminded to only order what they need for a 2 to 4 week period rather than over-ordering or stockpiling vaccines. Vaccines should be ordered, stored and monitored as described in [chapter 3 \(Storage, distribution and disposal of vaccines\) of the green book](#).

Vaccine dosage

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 is not currently recommended.

Vaccine administration

Menveo and Nimenrix vaccines should be reconstituted according to the manufacturer's instructions and 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.

[Menveo Summary of Product Characteristics \(SPC\)](#)

[Nimenrix Summary of Product Characteristics \(SPC\)](#)

[MenACWY vaccine \(Menveo or Nimenrix\): patient group direction \(PGD\)](#)

Menveo and Nimenrix shelf life

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

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 a consultant paediatrician with immunisation expertise, a member of the screening and immunisation team or from the local health protection team rather than withholding immunisation.

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

- a confirmed anaphylaxis to a previous dose of the vaccine OR
or
- 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.

Inadvertent vaccine administration errors

Failure to reconstitute vaccine correctly

If MenACWY vaccine is not reconstituted correctly, the actions below should be taken as the individual may require a repeat dose of vaccine. If a repeat dose is required, it should be given on the same day or as soon as possible.

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.

Administration of Menveo vaccine 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, meningococcal capsular group A 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 meningococcal capsular group A is required, then they should be advised to be immunised with a further dose of MenACWY conjugate vaccine at that time.

Administration of Nimenrix diluent without reconstituting with the vaccine powder

Nimenrix vaccine must be reconstituted by adding the entire contents 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.

Administration of an incomplete dose

If an incomplete dose of MenACWY vaccine is administered, the dose will need to be repeated as the incomplete dose 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.

Further resources

Public Health England/ NHS England. Meningococcal ACWY conjugate vaccination (MenACWY).

www.gov.uk/government/publications/menacwy-vaccine-introduction

Public Health England. Immunisation against infectious diseases: meningococcal chapter 22.

www.gov.uk/government/publications/meningococcal-the-green-book-chapter-22

Public Health England. Meningococcal group W (MenW) immunisation advised for 14 to 18 year-olds.

www.gov.uk/government/news/meningococcal-group-w-menw-immunisation-advised-for-14-to-18-year-olds

Public Health England. meningococcal leaflets, consent forms, PGD, information for healthcare practitioners and other MenACWY-specific materials

www.gov.uk/government/collections/meningococcal-acwy-menacwy-vaccination-programme

Meningitis Research Foundation

www.meningitis.org/

Meningitis Now

www.meningitisnow.org/

NHS Choices.

www.nhs.uk/conditions/Meningitis/Pages/Introduction.aspx

Joint Committee on Vaccination and Immunisation.

www.gov.uk/government/groups/joint-committee-on-vaccination-and-immunisation