Mesa 6

Control of meningococcal disease: **the experience in United Kingdom**

09:30 **Mesa 6. CONTROL DE LA ENFERMEDAD MENINGOCÓCICA: EXPERIENCIA EN REINO UNIDO**

Moderadora: M.ª José Cilleruelo Ortega. H. Universitario Puerta de Hierro, Majadahonda, Madrid.

- **Meningococo tetravalente. ¿Son importantes los adolescentes?** Andrew Riordan. Department of Infectious Diseases and Immunology, Alder Hey Children's Hospital, Liverpool, Reino Unido.
- **Meningococo B. ¿Se confirma la efectividad de la vacuna?** Ray Borrow. Head of the Vaccine Evaluation Unit at the Health Protection Agency (HPA) North West, Manchester, Reino Unido.

04/02/2017

Immunization Schedule in UK

8 weeks

- 5-in-1 vaccine
- Pneumococcal vaccine
- Rotavirus vaccine
- Men B vaccine

12 weeks

- 5-in-1 vaccine (2nd dose)
- Rotavirus vaccine (2nd dose)

16 weeks

- 5-in-1 vaccine (3rd dose)
- Pneumococcal vaccine (2nd dose)
- Men B vaccine (2nd dose)

1 year

- MMR vaccine
- Hib/Men C vaccine
- Pneumococcal vaccine (3rd dose)
- Men B vaccine (3rd dose)

2, 3 and 4 years plus school years one, two and three

- Children's annual flu vaccine

3 years and 4 months

- 4-in-1 pre-school booster
- MMR vaccine (2nd dose)

12-13 years

- HPV vaccine

14 years

- 3-in-1 teenage booster vaccine
- Men ACWY vaccine

65 and over

- Pneumococcal vaccine
- Annual flu vaccine

70 years

- Shingles vaccine

Vaccines only for 'at risk' groups

- BCG (TB) vaccine (birth to age 35)
- Chickenpox vaccine (any age)
- Flu vaccine (adults)
- Flu vaccine (children)
- Pneumococcal vaccine (2 years to 65 years)
- Hepatitis B vaccine (birth onwards)

Get your personalised NHS vaccine wall planner How to report vaccine side effects Travel vaccines

Quadrivalent meningococcal vaccine. The role of adolescents

- **Professor Andrew Riordan**
- Consultant in **Paediatric Infectious Diseases and Immunology** at **Alder Hey Children´s** NHS Foundation Trust, Liverpool, UK
- He was **Johanne Holly Research Fellow** at the University of Liverpool and wrote his **Doctoral Thesis on Meningococcal Disease**
- He has helped produce **NICE guidance on the management of fever** in children and **NICE quality standards** for the care of **children with meningitis and meningococcal disease**
- He is a member of the **Joint Committee on Vaccination and Immunisation and chairs the Meningococcal Sub-committee**

Public Health England

NHS England

Protecting and improving the nation's health

22 June 2015

NHS England Gateway Number: 03516
PHE Gateway Number: 2015115

Dear Colleague,

Meningococcal ACWY conjugate vaccination (MenACWY)

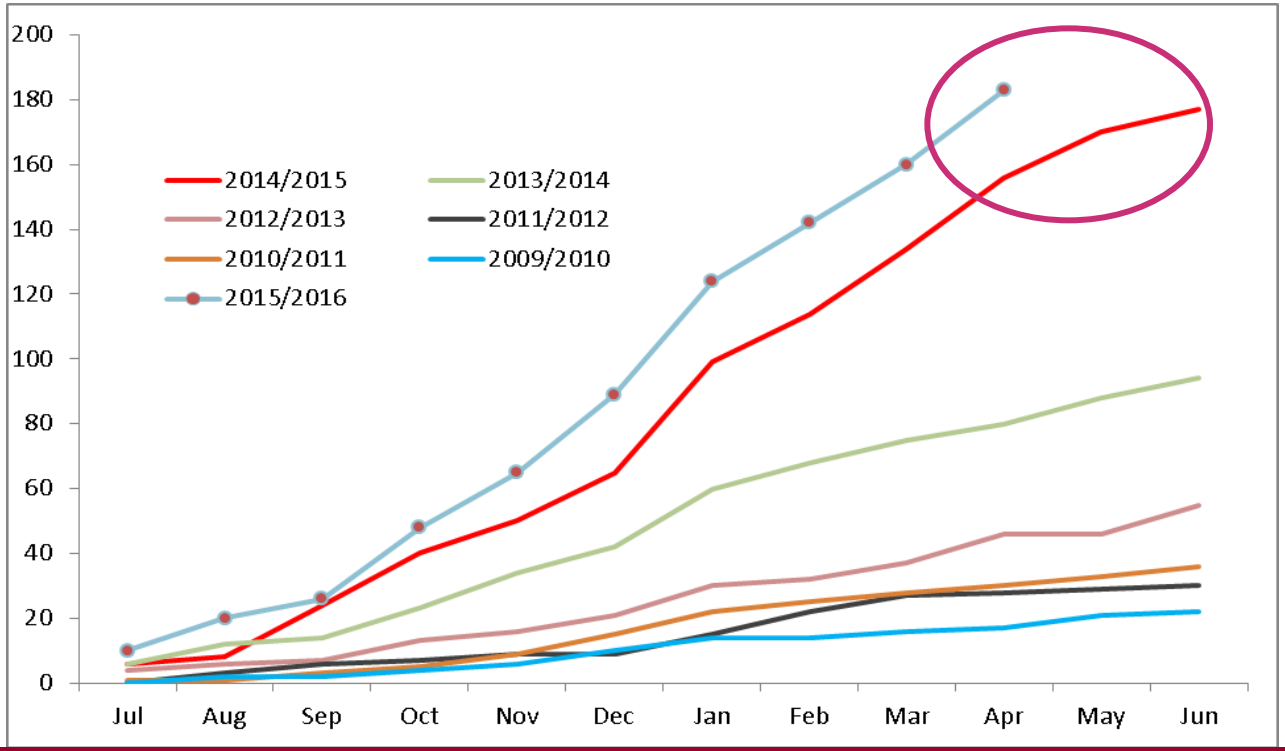
This vaccination is being introduced into the national immunisation programme for England this year to respond to a rapid and accelerating increase in cases of invasive meningococcal group W (MenW) disease, which has been declared a national incident. The MenACWY conjugate vaccine will provide direct protection to the vaccinated cohort and, by reducing MenW carriage, will also provide indirect protection to unvaccinated children and adults. This follows advice from the Joint Committee on Vaccination and Immunisation (JCVI).

The overall programme is comprised of:

- an urgent catch-up* campaign for current school year 13 age adolescents through general practice using a call and recall system
- a catch-up* campaign for current school year 10 students through schools from January 2016
- adding MenACWY vaccine to the routine adolescent schools programme (school year 9 or 10) from Autumn 2015, as a direct replacement for the MenC vaccination
- adding MenACWY vaccine to the existing time-limited 'freshers' programme (ie for older first time university entrants who have not already received

Cumulative MenW cases by epidemiological year (July to June) in England

To end April 2015/16 (provisional



Public Health England

Protecting and improving the nation's health

Meningococcal ACWY immunisation programme for adolescents

An update for healthcare professionals
Updated September 2016

Meningococcal carriage by age

Prevalence of nasopharynx carriage:

- Infants: 4-5%

-Adolescents: increase to 23,7% (19 years old).

-Adults: decrease to 7-8% (50 years).

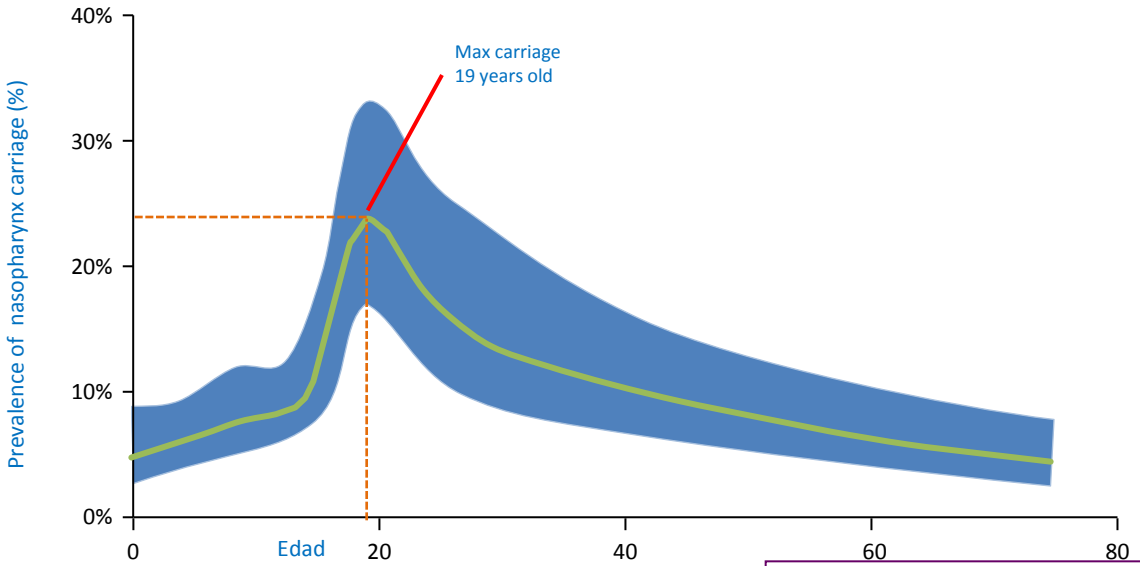


Figura adaptada de Christensen H et al.

Christensen H et al. Meningococcal carriage by age: Systematic review and meta-analysis Lancet Infect Dis. 2010:10:853-61.

Meningococcal B vaccine. Is vaccine effectiveness confirmed?

- **Professor Ray Borrow**
- **Head of Vaccine Evaluation Unit**, Public Health England, Manchester Laboratory**, Manchester Royal Infirmary**, Manchester, UK
- He gained his **PhD** in 1994, his **MRCPath** in 2003 and he became a **Professor of Vaccine Preventable Diseases** in the Faculty of Medical and Human Sciences at the **University of Manchester** in 2009 and **Visiting Professor** at the School of Healthcare Sciences, **Manchester Metropolitan University** in 2011.
- Until recently he served as a member of the **DoH Joint Committee of Vaccination and Immunisation (JCVI)** and continues as an invited expert. He is an ad hoc advisor to **WHO and PATH** on both meningococcal and pneumococcal vaccines.
- His scientific findings resulted in **over 300 peer reviewed published papers.**

Public Health England

UK MenB programme

Negotiations to procure at cost-effective price were concluded in late March 2015

MenB vaccine given with routine immunisation appointments from 1st September 2015

Routine cohort: infants born on or after the **1 July 2015**

Schedule: 2, 4 and 12 months (2+1)

Catch-up cohort: infants born from **1 May to 30 June 2015**
Schedule: 3, 4 and 12 months (2+1)
Schedule: 4 and 12 months (1+1)

Effectiveness and impact of a reduced infant schedule of 4CMenB vaccine against group B meningococcal disease in England: a national observational cohort study

Sydel R Parikh, Nick J Andrews, Kazim Beebeejaun, Helen Campbell, Sonia Ribeiro, Charlotte Ward, Joanne M White, Ray Borrow, Mary E Ramsay, Shamez N Ladhani

Summary

Background In September, 2015, the UK became the first country to introduce the multicomponent group B meningococcal (MenB) vaccine (4CMenB, Bexsero) into a publicly funded national immunisation programme. A reduced two-dose priming schedule was offered to infants at 2 months and 4 months, alongside an opportunistic catch-up for 3 month and 4 month olds. 4CMenB was predicted to protect against 73–88% of MenB strains. We aimed to assess the effectiveness and impact of 4CMenB in vaccine-eligible infants in England.

Methods Public Health England (PHE) undertakes enhanced surveillance of meningococcal disease through a combination of clinical, public health, and laboratory reporting. Laboratory-confirmed cases of meningococcal disease are followed up with PHE local health protection teams, general practitioners, and hospital clinicians to collect

Interpretation The two-dose 4CMenB priming schedule was highly effective in preventing MenB disease in infants. Cases in vaccine-eligible infants halved in the first 10 months of the programme. While ongoing national surveillance will continue to monitor the longer-term impact of the programme, these findings represent a step forward in the battle against meningococcal disease and will help reassure that the vaccine protects against this deadly infection.

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Men B: lack of coverage or vaccine failure?

In the UK, a substantial reduction of cases of serogroup B (MenB) meningococcal disease in infants is anticipated following the introduction of Bexsero (GlaxoSmithKline) into the infant immunisation schedule. This vaccine is not, however, a panacea. Strain coverage is estimated at 88% for

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Why is precise monitoring required?

All cases of meningococcal disease in Bexsero-immunised individuals could be classified as vaccine failures but this approach would underestimate the vaccine's effectiveness.

So how will coverage be assessed in the Bexsero era? First, for every suspected case of meningococcal disease in immunised individuals, extensive efforts will be necessary to isolate the causative meningococcal strain and run a full battery of tests for monitoring whether strains were covered or not covered (appendix). These tests will have to include sampling of contacts before prophylaxis as potential sources of a live isolate of the infecting strain. If confirmation is solely done by PCR, running of gene-specific PCRs/DNA sequencing reactions can determine if the disease-causing strain has antigens homologous to the vaccine antigens and hence is covered (appendix). If there are no matches, a case can be marked as due to a non-covered strain. Conversely, a good match will indicate a so-called true vaccine failure by a covered strain, except that strains with low expression of a homologous fHbp allele should be marked as non-covered strains.