Which age groups should be targeted for mass vaccination campaigns?

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Considerations

Conjugate vaccines work due to a combination of direct and indirect (herd) protection. Mass campaigns provide both, if the age groups driving transmission are included:
- MenC campaigns in UK and Netherlands
- MenAfriVac implementation across the meningitis belt

Models can be useful in simulating a wide range of options to investigate e.g.
- changes to UK MenC schedule
- long term strategies for MenAfriVac
- age targets for multivalent meningococcal vaccines

Good data needed on age-specific risks
Direct protection: Age-specific risk of meningitis

Age distribution of Nm disease in Niger, Campagne et al, Bull WHO 1999

Age-specific incidence of Nm disease in Burkina Faso, Chad, Mali, Niger, Togo reported to MenAfriNet. Soeters et al JID 2019
Indirect protection: Age-specific prevalence of carriage

Systematic review and meta-analysis of meningococcal carriage prevalence in Africa shows peak around 10-12 years of age.

But this peak is much less marked than in the analysis of studies in high income countries.

Cooper et al, Epi & Infect 2019
Campaigns 1-29 years vs 1-18 years

Routine EPI plus reactive vaccination (1-29)

*Routine EPI plus 1-18 year old campaign

*Routine EPI plus 1-29 year old campaign

Yaesoubi et al, PLOS Med 2018
A range of options

1-29 year olds

1-19 year olds

5-14 year olds

Squeeze older ages

MenAfriVac strategy

Compress to peak transmitters
A range of options

- 1-29 year olds
- MenAfriVac strategy
- 1-19 year olds
- 1-14 year olds?
- 5-14 year olds
- Compress to peak transmitters
- Squeeze older ages

To be modelled...
Geographical risk

Expand the existing meningococcal programme to support a **targeted approach** that includes ACW-containing multivalent meningococcal conjugate vaccines, contingent on WHO SAGE recommendation and a licensed, prequalified product that meets the financial assumptions of this investment case.

Gavi 2018
Thank you