Prevention of ST-1 pneumococcal outbreaks in the meningitis belt

Panel Discussion
Optimal schedules for control of pneumococcal infection in countries with high and low carriage

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Brenda Anna Kwambana Adams
Sub-optimal PCV Coverage

- Geopolitical factors
- Vulnerable and displaced populations
- Disruptions to immunization programmes
Is there inadequate herd protection?


Coverage vs. direct protection

- Central African Republic: 47% PCV coverage (2017)

Adapted from Franklin et al. 2021
PCV Scheduling without booster
Research to probe Spn1 basic biology

Genome Analysis of a Highly Virulent Serotype 1 Strain of *Streptococcus pneumoniae* from West Africa

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Protection against *Streptococcus pneumoniae* serotype 1 acute infection shows a signature of Th17- and IFN-γ-mediated immunity

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**Abstract**

*Streptococcus pneumoniae* is a key cause of pneumonia, meningitis, and bacteremia, estimated to cause 2 million deaths per year.

**The Journal of Infectious Diseases**

Comparative Genomic Analysis and In Vivo Modeling of *Streptococcus pneumoniae* ST3081 and ST618 Isolates Reveal Key Genetic and Phenotypic Differences Contributing to Clonal Replacement of Serotype 1 in The Gambia

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Implications for the prevention of pneumococcal outbreaks

➢ Improving PCV access and coverage
Chad, South Sudan, Guinea and Somalia yet to introduce PCVs

➢ Reactive vaccination campaigns likely to be of limited benefit (Cooper et al., 2019)

➢ Schedules including a booster protection?
Schedules with a booster dose (e.g. 2+1)

➢ PCV programmes with catch-up campaigns
Targeting the remaining burden of disease (5-29 years old)

➢ “Bacterial Meningitis Conjugate Vaccine”
Pentavalent Men + Spn1

➢ Strengthening of surveillance systems and vaccine impact monitoring
Rapid response and efficient data collection