

Immunization and Vaccine related Implementation Research (IVIR) Advisory Committee

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IVIR Advisory Committee 2018

Advises WHO on implementation research related to vaccines and immunization programs
Provides guidance on quantitative methods useful to vaccine research



Agenda

- **Theme 1 Minimize barriers for vaccine uptake**
 - Rotavirus vaccine impact update
 - Global research agenda for HPV vaccines update
 - Global research on Vaccine Demand and Acceptance update
- **Theme 2 Maximize impact of vaccines in use**
 - Malaria RTS,S policy Decision Making Framework and impact modeling
 - Measles optimal intervals between SIAs and mortality model
 - WHO Guide on standardization of economic evaluations of vaccines
 - Development of Full Public Health Value Proposition
 - Total Systems Effectiveness
 - Standardization of vaccine delivery cost

HPV vaccine global research update

Four challenges to expand access and coverage are being addressed

- 1 Updated review of evidence on HPV and access by countries to inform policy**
- 2 Understand local barriers to introduction and uptake of vaccines and translate into different messages to different key stakeholders.**
- 3 Perform economic studies to determine operational costs of optimal delivery strategies, value for money and affordability of vaccines**
- 4 Explore potential to simplify delivery strategies and vaccination schedules (e.g single dose)**

HPV Vaccine Recommendations

- **Acceptance of HPV vaccines proposal**
 - Distinguish barriers to receipt of first dose and subsequent dose
 - Investigate role of religious leaders and other community leaders in promoting vaccines
- **Single Dose HPV Evaluation Consortium**
 - Use Risk Of Bias In Non-randomized (ROBIN) studies tool to assess bias associated with trial participants receiving only one dose as an interrupted series in India and Costa Rica studies
 - Push for prospective studies of one versus two dose schedules especially among HIV infected people
 - To inform policy, further implementation research studies of one-dose schedule are needed to overcome programmatic and administrative constraints

WHO current recommendation: Optimal intervals between follow up SIA for measles

Rule of Thumb

Countries are recommended to monitor the accumulation of susceptible preschool children and conduct an SIA when the number approaches the size of one birth cohort.

Because coverage data are often unreliable, programme managers should use the ***best quality data available*** to determine the minimum interval between SIAs so as to prevent outbreaks.

WHO Measles Position Paper 2017

- ❑ “...Programmes should conduct follow-up campaigns before the number of pre-school children susceptible to measles approaches the equivalent of one birth cohort, in order to prevent an outbreak of measles.”
- ❑ “...A more extensive assessment of accumulation of susceptible persons should be carried out at the subnational level, especially for countries close to measles elimination.

Four alternative approaches examined

- ❑ (Jennifer) Knapp – “sophisticated” one-birth-cohort rule
- ❑ (Stéphane) Verguet – equilibrium solution to SIR equations
- ❑ (Amalie) McKee – calculation of proportion susceptible
- ❑ (Sebastian) Funk – estimation of R_n given susceptibility and contact patterns



Increasing complexity

IVIR-AC Recommendations optimal interval between follow up of measles SIAs

Which approach ?

IVIR-AC Working Group will help identify the simplest/feasible approach to define timing of campaigns

What drives the differences in outputs?

Need better understanding of differences between Knapp and Verguet methods from restrictive rule of thumb method plus need to include above > 5 and waning of maternal immunity

What additional work is needed?

- Include impact of geographic heterogeneity in SIAs coverage
- Further evaluation of models in reference to
 - Observed intervals between SIAs
 - Achieved SIA quality/coverage
 - Timing and size of outbreaks
 - Serological data

Value for money related considerations

WHO Normative Guides

- WHO Guide 2008 on Standardization of CEA updated
- Proposed Guide on Standardization of delivery and operational costs of new vaccines

“New” Concepts

- Full Public Health Value Proposition – full SAGE session
- Total System Effectiveness

Total system effectiveness (TSE)

- Multi Criteria Decision Analysis (MCDA) concept to support country based processes for choosing between vaccine products and/or prioritizing across vaccines
- IVIR-AC :
 - Welcomes the TSE concept but thinks it is ambitious
 - Hard to differentiate population-level impact for vaccines with negligible difference in efficacy (e.g. rotavirus vaccines products)
 - Key-informant interviews in countries should be done to determine
 - Where/by whom decisions are made
 - Which factors are important to country decision-makers
 - Which data gaps exist
 - How and if TSE should be used



Thank you

What is the appropriate metric to estimate a threshold for RTS,S vaccine coverage that would predict impact and cost effectiveness?

- **IVIR-AC recommends an incremental analysis:**
 - What is impact of 3 doses vs no vaccination / 4 doses vs no vaccination?
 - What is incremental impact of 3rd vs 4th dose?
 - Conduct sensitivity analysis using different coverage rates
- Data should be presented per population of children < 5 year of age
- Results should be easily interpreted by public health decision makers

Global Research on Vaccine Demand and Acceptance

International Collaboration for Vaccine Acceptance (ICVA) Initiative

- Open international multi-disciplinary network of social and behavioural researchers linked to immunization programs with focus on demand and acceptance of vaccines
- IVIR-AC recommendations
 - IVIR-AC appreciates opportunity to provide input at early stage to ICVA – proposed plans align with interest and prior activities of IVIR-AC
 - IVIR-AC proposed to establish IVIR-AC subgroup serving as link between IVIR-AC and ICVA with a focus on
 - Identify and support new research projects on behavioural science methods
 - Review proposed strategies and methodologies
 - Link with social and behavioral scientists from LMICs
 - ICVA to report regularly on progress to IVIR Advisory Committee