



Immunization and Vaccine related Implementation Research (IVIR) Advisory Committee update November 2013

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IVIR Advisory Committee

- First meeting 2012; Second meeting June 2013
- Current functions:
 - Provide guidance on implementation research relevant to immunization policies and practices
 - Focus on agenda and priorities for implementation research
 - Review implementation research and advise research groups
 - Review best practices related to methods for conducting and reporting on quantitative research

IVIR-AC June 2013: Discussion Points

- Hepatitis B impact evaluation framework
- Malaria vaccine impact and cost-effectiveness
- Measles investment case
- Estimating the yellow fever burden across Africa
- Modelling varicella vaccination in LMICs
- Immunization implementation research priority setting

Hepatitis B impact evaluation framework

1. WHO supporting efforts to provide new data on hepatitis B disease, vaccination and infection control measures in relation to vaccine implementation levels
2. Especially interested in the assessment of the implementation of a birth dose and its potential impact of Hepatitis B transmission
- 3 Two members of IVIR-AC (economics and health systems experts) will join project working group to provide continued input into the project

Malaria vaccine (RTS,S/AS01) impact and cost-effectiveness

1. 5 modeling teams exploring potential impact and cost-effectiveness--awaiting new trial data (expected late 2014)
2. IVIR-AC will support JTEG with review/comment on findings from models before SAGE discussions.
3. Considering methodological guidelines vis-à-vis handling of changing demographic factors in LMICs (especially due to population mobility).

Measles eradication investment case

1. Measles eradication model must capture within-country heterogeneities in coverage and transmission to adequately model global eradication costs and potential for success.
 - e.g. not considering geographically focal poor vaccine compliance could lead to a false sense of cost and ease of eradication campaign
2. Current model is insufficient to assess measles elimination goals. Will review modified model when available.

Estimating Yellow Fever burden across Africa

1. A model to re-evaluate burden of yellow fever in Africa estimates 850,000-2 million infections with yellow fever virus, yielding 85,000-200,000 cases and 30,000-70,000 deaths per year.
 - much of remaining burden in countries not targeted for GAVI investment
2. Model appears to be adequate for yellow fever disease burden estimation across the Africa region.

Modelling varicella vaccination in LMICs

1. A model constructed to inform SAGE recommendations on varicella immunization in LMICS
 - While the methods are appropriate
 - Model would be strengthened by addressing uncertainties in seroprevalence, case fatality ratios and the morbidity estimates
 - More data needed on burden of varicella in low and middle income countries for model to be of optimal use.
2. Model not designed to estimate global burden of varicella.
3. Calculating cost-effectiveness of vaccination across a range of possible estimates of disease burden will have substantial utility for priority setting.

Immunization implementation research priority setting

Goal: Systematically define a global immunization implementation research agenda and priorities with the potential to:

- drive immunization policy and maximize the impact of vaccines and immunization;
- help define and implement a process to facilitate efforts to generate relevant and credible evidence to support decision-making for national immunization programmes.

Recognizes opportunities offered by the Decade of Vaccines through Strategic Objective 6 of the GVAP.

(Arora NK et al. Vaccine 2013;31S: B129-36.)



Role of Ad Hoc Working Group

- Main TORs
 - To develop **framework for a systematic assessment** of priorities
 - Review suggested research topics/questions and identify priorities through a transparent and systematic process
- Participants
 - 21 independent experts (initial development of methods)
 - 20 experts representing all 6 WHO Regions; per IVIR recommendation
- Guiding principles
 - **recommended vaccines** and new **licensed or near-to-licensing vaccines**
 - research to identify **barriers and bottlenecks** or test attractive strategies to overcome such barriers
 - **global scope** (i.e., as broad and applicable as possible) and **LMICs**
 - **5-year timeframe** to complete the research

Methods: Selection of candidate questions

- A bank of potential research questions and topics were gathered through multiple sources, including:
 - SAGE conclusions and recommendations
 - technical reports (e.g., Epidemiology of the unimmunized/under-vaccinated child, Impact of new vaccine, EPI reviews)
 - solicitation from WHO immunization staff, EPI managers, selected experts
- Proposed questions and topics were screened through sequential stages (see Exec Summary) to a **final set of 84 questions in eight domains** for systematic rating
 - Health and Immunization Systems
 - Social determinants of vaccination & Communication
 - Vaccine product profile
 - Immunization and Coverage
 - Cold chain and logistics management
 - Program management
 - Program monitoring and impact assessment
 - Research related issues

Methods: Prioritization criteria & Rating of questions

- Criteria adapted from the Essential National Health Research (ENHR) methodology¹.
- Classified into four categories:
 - (1) Appropriateness [*Should we do it?*]
 - (2) Relevance [*Why should we do it?*]
 - (3) Chances of success [*Can we do it?*]
 - (4) Impact of the research outcome(s) [*What benefit will be achieved?*]
- **Nine criteria** in total with **3 levels each** (yes, no, uncertain)
 - criteria weighted empirically according to value judgments of the working group (i.e. actual raters) about the relative importance of the criteria using an additive scoring system ²
- Raters were assigned (by expertise) to rate questions in 3-4 selected domains but kept blinded to the weights
- Weighted aggregate scores were used to rank questions per domain

1. COHRED, A Manual for Research Priority Setting using ENHR Strategy, March 2000

Other methods considered were : Child Health and Nutrition Research Initiative (CHNRI) method, 3D Combined Approach Matrix method and Delphi and Nominal group techniques

2. Potentially All Pairwise Rankings of All Possible Alternatives (PAPRIKA) method: Hansen P, J Multi-Crit Decis. Anal. 2009; 15: 87

Prioritization--key results and conclusions

- Response rate
 - 68% contributed to criteria weights; 71% completed rating of questions
 - Respondents represent working group distribution
- Criteria weights
 - Ethical conduct of the study weighed highest
 - Availability of endpoints/results in <5 years weighed lowest
- Ranking of questions (by 9 to 19 experts per domain)
 - ranking has potential value for reference to identify critical research needs within domains - in conjunction with additional stakeholder interests and contexts
 - may not justify decisions to reject support for the "lowest ranked" questions
 - a limited number of vaccine-specific questions tended to rank lower
 - limited expertise? Bias from guiding principles?
 - small sample sizes; selected domains limited further by poor response

IVIR-AC recommendations (June 2013)¹

- IVIR-AC is supportive of the effort to make priority setting for implementation research questions more systematic.
- IVIR-AC believes that the overall analytical approach was well-designed
- The findings provide a systematic process for decision-making on research priorities and how **best to use limited funds for vaccine-related implementation research**; however, they should not be used as the sole criterion for decision making (contextual variability and other factors should be considered).
- Input from stakeholders at different levels besides global and regional will be beneficial to validate the exercise and define application of the results
- IVIR-AC recommended that IVB develop well-formulated strategy for next steps in priority setting for implementation research.

IVIR-AC June 2013: Strategic directions in relation to implementation research

- IVIR-AC agreed on three overarching foci:
 - Vaccine products
 - Community response to vaccines
 - Health system functional capacity
- IVIR-AC's main activities are:
 - Review methods and tools
 - Implementation research agenda setting and promote specific research interests/topics
 - Characterize and synthesize experience from on-going vaccination activities to identify research questions and approaches
- IVIR-AC will aim to contribute to:
 - Social determinants of vaccine use/demand/avoidance
 - Consider relevant communication tools
 - Surveillance, disease burden, and vaccine impact analysis

IVIR-AC June 2013: : updated Modus Operandi

- Pro-active agenda setting and synchronize with SAGE agenda
- Agreed to continue with one annual face-to-face meeting with virtual meetings via VC (preferably) through WGs
- IVIR-AC member to attend regional TAG meetings
- National EPI manager on rotating basis as part of 15 AC members

IVIR Advisory Committee

- Membership – 15 members
 - Individual capacity and broad range of expertise
 - infectious diseases, public health and epidemiology, health economics, statistics, mathematical modeling, health systems, demography, vaccines and immunization
 - Balance of professional affiliation, geographic representation
 - Declarations of interest
 - Appointed by WHO IVB; public call for nominations
- Meetings and operational procedures
 - Annual meeting (June)
 - Only plenary sessions – transparent process
 - Extensive representation from key partner organizations
 - Experts invited as needed
 - IVIR-AC subcommittees/working groups


Reporting

Executive summary in WHO WER (www.who.int/wer)

Annual report (www.who.int/immunization/documents/research/en/)

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 **World Health Organization**
Organisation mondiale de la Santé

Weekly epidemiological record
Relevé épidémiologique hebdomadaire

1ST NOVEMBER 2013, 88th YEAR / 1^{er} NOVEMBRE 2013, 88^e ANNÉE
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<http://www.who.int/wer>

WHO advisory committee on immunization and vaccine related implementation research (IVIR, formerly QUIVER): executive summary report of 7th meeting

The 7th meeting of the IVIR Advisory Committee (AC) was held on 26–28 June 2013 in Geneva, Switzerland. IVIR-AC evolved from the WHO Quantitative Immunization and Vaccines-related Research (QUIVER) advisory committee.

Comité consultatif sur la vaccination et la recherche sur la mise en œuvre des vaccins (IVIR-AC, précédemment QUIVER): rapport sommaire de la septième réunion

La septième réunion du Comité consultatif IVIR-AC s'est tenue du 26 au 28 juin 2013 à Genève, en Suisse. Ce comité, auparavant appelé Comité consultatif sur la Vaccination quantitative et la Recherche liée aux Vaccins (QUIVER), couvre maintenant

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Advisory Committee Meeting
Geneva, 25-26 September 2012

Immunization, Vaccines and Biologicals

 **World Health Organization**

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