## Reinforcement: research to reinforce vaccination via development and evaluation of new filovirus vaccines

### Session 2. Reinforcement: Ongoing research efforts to expand the vaccine portfolio against filoviruses

**Chair:** Connie Schmaljohn, NIAID

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<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker(s)</th>
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<tr>
<td>15:35 – 15:45</td>
<td>Ebola virus vaccine efficacy and deployment update</td>
<td>Ana María Henao-Restrepo (WHO)</td>
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<td>15:45 – 16:45</td>
<td>Research presentations by developers, including MARVAC Consortium</td>
<td>Tom King (Sabin), Kashmira Date (J&amp;J), Michael Egan (Auro Vaccines), Joan Fusco (PH Vaccines), Andrew Killianski (IAVI), Beth Ann Griswold-Coller (MERCK),</td>
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<tr>
<td>16:45 – 16:55</td>
<td>Sudan virus vaccine overview</td>
<td>Dan Wolfe (BARDA)</td>
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<td>16:55 – 17:05</td>
<td>WHO Core Protocol for filovirus vaccine clinical trials</td>
<td>Iro Longini (UFL)</td>
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<td>17:05-17:15</td>
<td>Immunobridging for evaluation of filovirus vaccines</td>
<td>Phil Krause</td>
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<td>17:15 – 17:45</td>
<td>Panel/Q&amp;A Questions: What are the priorities in filovirus vaccine research? Do we need preventive vaccines or outbreak-ready vaccines? Both? What steps are needed to accelerate the development of filovirus vaccines?</td>
<td>Marco Cavalieri, Marlon Gruber (IAVI), Andrea Marzi, Tom Geisbert (UTMB), Stephan Becker (Marburg Uni)</td>
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<td>17:45 – 17:55</td>
<td>Break</td>
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1. There is a need to understand filovirus short-term and long-term immune responses to natural infection and vaccination.
   - This knowledge could allow immunobridging of future filovirus vaccines, improved clinical trial design and better understanding of correlates of protection.
   - Additionally, a deeper assessment of fatal cases may provide clues into important predictors of outcome.

2. Future vaccines need to be deployable (outbreak-ready) as well as preventive. Multivalent filovirus vaccines would be preferred.

3. Acceleration of vaccine development depends critically on funding and assay standardization.

4. WHO protocol for filovirus vaccine trials – international, randomized clinical trial platform designed to rapidly evaluate candidate vaccines; adaptive design
Reinforcement

What research could support decisions about how current vaccines should be used?

• Who should be immunized in advance of an outbreak?
• Who needs a vaccine booster, and how often?
  • Is there a need to boost immunity in survivors?

What are the vaccine unmet needs, and how can we facilitate addressing them?

• Vaccines against Marburg and Sudan viruses
• Multivalent virus vaccines
• Other needs?

How can new vaccines be evaluated?

• Role of animal data, immunobridging, conditional approvals, full approvals, post-marketing studies
  • What data is missing to allow immunobridging of filovirus vaccines to support full approval of some vaccines? What is the fastest strategy to acquire such data?
  • Input on WHO protocol for clinical trials
  • Other research needs