Influenza Program at BMGF

Influenza/RSV Initiative
Pneumonia Program Strategy
Global Health

Niteen Wairagkar,
Lead
Influenza/RSV Initiative
Goal: Accelerate reductions in the global burden (mortality) of Pneumonia (in children < 5 years)

- Pneumococcus
- Meningococcus
- Influenza/RSV
- Maternal Immunization (GBS/Pertussis/Tetanus/Cross-cutting)
- Diagnosis & Treatment
- Strategic Information & Advocacy
- Risk Factors (Indoor Air Pollution)
- Learning Agenda

- Maternal Influenza
- Pediatric Influenza
- Universal Influenza
- Pandemic Influenza
- RSV
# Maternal Influenza Portfolio

<table>
<thead>
<tr>
<th>Strategy Area</th>
<th>Investments</th>
<th>Grantee</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adoption of the SAGE recommendation for maternal influenza immunization</strong></td>
<td>Randomized Placebo controlled trials to evaluate efficacy of Maternal Flu immunization</td>
<td>Nepal, Mali, South Africa</td>
</tr>
<tr>
<td></td>
<td>Pooled data analysis plan to assess impact on birth outcomes *</td>
<td>Emory University</td>
</tr>
<tr>
<td></td>
<td>Building immunization platform integrating antenatal care in developing countries (WHO)</td>
<td>WHO</td>
</tr>
<tr>
<td></td>
<td>Optimizing WHO strain selection process for tropical countries (WHO)</td>
<td>WHO</td>
</tr>
<tr>
<td></td>
<td>Partnership for Influenza Vaccine Introductions for developing countries (Task Force for Global Health/US-CDC)</td>
<td>TFGH-CDC</td>
</tr>
</tbody>
</table>

## Major Challenges

- Documentation of Disease burden in infants < 6 months
- Label issues- indication of use for pregnant women
- Existing licensed vaccines not available year round for program in developing country
- Strain selection process (and manufacturing cycle) not optimized for tropical and developing countries
- No WHO- SAGE Universal Recommendation.
- No sustainable global support for introduction of maternal flu
## Pediatric Influenza Portfolio

<table>
<thead>
<tr>
<th>Strategy Area</th>
<th>Impact on Risk Groups</th>
<th>Investments</th>
<th>Grantee</th>
</tr>
</thead>
</table>
| Explore ways to protect children 6-24 months  
• by evaluating potential of LAIV direct or indirect protection | (6 - 24 months)  
Children (2-5 yrs) |  
Influenza vaccine probe study to demonstrate avertable pneumonia burden in below 2 yrs.  
Seasonal LAIV clinical development Phase II and III trials in Bangladesh  
Phase 1 safety study of SII Seasonal LAIV  
Seasonal LAIV III trials in Senegal | ICDDR,B/JHU  
PATH/ICDDR,B/JHU/SII  
PATH  
PATH/CDC |

### Major Challenges

- Avertable burden of severe influenza not known
- Influenza vaccine effectiveness (for children 6-24 months) less than optimal
- Perceived safety issues with LAIV below 2 years
- Delivery challenges for this age group in developing countries
- Methodological challenges of evaluating herd protection
## Universal Influenza Portfolio

<table>
<thead>
<tr>
<th>Strategy Area</th>
<th>Impact on Risk Groups</th>
<th>Investments</th>
<th>Grantee</th>
</tr>
</thead>
</table>
| **Promote development of Universal flu vaccines (Decade of Vaccine objective)** Objectives  
• Define appropriate universal influenza vaccine investment strategy  
• Evaluate technologies for broader and long lasting immune response  
• Develop global agenda by addressing the challenges | Developing country populations | Chimeric HA Stalk based Vaccine Development (Pre-clinical)/COBRA HA vaccine candidate/Antigen-adjuvant combinations | PATH-PVS |
|               |                       | Global Universal Flu vaccine Landscape | PATH |
|               |                       | Global Funders Coalition | Global partnership |

### Major Challenges

- No consensus on “Universal” definition
- Need to define Target Product Profile and evaluate candidates/technologies
- (Perceived lack of interest from Industry)
- Regulatory Path- unclear
## Pandemic Influenza Portfolio

<table>
<thead>
<tr>
<th>Strategy Area</th>
<th>Impact on Risk Groups</th>
<th>Investments</th>
<th>Grantee</th>
</tr>
</thead>
</table>
| Ensure Global pandemic vaccine security            | Developing country populations          | • Influenza Vaccine Project  
  o H5N2, H2N2, H7N3 LAIV  
  o Pandemic VLP development  
  o Prime-boost study of H5N1 LAIV vaccine  
• Global Response to H7N9 emergence  
• ISARIC support  
• Receptor Binding H7N9 | PATH-IVP  
WHO  
U of Oxford  
University of Wisconsin |