Report from the SAGE Working Group on Influenza Vaccines and Immunizations

Elizabeth Miller
Chair of the SAGE Working Group on Influenza Vaccines and Immunizations

SAGE Meeting, November 10 2010
Geneva
Membership

• **SAGE members**
  – Professor Elizabeth Miller (Chair), Health Protection Agency, UK;
  – Professor Jon Abramson, Wake Forest University School of Medicine, USA
  – Professor Claire-Anne Siegrist, Centre Médical Universitaire, Switzerland

• **Dr William Ampofo**, Noguchi Memorial Institute for Medical Research, Ghana
• **Dr Joseph Bresee**, Centers for Disease Control and Prevention, USA
• **Dr Janet Englund**, Seattle Children's Hospital, USA
• **Dr Randeep Guleria**, All India Institute of Medical Sciences, India
• **Dr Yu Hongjie**, Chinese Center for Disease Control and Prevention, People's Republic of China
• **Dr Michael Pfleiderer**, Paul-Ehrlich-Institut, Germany
• **Professor David Salisbury**, Department of Health, UK
• **Professor Barry Schoub**, National Institute for Communicable Diseases, South Africa
Expertise

• Clinical practice, respiratory diseases
• Geriatrics
• Immunization programmes
• Influenza epidemiology
• National Immunization Technical Advisory Groups
• Paediatrics
• Public health
• Vaccine regulation
• Virology
• Outside expertise brought in when needed
  – e.g. Immunization economics (QUIVER)
Influenza WG Terms of Reference

1. Prepare for a SAGE evidence-based review and updating of WHO recommendations on the use of seasonal influenza vaccine (e.g. priority target groups) with a particular focus on low and middle-income countries and with a view to update the 2005 WHO influenza vaccine position papers.

2. Prepare for a SAGE discussion on coverage goals for seasonal influenza vaccination to be proposed to the WHA to update the coverage goals contained in the 2003 resolution.

3. Identify essential gaps in evidence that may impede SAGE’s ability to update the recommendations on the use of influenza vaccines and propose coverage targets.

4. Provide advice about pandemic vaccine preparedness.
1st Meeting: October 11-12, 2010

• Purpose
  – Introductory meeting to orient the Working Group members
    • To discuss Working Groups and their role with SAGE
    • To define the scope of the objectives
    • To develop an approach to meet the objectives of the Working Group
1\textsuperscript{st} Meeting: October 11-12, 2010

\begin{itemize}
  \item Presentations on:
    \begin{itemize}
    \item 2005 Vaccine Position Paper on Influenza
    \item Review of past SAGE influenza activities
    \item Report to the World Health Assembly (as a request from WHA 56.19)
    \item Influenza Disease Burden
      \begin{itemize}
      \item Global
      \item China
      \item Africa
      \end{itemize}
    \item 2010 Seasonal Influenza Vaccine Coverage in WHO Member States
    \item Strategies and successes of seasonal influenza vaccination uptake in the Americas
    \end{itemize}
\end{itemize}
A Unique Opportunity

- Long-term strategic look at influenza vaccines and immunization
- Momentum from H5N1 and pandemic H1N1 activities
- Future technologies and innovations
## Seasonal Influenza in National Immunization Schedule by WHO regions, 2009

<table>
<thead>
<tr>
<th>WHO regions</th>
<th>Number (%) of member states providing seasonal influenza in national immunization schedule</th>
<th>Target population*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Children</td>
</tr>
<tr>
<td><strong>African Region</strong></td>
<td>3 (7%)</td>
<td>1</td>
</tr>
<tr>
<td><strong>Region of the Americas</strong></td>
<td>29 (83%)</td>
<td>15</td>
</tr>
<tr>
<td><strong>Eastern Mediterranean Region</strong></td>
<td>11 (52%)</td>
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<tr>
<td><strong>European Region</strong></td>
<td>27 (51%)</td>
<td>6</td>
</tr>
<tr>
<td><strong>South-East Asia Region</strong></td>
<td>2 (18%)</td>
<td>1</td>
</tr>
<tr>
<td><strong>Western Pacific Region</strong></td>
<td>7 (26%)</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>79 (41%)</strong></td>
<td><strong>22</strong></td>
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</tbody>
</table>

* Not all member states reported on target population, some countries target more than 1 group.

Source: As per data reported through the Joint Reporting Form, WHO/IVB database, 193 WHO Member States. Data as of October 2010
Challenges for Influenza Vaccination Programs

- Measuring vaccine efficacy, cost-effectiveness, indirect effects/herd immunity
- Competing priorities for including underutilized vaccines into national immunization programs (e.g., Hib, pneumococcal, rotavirus)
- Scale and expense
  - Based on national recommendations in China, the estimated target population is 570.6 million, or 43% of the total population
  - Annual expense: $10 \times 570M = $5.7 billion
- Current production capacity is insufficient
  - How to prioritize the target population?
- Antigenic mismatch or co-circulation of two B lineages
- Influence of climate on seasonality, affecting timing of immunization
- Technology transfer
- Immunization services and communication needs
Key Discussion Points

• **Burden of Disease**
  – What is the true burden of disease, especially in developing countries? How does it vary by region, climate, and target population?
  – What data are generalizable?
  – What is the true impact of secondary bacterial infections?

• **Target Populations**
  – Elderly
  – Infants
  – Pregnant women
  – Other high-risk groups
Key Discussion Points

- Influenza vaccines
  - What is vaccine efficacy in different regions and settings?
  - Where do vaccines fit in the greater context of influenza disease prevention and control?
  - What should target coverage levels be, if they should exist?
  - How should influenza vaccines be prioritized in the context of other underutilized vaccines?
  - What are the future needs for seasonal and pandemic influenza vaccines?
  - What is the role/impact of adjuvants and Live attenuated influenza vaccine (LAIV)?
Key Discussion Points

• Challenges
  – Data gaps (burden of disease, vaccine efficacy, indirect effects, duration of antibody protection, transmission variability, etc.)
  – Surveillance/laboratory capacity in developing countries
  – Standardization and data sharing
  – Supply and scale of production
  – Cost-effectiveness evaluation
  – Prioritization of target groups in view of limited vaccine supply
## Conceptual Matrix

### Target Population

<table>
<thead>
<tr>
<th>Key Issue</th>
<th>Children</th>
<th>Elderly</th>
<th>Pregnant Women</th>
<th>Other High-Risk Groups</th>
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<tr>
<td><strong>Burden of Disease</strong></td>
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- What data exists?
- What data are needed?
- What are the gaps?
- What infrastructure or technology could address these issues in the future?
Next Steps and Timelines

- Further develop action plan, deliverables, and tentative timelines
- Compile available data
- Schedule WG teleconference for the end of 2010
- Finalize dates for future in-person meeting(s)
- Report to SAGE with proposals for long-term strategy and innovation (longer timeframe)