Issues in vaccine access and development

MSF/Oxfam consultation

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I. Successes

II. Challenges

III. Possible solutions
The Vaccine Challenge

7 million premature deaths from diseases for which vaccines not yet widely available

3 million premature deaths from vaccine-preventable diseases
Successes over last decade

• Continuing increasing in basic immunization coverage
  • But great disparities remain.

• Introduction of additional vaccines into EPI package
  • But most low-income countries still depend on GAVI funding.

• Development of several important new vaccines
  • But prices very high, vaccines not necessarily adapted to developing country needs.
Immunization coverage from surveys

- Estimates from survey data
- Country data
- WHO/UNICEF estimates

Lim et al, Lancet, 2008
Measles vaccine coverage, 2005

Introduction of newer vaccines, especially HepB and Hib

Routine immunization programs with Hib-containing vaccine 2005

101 countries, including most PAHO countries, but only 19 (25%) GAVI countries

Source: WHO
Routine immunization programs with Hib-containing vaccine 2008

Over 130 countries, including 66 GAVI countries, have introduced Hib vaccine or are expected to introduce by 2009-2010

Source: WHO/Hib Initiative database
### III. Important new vaccines

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Global deaths</th>
<th>Licensure</th>
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<tbody>
<tr>
<td>Pneumococcal conjugate</td>
<td>800,000</td>
<td>2000</td>
</tr>
<tr>
<td>Rotavirus</td>
<td>500,000</td>
<td>2004</td>
</tr>
<tr>
<td>HPV</td>
<td>160,000</td>
<td>2006</td>
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</tbody>
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None of these vaccines is in widespread use in low- and middle-income countries.
Challenges

Access
- Health systems
- Affordability
  - Expense of new vaccines
  - Tiered pricing and middle-income countries
  - GAVI’s financial situation

New vaccine development
- Vaccines for “neglected” disease with little or no rich-world market
- More appropriate versions of vaccines
Access challenges: affordability

• High prices for new vaccines (US public-sector prices)
  • Pneumococcal conjugate ($71)
  • Rotavirus ($57-83)
  • HPV ($91)
• Tiered pricing
  • A partial solution to high prices for the poorest countries
  • A contentious and inadequate measure for middle-income countries
• GAVI’s finances
  • Rapidly growing commitments for penta, pneumo, and rota
  • Decline in special revenues from IFFIm beginning after 2010
  • Effect of economic crisis on donors
Under current tiered pricing, pneumo vaccine is 6x more expensive than penta; HPV likely to be more expensive still.
GAVI’s financial situation

GAVI Financial Picture 2000-15 ($m)

Cash inflows
Cash outflows
Possible solutions to vaccine affordability

1. Reduce barriers to entry of new suppliers
   - Transfer technology and know-how
   - Overcome IP barriers
   - Streamline regulatory pathways for “follow-on” vaccines

2. Use pooled procurement mechanisms like PAHO’s to enhance bargaining power

3. Develop forms of tiered pricing acceptable to middle-income countries

4. Explore mechanisms for separating prices from R&D costs

5. Find sustainable funding for GAVI
Pressures on vaccine prices

“Monopsony” power of pooled procurement

Earlier entry of competitors
Research and development challenges

First or better vaccines against “neglected” diseases (malaria, TB, HIV, but also dengue, other parasitic diseases)

- Private sector will not invest sufficiently in vaccines that don’t promise large markets

Versions of existing vaccines better adapted to developing countries needs

- Relying on hand-me-downs often results in vaccines that are:
  - against the wrong serotypes
  - in the wrong presentations
  - too expensive
Possible solutions to R&D challenges

- PDPs and partnerships like the Meningitis Vaccine Project
  - Donor “push” funding
  - Partnerships with the product developers, including developing country firms
    - Built-in “access provisions”
  - “Pull” funding mechanisms, including prizes
    - De-linkage of price from R&D costs
    - Alignment of reward to innovation with public health benefit
  - Access to technology
    - Enhance and exploit R&D capacity of emerging suppliers
  - Governance & priority setting: who decides?
Back-up slides
Country adoption and adoption assumptions for GAVI-eligible countries

72 Total GAVI Countries to adopt the Vaccine by 2015

61 of 72 GAVI countries will have introduced Hib by end 2009.
1. Continued increase in immunization coverage in developing countries