Shaping the market: Gavi’s model for bringing the power of vaccines to the world’s poorest children

Seth Berkley MD
National Vaccine Advisory Committee
2 February 2015, Washington DC
The challenge: Reducing delays in launching new vaccines in poor countries

First introduction: 12-year delay

Introduction in 50% of countries: 6-year delay

Percentage of countries introducing HepB vaccine (%)

Year

Launch of GAVI

high-income countries

low-income countries

#vaccineswork
Gavi: an innovative public-private partnership

Building on the comparative advantages of both public and private partners
Gavi-supported vaccination programmes: an overview

Refers to the first Gavi-supported introduction of each vaccine.
Vaccine Investment Strategy: Gavi’s approach to prioritising new vaccines

- Cholera
- Dengue
- Hepatitis A
- Hepatitis B (birth dose)
- Hepatitis E
- Influenza*
- Meningococcal CYW
- Malaria
- Rabies
- Yellow Fever**
- DTP booster
- Enterovirus 71
- Mumps

* Maternal vaccination
** Additional mass campaigns

<table>
<thead>
<tr>
<th>Category</th>
<th>VIS Criteria</th>
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<tbody>
<tr>
<td><strong>Health impact</strong></td>
<td>Impact on child mortality</td>
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<td>Impact on overall mortality</td>
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<tr>
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<td>Impact on overall morbidity</td>
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<td><strong>Additional impact considerations</strong></td>
<td>Epidemic potential</td>
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<td>Global or regional public health priority</td>
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<td>Herd immunity</td>
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<td>Availability of alternative interventions</td>
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<td>Socio-economic inequity</td>
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<td>Gender inequity</td>
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<td>Disease of regional importance</td>
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<tr>
<td><strong>Implementation feasibility</strong></td>
<td>Capacity and supplier base</td>
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<td>GAVI market shaping potential</td>
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<td>Ease of supply chain integration</td>
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<td>Ease of programmatic integration</td>
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<td></td>
<td>Vaccine efficacy and safety</td>
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<tr>
<td><strong>Cost and value for money</strong></td>
<td>Vaccine procurement cost</td>
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<td>In-country operational cost</td>
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<td>Procurement cost per event averted</td>
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</table>

* Maternal vaccination
** Additional mass campaigns
Gavi’s unusual development model

Co-financing

Donor base

Market-shaping
HOW THE CO-FINANCING POLICY WORKS

Co-financing level
(per dose)

Vaccine price

Initial self-financing

Preparatory transition

Accelerated transition

Fully self-financing

Source: Gavi 2015.

#vaccineswork
Changing mindsets

In the vaccine manufacturing industry
Changing mindsets

In the vaccine manufacturing industry
Evolution of pentavalent vaccine market

Increasing volumes, growing number of suppliers, reducing prices

Manufacturers from which Gavi procured vaccines:
- Green: based in low-/middle-income country
- Blue: based in high-income country

Approved number of doses requested:
- 1 million

Sources: UNICEF Supply Division 2015; country annual progress reports (requested doses).
More secure vaccine supply

2001: 5 suppliers from 5 countries of production

Source: UNICEF Supply Division
More secure vaccine supply

2014: 16 manufacturers* from 11 countries of production

* Includes 14 Gavi suppliers and 2 manufacturers of prequalified Gavi vaccines.

** One US manufacturer also produces in the Netherlands.

Note: Country of production represents country of national regulatory agency responsible for vaccine lot release.

Source: UNICEF Supply Division and WHO list of pre-qualified vaccines, 2014
China: from implementing country to Gavi donor

- Self-financing vaccines
- Supplier of Gavi-funded vaccines
- Gavi donor

Dates:
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013
- 2014
- 2015

Catalytic Gavi support
Advance market commitment (AMC)

Accelerating the manufacture and delivery of vaccines

Donors commit funds for new vaccines that meet stringent criteria and are requested by developing countries, at pre-agreed price.

Manufacturers get incentive to invest in R&D – legally committing to supply vaccines at lower prices in the long term.

Developing countries and Gavi pay long-term, lower price for the vaccines.
IFFIm frontloading

Long-term donor pledges are converted into immediately available funding for immunisation

Advanced purchase commitment for Ebola

- **Gavi commits towards future procurement with prepayment**

- **Merck commits to:**
  - EUAL dossier acceptance by December 31 2015
  - Make available 300,000 investigational doses by May 2016
  - Submit for licensure by December 2017
After years of progress, measles control efforts stagnating and elimination off-track

MCV1 coverage stagnant for past 5 years...

...and measles outbreaks resurgent in both developed and developing world

Coverage with first dose of measles vaccine, %

<table>
<thead>
<tr>
<th>Year</th>
<th>Global</th>
<th>Gavi 73</th>
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<tbody>
<tr>
<td>1999</td>
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<td></td>
</tr>
<tr>
<td>2004</td>
<td></td>
<td></td>
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<tr>
<td>2009</td>
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<tr>
<td>2014</td>
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Launch of Global Vaccine Action Plan

Reported measles cases July-November 2015

- US: big outbreak - first measles death in 12 years, July ‘15
- China: ~ 40,000 cases Jan-Sept ‘15
- DR Congo: ~ 20,000 cases Jan-Sept ‘15
- Australia: outbreak Aug-Sept ‘15

Number of cases

- 0
- 1 - 9
- 10 - 99
- 100 - 999
- ≥1000
- No data reported to WHO HQ
- Not applicable

Gavi supporting the countries most at risk from infectious diseases

>300 infectious diseases exist...

...<30 currently vaccine preventable

Gavi supports the poorest countries, home to 60% of the world’s children
Powerful impact: meningitis A vaccine

**IMPACT:**
Number of meningitis A cases:

<table>
<thead>
<tr>
<th>Country</th>
<th>in 2008</th>
<th>in 2014</th>
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<tbody>
<tr>
<td>Niger</td>
<td>842</td>
<td>0</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>156</td>
<td>0</td>
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<tr>
<td>Mali</td>
<td>16</td>
<td>0</td>
</tr>
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450 million people threatened in 2014

More than 215 million people vaccinated since 2010

450 million people live in Africa's "meningitis belt" across 26 countries.
Global health security: Gavi’s growing role in outbreak preparedness and response

- Yellow fever vaccine stockpile
- Measles outbreak response
- Meningitis vaccine stockpiles
- Oral cholera vaccine stockpile
- Ebola vaccine stockpile
Four key enablers of vaccine development

- Recognise the lack of market potential
- Build laboratory & outbreak investigation capabilities in countries
- Create repositories of potential agents & better catalogue their immunologic properties
- Develop vaccine vector platforms
Vaccines reduce antibiotic resistance

Incidence of antibiotic-resistant invasive pneumococcal disease in children < 2 years, South Africa (cases per 100,000 person-years)

Accelerating impact 2016–2020

Sources: Gavi strategic demand forecasts 9 and 10,
THANK YOU