Yellow Fever
Challenges and Opportunities

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Edward Hoekstra, MD, MSc
Senior Health Specialist
Health Emergencies
UNICEF / New York
Overview of the presentation

- Goal
- Strategy
- Achievements
- 3 - 5 year agenda
- Future
General information on Yellow Fever

- Yellow fever caused by a virus (arbovirus)
- Vector borne disease transmitted by mosquito
- Endemic in forest zones with periodic epidemics
- Elevated risk at the end of rainy season
- Epidemic cycle every 6 - 10 years;
Yellow Fever – Disease Burden

Global estimates:
- 200,000 cases with 30,000 deaths annually (90% of cases occur in Africa)
- 538 million persons living in the countries at risk
- 20% in urban areas
- 3 millions visitors travelling to zones at risk in Africa annually
Countries at risk: African Region

Yellow fever belt - 12 highest risk countries

Arisque
Cas positif entre 1980-99
Cas positif depuis 2000
Epidemic trends in Africa: 1950-2004

1950-1974
- Epidemic in Ethiopia: 100,000 cases, 30,000 deaths
- 49 cases/year (without Ethiopia)

1975-1987
- 568 cases/year
- 3 countries/year

1988-1999
- 1,483 cases/year
- Nigeria and Ghana Epidemics

2000-2004
- 505 cases/year
- 7 countries/year
- Epidemics en Afrique de l’Ouest: Sierra Leone, Ivory Coast, Liberia, Guinea

unicef
Annual trends in the notification of suspected cases of Yellow fever in the WHO African region: 1950 - 2006
Control of Yellow Fever: Programme Strategy

OUTBREAK PREVENTION
- Preventive vaccination
  - Routine immunisation programmes
  - Preventive campaigns
- Vaccination of travellers to endemic zones

OUTBREAK CONTROL
- Enhanced surveillance
- Outbreak response – emergency vaccination campaigns and case management

IFFIm / GAVI funded
Yellow fever vaccination coverage in Routine EPI (2006 Sept.)

- YFV cov. >=80%
- YFV cov. = 50-79%
- YFV cov. <50%

Map of Africa with countries colored according to vaccination coverage levels.

Bar chart showing the number of countries by year, with lines indicating_meas-YF cov-gap and Admin.cov (%) over the years 2000 to 2006.
Global Yellow Fever stockpile: 2001 - 2005

- 6m doses / year
  - GAVI support approved in Dec 2002
  - Vaccines for outbreak response, re-imbursable
  - Vaccine made available following year on request for preventive campaigns in high-risk districts in GAVI-ELIGIBLE COUNTRIES AT HIGH RISK
  - Main problem: No funding for operational cost
The Yellow fever investment case: 2007 - 2010

Objectives

1. Increase population immunity in high-risk areas to reduce the risk of epidemics
   - Preventive and response campaigns in 12 Countries in West and Central Africa (Togo, Mali, Senegal, Burkina Faso, Ivory coast, Cameroon, Guinea, Benin, Ghana, Liberia, Sierra Leone and Nigeria)
   - At least 48 m people in 5 years

2. Maintain stable Yellow Fever vaccine market
   - Secure price and production of YF vaccines.
   - Ensure availability of sufficient YF vaccine for outbreak response and preventive activities
Yellow Fever investment case (2007 – 2010)

- **Total investment value**: US $ 58 M
- **Yellow Fever partnership and coordination**
  - Executing agencies: WHO and UNICEF
  - Partners: UNICEF, PATH, CDC, Institut Pasteur, AMP, ECHO, MSF, IFRC
Global yellow fever stockpile: 2007 - 2010

6m doses / year from 2007

- For response campaigns in GAVI-Eligible country
- 50% operational costs if in any of the 12 selected countries
- Re-imbursement not required for 12 selected countries
Global yellow fever stockpile: 2007 - 2010

From 2007

- Preventive campaigns in high risk districts in 12 selected countries
- 50% contribution to operational costs
- Countries to mobilise funds for co-financing
Activities to date

- **Workshop Bamako 2006**: Orientation of 8 countries
- **Workshop Ghana 2007**: 4 remaining countries
- **Risk assessment**: Completed in 5 countries
- **Preventive campaign**:
  - Completed in Togo and Senegal
  - Mali: April 2008
  - Burkina Faso: late 2008
  - Cameroon: Sub-national 2008
  - Nigeria 2010 and beyond
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<tr>
<th>Country</th>
<th>YF Vaccine (ds)</th>
<th>Status</th>
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<tr>
<td>Togo</td>
<td>4,287,367</td>
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<td>3,281,572</td>
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<td>6,677,070</td>
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<td>Burkina Faso</td>
<td>8,339,530</td>
<td>Delivery in process</td>
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<td>TOTAL</td>
<td>22,585,539</td>
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Next steps

- Continuation of the Investment Case proposal
- From 57 million doses till 2010
- Now 157 additional doses till 2013
## Activities planned

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Projected needs for YF preventive campaigns and outbreak response 2007 – 2013 *

* Excluding routine immunization
Conclusions

- Outbreaks are increasing
- Routine YF immunization in all 12 targeted countries
- Yellow fever preventive campaigns have been completed in 2 of 12 countries
- Vaccine availability now the main limitation
- Will use 215 m doses vaccine to address 12 countries instead of 57 m until 2013
- New funding is being requested to IIFIm and GAVI