First vaccination site for trial of second Ebola vaccine in DRC
A WORLD AT RISK

Annual report on global preparedness for health emergencies

Global Preparedness Monitoring Board
CEPI: a global coalition

To accelerate development of vaccines against emerging infectious diseases and enable equitable access to these vaccines for affected populations during outbreaks.
Our Strategic Objectives

**Preparedness**
Advance access to safe and effective vaccines against emerging infectious diseases

**Response**
Accelerate the research, development and use of vaccines during outbreaks

**Sustainability**
Create durable and equitable solutions for outbreak response capacity
CEPI’s initial priority pathogens

- MERS
- Lassa
- Nipah
- Chikungunya
- Rift Valley fever
- Disease X
CEPI as funder and facilitator

CEPI's role as a facilitator

CEPI's role as a funder

1. DISCOVERY
2. DEVELOPMENT / LICENSURE
3. MANUFACTURE
4. DELIVERY / STOCKPILING
5. LAST MILE
A global partnership

The Board

Investors

Joint coordination group

Scientific Advisory committee

CEPI

New vaccines for a safer world

Partners

CEPI
16 partnership agreements signed

<table>
<thead>
<tr>
<th>Organization</th>
<th>Vaccine(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Themis Bioscience</td>
<td>Lassa &amp; MERS vaccines</td>
</tr>
<tr>
<td>Inovio Pharmaceuticals</td>
<td>Lassa &amp; MERS vaccines</td>
</tr>
<tr>
<td>International AIDS Vaccine Initiative</td>
<td>Lassa vaccine</td>
</tr>
<tr>
<td>Emergent Biosolutions &amp; PATH</td>
<td>Lassa vaccine</td>
</tr>
<tr>
<td>Profectus Biosciences, Emergent Biosolutions &amp; PATH</td>
<td>Nipah vaccine</td>
</tr>
<tr>
<td>IDT Biologika</td>
<td>MERS vaccine</td>
</tr>
<tr>
<td>Janssen Vaccines &amp; University of Oxford</td>
<td>MERS, Lassa and Nipah vaccines</td>
</tr>
<tr>
<td>University of Tokyo</td>
<td>Nipah vaccine</td>
</tr>
</tbody>
</table>
16 partnership agreements signed

<table>
<thead>
<tr>
<th>Institution</th>
<th>Platform/Therapeutic Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imperial College London</td>
<td>saRNA platform (Rabies, Marburg, ‘Flu)</td>
</tr>
<tr>
<td>University of Queensland</td>
<td>Molecular clamp platform (MERS, RSV, ‘Flu)</td>
</tr>
<tr>
<td>CureVac</td>
<td>RNA platform (Rabies, Yellow Fever, Lassa)</td>
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<tr>
<td>Themis Bioscience</td>
<td>Chikungunya vaccine</td>
</tr>
<tr>
<td>Wageningen Bioveterinary Research</td>
<td>Rift Valley fever vaccine</td>
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<tr>
<td>Colorado State University</td>
<td>Rift Valley fever vaccine</td>
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<tr>
<td>Valneva SE</td>
<td>Chikungunya vaccine</td>
</tr>
<tr>
<td>Public Health Vaccines</td>
<td>Nipah vaccine</td>
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</tbody>
</table>
Open call for multipurpose platform technologies

- Rapid response platforms to quickly advance vaccines and other immunomodulating technologies
- Goal is to better prepare for outbreaks of Disease X
- Open to all organisations, all year round
- Apply on CEPI website
Sustainable Manufacturing Vision

Stockpiles
- Investigational
- Licensed product

Industry Capacity
- Produce large quantities of vaccines

Rapid Response Platforms
- Unknown pathogen response

MERS  Lassa  Disease X

Nipah  Chikungunya  Rift Valley fever
Project is modelling epidemiology and supply chains

Table 2. Number of regimens required to address outbreak response needs when only hospitals (n = 2,327) are considered as possible foci of Lassa outbreaks. Because each of the 1,000 replicate simulations required a different number of regimens, we report moments of the distribution of regimens required across those 1,000 replicates.

<table>
<thead>
<tr>
<th>Population being vaccinated</th>
<th>Total population</th>
<th>Treatment-seeking population</th>
<th>Healthcare workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>25%</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Median</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mean</td>
<td>194,967</td>
<td>89,667</td>
<td>117</td>
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<tr>
<td>75%</td>
<td>167,948</td>
<td>77,256</td>
<td>101</td>
</tr>
<tr>
<td>95%</td>
<td>1,083,618</td>
<td>498,464</td>
<td>652</td>
</tr>
<tr>
<td>Max</td>
<td>3,888,040</td>
<td>1,788,498</td>
<td>2,338</td>
</tr>
</tbody>
</table>
Capacity Scouting – Planning an open call

- We are seeking global diversity and redundancy of supply
- Capacity exists for CEPI’s 5-year planning horizon
- Breakthrough technologies may support distributed (local) supply
Strategic Interests for Sustainable Manufacturing

- Maximize capacity utilization
- Predictable orders
- Profitability
- Innovation
- Support public health

- Quickly respond to outbreaks
- Ensure equitable access
- Maximize funder contributions
Thank You

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sustainable.manufacturing@cepi.net