Emergency and Outbreak Response: Updates, Challenges and Opportunities for Vaccine Supply
UNICEF Core Commitment to Children in Emergencies

Nutrition

Health

Water, Sanitation & Hygiene

Education

Child Protection
Global Emergency activities

59 countries & territories

Type of response in 2014

- Natural disasters (hydro-meteorological): 77
- Natural disasters (geo-physical): 25
- Socio-political crisis (acute economic crisis, conflict/violent unrest, human rights crisis): 68
- Health crisis (acute nutritional crisis, epidemic, influenza: human pandemic): 96
- Other humanitarian situations: 28

Responded to 294 humanitarian situations

This map is stylized and not to scale. It does not reflect position by UNICEF on the legal status of any country or area or the delimitation of any frontier. The dotted line represents approximately the Line of Control agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. The final boundary between the Republic of the Sudan and the Republic of South Sudan has not yet been determined.
Recent examples 2015

**Nepal earthquakes: UNICEF emergency supply routes & response**

- **Supplies delivered** (international procurement): 1,275 MT
- **Procurement value**: $24.5M

**Key supplies**

- 856 tests for clinics, schools and child-friendly spaces
- 30,164 tarpaulins (785,000 m²)
- 764 interagency health kits
- 571 health kits
- 1,680 midi safety kits
- 378,280 vials of vaccines (8.7% = 10 doses)
- 50 diarrhoea disease kits
- 3,090 family hygiene and dignity kits
- 1,000 water and sanitation kits
- 122 million water purification tablets
- 164 water tanks (both more than 740,000 litres of water)
- 500 water tanks
- 9,322 early childhood development kits
- 159,046 school kits
- 7,914 treatment kits

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**LIFE-SAVING SUPPLIES TO EBOLA-AFFECTED COUNTRIES**

*Between 4 August 2014 and 10 April 2015*

**UNICEF has supplied** 7,994 MT of supplies to Guinea, Liberia, and Sierra Leone

**GUINEA**

- Procurement Value: International

**LIBERIA**

- Procurement Value: International

**SIERRA LEONE**

- Procurement Value: International

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**#Backtoschool**

As schools reopen, UNICEF and partners are helping create a safe environment for children to stay healthy and learn. UNICEF supplies include hygiene kits, WASH items to prevent the spread of infections, and thermostats to catch early warning signs of fever.
Ebola- largest Supply response in UNICEF history

Responding to three countries with differing programmatic priorities...

- Real-time development of new PPE specifications and kits
- New suppliers identified rapidly and production scale-up
- Air co-ordination Cell jointly established as air-bridge to countries
- Financial commitments made for the pre-purchase of PPE
- Volunteer packing days
- 50 Ebola Community Care Centers – from concept to execution in 2-3 months
A global ‘re-think’ of Health Emergencies is underway

• **Health Emergency is not Health in Emergency**
  - Health Emergency is about fighting the disease and reducing/eliminating shock to systems that serve societies

• **Health Emergency is differentiated from other humanitarian crises**
  - It is highly dynamic: Fighting a virus that is adapting and evolving needs a more sequenced approach
  - Epidemiological aspects: need to understand infectious disease – viral, bacterium, pathogen; transmission patterns, risk assessments
  - Behavioural component: interface between the person and the virus – need to understand anthropological capacity of communities before and during outbreak and how that impacts transmission
  - System component: How well does health system serve location of transmission
  - Paralyzing component: Fear of “invisible” and unknown enemy (not for all health emergency)
• **Historic experience** with health emergencies (e.g., H1N1, Ebola, Polio, Yellow Fever, Cholera, Measles, Meningitis).

• A dual mandate, working in both the development and humanitarian spheres.

• The capacity to use a **multi-sectoral approach**, combining basic health interventions at the primary level, with WASH, nutrition, communication, social mobilization & community engagement interventions, as well as a strong supply and logistics component.

• A track record of working with multiple government agencies in **building national capacity**.

• Experience of **working in strong partnership** with CSOs, NGOs and the private sector to build capacity and strengthen systems at the community level.

• Recognized role in support of **product innovation** and as an influencer of **markets**, aiming at bringing the best possible products at the lowest possible prices to children and families.

• **Extensive field presence** and the programming work done at country level before, during and after emergencies.
Health Emergencies: What is next for UNICEF?

- **Develop specific guidance** on our role in global health emergencies – which should be incorporated in the Core Commitments for Children (CCC).

- Participate in the Advisory Boards and other mechanisms, to **influence the future global architecture** for responding to health crises aiming to integrate all the lessons learned to improve response times and preparation.

- Help establish a **consortium-partnership for pre-crisis epidemiologic, behavioral and systems analytics**.

- Coordinate with partners to ensure that we have **well-trained multi-disciplinary operational stand-by teams**.

- Work with the industry, in partnership with WHO, GAVI, WFP and others, and also with ROs, to define appropriate **contingency stocks** and propose new product developments.

- Help translate the staff safety and **duty of care** experience of the Ebola crisis into HR policy and SOPs.
ESL is being updated based on UNICEF’s emerging work in Health Emergencies. To include supplies for prevention, diagnosis, control, treatment; for a target population of 250,000 for a 3 month replenishment period; potentially to address: Influenza, SARS, Ebola, MERS, Lassa RVF, Plague, Dengue, Leptospirosis, Botulism.

### List of Approved Emergency Items: Emergency Supply List (12 April 2013)

<table>
<thead>
<tr>
<th>CO Programme</th>
<th>Material Number</th>
<th>Short Description</th>
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<tbody>
<tr>
<td>Edu</td>
<td>S0575060</td>
<td>Plastic Mat w/o logo, 1.8 x 0.9m/BALE-25</td>
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<tr>
<td></td>
<td>S5001200</td>
<td>Bag, school, students, UNICEF, 400x270x100mm</td>
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<td></td>
<td>S5086011</td>
<td>Tarpaulin, reinforced, plastic, sheet, 4x5m</td>
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<td></td>
<td>S5088020</td>
<td>Tent, light weight, rectangular, 72m²</td>
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<tr>
<td></td>
<td>S9935012</td>
<td>School-in-a-carton, 40 students</td>
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<tr>
<td></td>
<td>S9935098</td>
<td>School-in-a-box, 40 students</td>
</tr>
<tr>
<td></td>
<td>S9935026</td>
<td>Recreation kit</td>
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<td></td>
<td>S9935060</td>
<td>Early Childhood Development (ECD) kit</td>
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<tr>
<td></td>
<td>S0005406</td>
<td>Generator set, diesel, air cooled, 5kVA**</td>
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<td>S0330020</td>
<td>Gloves, exam, latex, pwd free, small/BOX-100</td>
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<td>S0330025</td>
<td>Gloves, exam, latex, pwd free, medium/BOX-100</td>
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<td>S0782111</td>
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<td></td>
<td>S1505098</td>
<td>Ampicillin prd/inj, 500mg vial/BOX-25</td>
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<td></td>
<td>S1551960</td>
<td>Gentamicin inj, 40mg/ml, 2ml amp/BOX-50</td>
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<td>S1568121</td>
<td>Sod. lact. comp. inj, 1000ml w/g set/BOX-10</td>
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<td>S1581121</td>
<td>New form, Oral reh. salts, 1Ls/CAR-10x100</td>
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<td></td>
<td>S359163</td>
<td>Measles vaccine, vial of 10 doses</td>
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<td></td>
<td>S9901000</td>
<td>PEP kit</td>
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<td>Midwifery kit, 1-drugs</td>
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<td>Midwifery kit, 3-renewable</td>
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<tr>
<td>Health</td>
<td>S9902220</td>
<td>Midwifery kit, suppl., 1a-drugs</td>
</tr>
</tbody>
</table>
Current vaccines in this context
Use of Vaccines for Emergency and Outbreak response

72 Hours
- Measles and MR
  - 1M doses Measles and 100K doses MR

96 Hours
- Oral Cholera
  - LTA with 2 components: Preventive Campaigns and Emergency/Outbreak response

72 Hours
- Yellow Fever
  - LTA with 2 components: Routine and Emergency/Outbreak response

72 Hours
- Meningococcal A, C and W containing vaccines
  - LTA with 2 components: Routine and Emergency/Outbreak response

72 Hours
- Oral Polio Vaccine – sufficient availability to respond to outbreaks
  - IPV – recommended use in outbreak response
  - mOPV stockpile - Switch
Moving forward

Majority of vaccines to be considered for Emergency Response

Traditional approach or historical trends: no longer valid approach

Decision Making Framework including 3 steps:

1) an assessment of the epidemiological risk posed by each potentially important VPD within a given context;
2) a consideration of the properties of each vaccine to be taken into account for the intervention;
3) prioritization of the importance of vaccination in relation to other urgent public-health interventions
Future Vaccines
The Ebola epidemic in West Africa: a wake-up call.

Once the international community understood the threat:

1) The actions taken halted the disease.
2) Reflection started on how stay better prepared to fight the next outbreak.

- **Ebola R&D summit**: development of the blueprint/framework to accelerate research and development, applicable to all Health Crisis, including the thinking about the financing of health emergencies.

- **Global Ebola Vaccine Implementation Team**: finalizing the Ebola blueprint (will be used as a model for other crisis)

- **UNICEF in Global Health Emergency**: Implementation Plan (endorsed by GMT) mandates SD to continue to work with the industry, in partnership with WHO, GAVI, WFP and others, and also with ROs, to define appropriate contingency stocks and propose new product developments.
WHO has developed and published: *Emergency Use Assessment and Listing Procedure (EUAL) for candidate vaccines for use in the context of a public health emergency*

**Eligibility:**

- The disease for which the vaccine is intended has been declared by the WHO Director General to be a Public Health Emergency of International Concern (PHEIC).
- Based on the contingencies of the specific public health emergency, it is reasonable to consider the vaccine for EUAL assessment (e.g., there is no licensed vaccine for the indication or for a critical subpopulation, e.g. children, or there is a specific vaccine shortage).
- The vaccine is subject to oversight by a NRA that has been assessed as functional by WHO and is willing to provide oversight of batch release and other post-EUAL product safety and manufacturing quality assurance requirements.
- The vaccine is manufactured in compliance with current Good Manufacturing Practices (GMP).
- The vaccine applicant attests that it intends to complete the development of the product and apply for WHO prequalification.
Ebola vaccine – way ahead

- Based on the available data vaccination is likely to provide added value in controlling outbreaks of EVD caused by the Zaire ebolavirus species
- Outbreaks had been curtailed using public health measures other than vaccination. Vaccination should be part of the an integrated strategy and complement other public health measures: non clinical aspects- C4D, WASH... are important in addressing the behavioral and epidemiological dimensions of the response
- Currently there are no data to make any recommendations on vaccines against species of Ebolavirus other than ZEBOV though bivalent is under development. Interest in going ahead with product development towards improved vaccine profile
- The accelerated development of several candidate vaccines is unprecedented and is a testament to the value of partnership, participatory approaches and coordination
- Indications that EUAL pathway followed by full licensure and pre-qualification would be the next steps
- What to do in the meantime in the case of new outbreaks:

Gavi Executive Committee has encouraged investments in manufacturers in latest stages of development of 1st Generation Ebola Vaccine to insure availability of doses

UNICEF is coordinating with Gavi and partners and will launch a tender in 2016
Other future vaccines with expected major impact in Health Crisis

<table>
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<tr>
<th>Disease</th>
<th>Pre-clinical</th>
<th>Phase I</th>
<th>Phase II</th>
<th>Phase III</th>
<th>Market Approval</th>
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<td>0</td>
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</tr>
</tbody>
</table>

Source: Access to medicine Index
Outbreak Analysis and Modelling

• Governments, Partners and Academia are actively cooperating in the development of models to respond to Emergencies and Outbreaks

• Modelling is being an essential tool in the understanding of Ebola and how to react to future outbreaks. Malaria, Chagas...

• Industry is an essential stakeholder in this complex and multifactorial process

• How can UNICEF and Partners benefit from industry expertise in this area?
Thank You