The MSF Response to the West African Ebola Outbreak

Armand Sprecher
Médecins Sans Frontières
Operational Center of Brussels
<table>
<thead>
<tr>
<th>Location</th>
<th>Year</th>
<th>Type</th>
<th>Country</th>
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<tbody>
<tr>
<td>Kikwit</td>
<td>1995</td>
<td>(Zaire)</td>
<td>DRC</td>
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<tr>
<td>Libreville</td>
<td>1997</td>
<td>(Zaire)</td>
<td>Gabon</td>
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<tr>
<td>Durba</td>
<td>1999</td>
<td>(Marburg)</td>
<td>DRC</td>
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<tr>
<td>Gulu</td>
<td>2000</td>
<td>(Sudan)</td>
<td>Uganda</td>
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<tr>
<td>Mbomo Kelé</td>
<td>2003</td>
<td>(Zaire)</td>
<td>Gabon &amp; CB</td>
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<td>Yambio</td>
<td>2004</td>
<td>(Sudan)</td>
<td>South Sudan</td>
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<td>Uige</td>
<td>2005</td>
<td>(Marburg)</td>
<td>Angola</td>
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<tr>
<td>Mbomo Kelé</td>
<td>2005</td>
<td>(Zaire)</td>
<td>Congo B</td>
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<td>Kampungu</td>
<td>2007</td>
<td>(Zaire)</td>
<td>DRC</td>
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<td>Bundibugyo</td>
<td>2007</td>
<td>(Bundybugyo)</td>
<td>Uganda</td>
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<tr>
<td>Kampungu</td>
<td>2008</td>
<td>(Zaire)</td>
<td>DRC</td>
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<tr>
<td>Kampala</td>
<td>2011</td>
<td>(Sudan)</td>
<td>Uganda</td>
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<tr>
<td>Kibale</td>
<td>2012</td>
<td>(Sudan, Marburg)</td>
<td>3 x Uganda</td>
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<tr>
<td>Isiro</td>
<td>2012</td>
<td>(Bundybugyo)</td>
<td>DRC</td>
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Response 2014-2015

• Began 18 March, 2014
• > 60 people sent to field in first 2 weeks
• > 1000 people sent in the last year
• Trained > 800 people in Europe, more in field
• > 4000 national staff in field
• Opened 19 ETU’s in 6 countries, > 700 beds
• 8654 admitted, 5141 confirmed, 2414 survivors
Response 2014-2015

• Distributed 70,000 home protection kits
• Mass antimalarial treatment
  – 650,000 in Monrovia
  – 2.8 million in Freetown
• Launched 3 clinical trials
  – INSERM: favipiravir
  – Oxford: brincidofovir
  – ITM Antwerp: convalescent plasma
Challenges

• Complexity
Is Ebola Virus present?

- Yes
  - In People?
    - Alive?
      - Not Sick?
        - Decontamination
      - Healthy?
    - Dead?
      - Safe Burial
  - In the Environment?
    - Decontamination

- No
  - Antropology
    - Health promotion
    - Infection control
  - Outbreak and rumor investigation
    - Active Case finding

Psychological support

Outbreak Intervention Scheme
Challenges

• Complexity
• Extension
The Start

- Mar 13 – MoH alert: 15 cases, 9 deaths in Guinea
- Mar 18 – MSF VHF team arrive in Gueckdou
- Mar 21 – Identified as Ebola
- Mar 22 – Sierra Leone: 1 probable Ebola death
- Mar 23 – MSF ETU open in Gueckedou
- Mar 25 – Liberian MoH: 4 Ebola deaths
- Mar 26 – MSF ETU open in Macenta
- Mar 27 – 4 cases confirmed in Conakry
- Apr 1 – MSF ETU open in Conakry
- Apr 26 – MSF ETU open in Liberia
- **March 12**: Investigation of several deaths, South of Guinea, MSF support
- **March 18**: first MSF team to Guéckédou
- **March 22**: Ebola virus officially declared; soon after, first cases in Conakry
- **March 31**: Liberia reports 2 confirmed cases

**Opening of:**
- Guéckédou ETC
- Macenta ETC
- Donka ETC (Conakry)

**MSF describes mobilising “against an unprecedented Ebola epidemic”.**

**WHO report**

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<tbody>
<tr>
<td>Cases</td>
<td>112</td>
</tr>
<tr>
<td>Deaths</td>
<td>70</td>
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</table>
- **April 4 -> 14**: activities suspended in Macenta, following security incidents

- **Opening of**: 
  - Telimele ETC

- **Support to**: 
  - Kissidougou
  - Dabola
  - Monrovia
  - Foya

### WHO report

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<tr>
<td>Cases</td>
<td>239</td>
</tr>
<tr>
<td>Deaths</td>
<td>160</td>
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</table>
- Number of patients seems to decrease; no new cases reported in many areas
- First cases and deaths reported in Sierra Leone
- MSF leaves Macenta

**MSF declares that “the epidemic is not over and we must remain vigilant”**

<table>
<thead>
<tr>
<th>WHO report</th>
<th>Cases</th>
<th>Deaths</th>
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<tr>
<td></td>
<td>383</td>
<td>211</td>
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</table>
- **June 17**: first cases reported in Monrovia

- Opening of:
  - GRC transit
  - Kailahun ETC

MSF raises the alarm about a “resurgence of the Ebola outbreak in West Africa”, it is “out of control” and calls for massive resources.

### WHO report

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<tr>
<td><strong>Cases</strong></td>
<td><strong>779</strong></td>
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<tr>
<td><strong>Deaths</strong></td>
<td><strong>481</strong></td>
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</table>
- July 14: first case reported in Bo district (Sierra Leone)
- July 20: first case reported in Nigeria
- July 28: first case reported in Freetown

- Bed capacity increased in some ETCs.

**MSF calls WHO and governments to deploy staff and resources in the field to “begin to start controlling” this unprecedented epidemic.**

### WHO report

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<tr>
<td><strong>Cases</strong></td>
<td>1,603</td>
</tr>
<tr>
<td><strong>Deaths</strong></td>
<td>887</td>
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</table>
- **Aug. 4**: Cremation policy in Liberia
- **Aug. 8**: WHO declares Ebola « International public health emergency »
- **Aug. 12**: WHO green light experimental drugs/vaccine
- **Aug. 19**: first OCB training Brussels
- **Aug. 24**: Ebola outbreak in DRC
- **Aug. 29**: first case in Senegal
- Opening of:
  - Foya ETC
  - Elwa 3 ETC (Monrovia)

MSF calls for WHO statement to urgently “be translated into action”. Joanne Liu: “Emergency within the emergency”

### WHO report

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<tbody>
<tr>
<td><strong>Cases</strong></td>
<td>3,707</td>
</tr>
<tr>
<td><strong>Deaths</strong></td>
<td>1,808</td>
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</table>
- Sept. 8-12: UK, US, Cuba announce a response
- Sept. 17: first MSF international staff infected
- Sept. 18: outbreak is declared a threat to international peace and security => UNMEER
- Sept. 29: Marburg in Uganda
- Sept. 30: First case in US

- Opening of:
  - Bo ETC; GRC transit closed
  - Macenta transit

MSF warns that the world is “losing the battle against Ebola” and calls for States with biological disasters capacity response.

**WHO report**

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<tr>
<td>Cases</td>
<td>7,178</td>
</tr>
<tr>
<td>Deaths</td>
<td>3,338</td>
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</table>
- Oct. 3: protection kits distribution in Monrovia
- Oct. 6: first transmission outside Africa (Spanish nurse)
- Oct. 17: Senegal Ebola-free
- Oct. 20: first case Nigeria
- Oct. 21: 1,000 survivors from MSF ETCs
- Oct. 23: first case Mali
- Oct. 25: antimalarial treatment distribution (Monrovia)

MSF calls for treatments and vaccines to be made available immediately.

WHO report

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<tbody>
<tr>
<td>Cases</td>
<td>13,567</td>
</tr>
<tr>
<td>Deaths</td>
<td>4,951</td>
</tr>
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</table>
- Nov.: decline in Liberian cases
- Nov. 18: Macenta ETC built and handed over
- Nov. 21: DRC Ebola-free

- Opening of:
  - Redemption transit unit
- Support to:
  - River Cess
  - Voinjama

MSF announces it will host trials for Ebola treatment in 3 of its centers.

**WHO report**

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<tr>
<td>Cases</td>
<td>17,145</td>
</tr>
<tr>
<td>Deaths</td>
<td>6,070</td>
</tr>
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</table>
- Dec. 5: Mass Drug Administration door to door campaign in Freetown
- Dec. 17: favipiravir trial starts in Guéckédou
- Dec. 28: end of cremation policy
- Dec. 29: first case UK

- Opening of:
  - Quewein ETC
  - Freetown ETC
  - Magburaka ETC

- Support to:
  - Kissidougou

MSF insists on avoiding double failure and adapting the response to what is needed.

### WHO report

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<tbody>
<tr>
<td>Cases</td>
<td>20,206</td>
</tr>
<tr>
<td>Deaths</td>
<td>7,905</td>
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</tbody>
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**MSF EBOLA ACTIVITIES IN WEST AFRICA – January 2015**

- **Jan.**: Rapid Response Teams
- **Jan. 1**: Brincidofovir trial starts in Monrovia
- **Jan. 3**: Quewein ETC handed over
- **Jan. 6**: MSF IPC and IPD start in Monrovia
- **Jan. 16**: 2nd round of mass distribution in Monrovia

- Opening of:
  - Survivor clinic Monrovia
  - Kissy ETC & Maternity ETC

- Support to:
  - Faranah
  - Kissidougou
  - Grand Cape Mount

« Decline is encouraging, but critical gaps remain »

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**WHO report**

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<tbody>
<tr>
<td>Cases</td>
<td>22,495</td>
</tr>
<tr>
<td>Deaths</td>
<td>8,981</td>
</tr>
</tbody>
</table>
- Feb. 3: Brincidofovir trial ends
- Feb. 9-15: increased panic and violence in Guinea. Attack against MSF in Faranah.
- Feb. 19: Convalescent plasma trial in Conakry
- Feb. 20: Kailahun transit handed over

« This downward trend is an opportunity to focus efforts on addressing a number of serious weaknesses that remain »

**WHO report**

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<tbody>
<tr>
<td>Cases</td>
<td>23,969</td>
</tr>
<tr>
<td>Deaths</td>
<td>9,807</td>
</tr>
</tbody>
</table>
- **Mar. 7:** Vaccine trial starts in Guinea
- **Mar. 20:** New confirmed case in Monrovia after 16 days without any patient in country

Support to:
- Kambia/Forecariah: cross-border surveillance

Joanne Liu’s speech at EU:
« We must remain engaged, responsive, and determined. »

### WHO report (23/03/15)

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<tbody>
<tr>
<td>Cases</td>
<td>24,877</td>
</tr>
<tr>
<td>Deaths</td>
<td>10,314</td>
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</tbody>
</table>
Timeline
Challenges

• Complexity
• Extension
• Acceptance
Ebola clinic in Guinea evacuated after attack

Angry mob claims Doctors Without Borders introduced deadly disease to country


Healthcare workers from Doctors Without Borders prepare isolation and treatment areas for their ebola operations Gueckedou, Guinea. A crowd attacked a clinic in Macenta and accused the organization's health workers of bringing Ebola to Guinea. (The Associated Press)
Ebola outbreak: Guinea health team killed

Some villagers in Guinea have been scared by the appearance of health workers trying to combat Ebola.

Eight members of a team trying to raise awareness about Ebola have been killed by villagers using machetes and clubs in Guinea, officials say.
Challenges

• Complexity
• Extension
• Acceptance
• Personal Protective Equipment (PPE)
Challenges

• Complexity
• Extension
• Acceptance
• Personal Protective Equipment (PPE)
• Scale
Confirmed ebola cases admitted at MSF isolation units (from 21 March 2014 to 15 March 2015)

The arrows correspond to the date when the isolation unit was opened.
Case Fatality by Month

- Gueckedou
- Donka
- Bo
- Kailahun
- Foya
- Monrovia-ELWA3
- All centres
Foya ETU Admissions by IVF

Figure 9. Admitted Ebola confirmed patient who received IV Fluid in Foya EMC, Liberia, 2014
Figure 10. Survival estimates for patient admitted before and after week 34 in Foya EMC, Liberia, 2014
Challenges

- Complexity
- Extension
- Acceptance
- Personal Protective Equipment (PPE)
- Scale
- Staff health
Staff Health

• MSF Staff & Ebola
  – 28 staff members contracted Ebola
  – 14 of whom died
  – 3 international staff evacuated – all survived

• Mental health consequences
  – National staff
  – International staff & HQ
Let’s not do this again
The Challenge

• Complexity requires breadth of expertise
• Scale requires depth
• Difficult for MSF to do everything everywhere
• Partners often lack expertise or capability
• Underperformance with critical tasks
• Outbreak control sub-optimal

Picture: Peter Casaer, *The wall of survivors, Elwa 3, Monrovia*