Ebola interventions in West Africa...
... 2014-15

Dr. Rony Zachariah MD, PhD

On behalf of Médecins Sans Frontières/ Doctors without Borders
A severe viral disease caused by *Ebola viruses* (..*ebola Zaire*).

First discovered in 1976 close to the *Ebola river* in the Democratic Republic of Congo.

It mostly affects humans and non-human primates.

Case fatality = 25-90%
### Outbreak interventions by MSF

**1995-2015**

<table>
<thead>
<tr>
<th>Year</th>
<th>Country</th>
<th>N. of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>DRC</td>
<td>315</td>
</tr>
<tr>
<td>1997</td>
<td>Gabon</td>
<td>60</td>
</tr>
<tr>
<td>1999</td>
<td>DRC</td>
<td>154</td>
</tr>
<tr>
<td>2000</td>
<td>Uganda</td>
<td>425</td>
</tr>
<tr>
<td>2002</td>
<td>Congo B</td>
<td>57</td>
</tr>
<tr>
<td>2003</td>
<td>Gabon &amp; CB</td>
<td>178</td>
</tr>
<tr>
<td>2004</td>
<td>South Sudan</td>
<td>17</td>
</tr>
<tr>
<td>2005</td>
<td>Angola</td>
<td>252</td>
</tr>
<tr>
<td>2007</td>
<td>DRC</td>
<td>264</td>
</tr>
<tr>
<td>2007</td>
<td>Uganda</td>
<td>149</td>
</tr>
<tr>
<td>2008</td>
<td>DRC</td>
<td>32</td>
</tr>
<tr>
<td>2011</td>
<td>Uganda</td>
<td>1</td>
</tr>
<tr>
<td>2012</td>
<td>3 x Uganda</td>
<td>15</td>
</tr>
<tr>
<td>2012</td>
<td>DRC</td>
<td>36</td>
</tr>
</tbody>
</table>

**Kikwit, 1995:** 1st MSF intervention, small team, basic

**Gulu, Uganda: 2000**

Standardized guidelines.

Palliative care was standard, invasive care (IV) an exception.
DRC, 2007

invasive care (IV) became standard of care
Surveillance
Community involvement
Patient centered approach

Bundibugyo 2007-2008:
Alert & ambulance service

Safe burial services & psychological support

DRC 2007,
Patient terrace
Uganda 2012 – Marburg outbreak

Point of care testing (I-STAT)
(Ions, Sugar, kidney function....)
Six pillar strategy (2014)

Pillar 1 - Isolation and Supportive Care

Photo: Sylvain Cherkaoui/Cosmos
Six pillar strategy

Pillar 2 - Contact tracing

Photo: Gabriele François Casini/MSF
Six pillar strategy

Pillar 3 – Safe Burials and psycho-social support

Photo: Martin Zinggl/MSF
Six pillar strategy

Pillar 4 – Surveillance/Alert and Ambulance
Six pillar strategy

Pillar 5 – Access to care for non-Ebola patients

Distribution of malaria treatment, Monrovia
Six pillar strategy

Pillar 6 – Awareness Raising
``Nescafe and onion cures Ebola``

``The “X NGO” is injecting people with Ebola in their ETCs``

``All the people that saw passing the Snake of the traditional healer got Ebola``

``the white cars bring around Ebola – they spray it into our villages with their spray machines``
``Ebola is an invention from the Western world – they want to weaken and control us``

``If we all take a salty shower tonight Ebola will stop``

``The “Y NGO” is stealing the organs of our people – that’s why they hide them in their centres``

Those international people are just making up this Ebola thing ... They just want to gain money out of it ...
2014 Snapshot: MSF Ebola training

MSF staff: 800+

Other organisations: 250+

Trained in country: several thousands
**Snapshot:** point of care diagnostic tools

**How to increase EBOLA patient care?**

Laboratory tests in a secure laboratory inside ETC...From idea to reality

Pascale CHAILLET - Laboratory Advisor
pascale.chaillet@brussels.msf.org

Container placed between High Risk & Low Risk:
1 entry door High Risk
1 entry door Low Risk

Two lab containers set up:
- Liberia - Elna 3
- Guinea - Donka

**SAFE LABORATORY TESTING**
- Biochemistry: I-STAT (< 30°C)
- Malaria: RDT
- Urine: Strips
- Diagno PCR: GenXpert Ebola (under MSF feasibility protocol / Guinea)

**LABORATORY CONTAINER LOCALLY MADE!**

Thanks to David M., Igor D., Anibal O., Gay H., Sima N., Charlotte V., Eric G. and all the field teams who believed in this lab concept.
Snapshot: MSF partners in clinical trials

24 Ebola outbreaks in the past 40 years,

A Treatment?

A promising vaccine?
Ebola outbreak 2014 - a different scale

Ebola outbreaks
A look at the cases and deaths from Ebola outbreaks in Africa since 1976.

Guinea
Liberia
Sierra Leone
Uganda
DR Congo
Congo
Sudan
Gabon
South Africa
Ivory Coast

Gulu: 425

15,186 confirmed cases (33.5%) cared for by MSF
2,411 survivors discharged from MSF centers

TOTAL SINCE 1976
Cases: 3,457
Deaths: 2,193

Data are annual totals and only includes confirmed cases and case deaths (2014 data as of August 4). For the January to April outbreak, fatality rate is 89% for the Nov-Dec outbreak. **With probable/suspected cases Source: World Health Organization

up to 17 August 2015
The outbreak goes undetected.

Village of Meliandou, Guinée Forestière © New York Times

Phase I: December 2013 – March 2014
Phase II: March 2014 – July 2014

Alert of a "Mysterious disease"

March 16th: MSF SL alerted
March 18th 2014: Bo (SL) - Gueckedou (Guinea)
March 20th: Ebola MC Gueckedou
March 25th: Ebola MC Macenta
March 25th: Ebola MC Conakry
Sounding the alarm:

31 March - Unprecedented outbreak due to the geographic spread

26 May - Ebola confirmed in Sierra Leone

17 June - Ebola hits Monrovia, Liberia

21 June - “Ebola is out of control” – transmission in 60 + locations
Sierra Leone – Guinea border

Patients crossing border but villagers chase them away

Health structures abandoned/closed,
July 2014 - ... Kenema Governmental Hospital, Sierra Leone

57 staff members died of Ebola,
more than 70 staff members infected.

Most general hospital services became non functional
Trying to limit spread ...

- Road blocks
- Forced quarantine (for contacts)
- Decentralized Ebola `Holding centers'
Forced quarantine
Confirmed cases - MSF centres

The arrows correspond to date of opening
Smaller, temporary MSF EMCs not shown

16 MSF Ebola management & transit centres
Staff from 1,900 at the end of August, to 3,800 by December.
Reaching our limits

Figures end of July 2014

Guinea

- Total number of cases: 110
- Patients treated by MSF: 259
- Recovered MSF patients: 472

Liberia

- Total number of cases: 31
- Patients treated by MSF: 75
- Recovered MSF patients: 391

Sierra Leone

- Total number of cases: 47
- Patients treated by MSF: 125
- Recovered MSF patients: 507
HELLO?...HELP! WE NEED YOUR ... HELLO? CAN YOU HEAR ME? HELLOOO?

EBOLA FATALITIES: 1000+
ward too small to admit everyone
Phase III: August – November 2014

From global fear to action:
August 8: WHO declares Ebola a Public Health Emergency of International Concern (Polio, Sars)

the world’s largest Ebola management center:
250 beds
Last hope to control the outbreak

MSF calls on the UN Member States to deploy civilian and military biohazard assets

2 September – UN State Members in NY

18 September - UN Security Council
Cases begin to decline
The long sprint to zero
Survivors are still patients: The **new** pillar?

- psychosocial care: stigma and reintegration.
- medical follow up including, depression/PTSD, somatic complains, ophthalmological care, persistent virus
- protect from exploitation
Looking to the future

Prepare for the unexpected:
political will is the key
State of the global health and aid system
Thank you for your attention

+- 10200 admissions MSF Ebola management centers
> 5.200 confirmed Ebola
2,475 patients recovered from Ebola (Oct 2015)