



# Ebola Outbreak in Sierra Leone

Orkun Pelenkođlu  
Aytuna Barkçin  
Sultan Merve Erdođan



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## 01 : Overview

### What is Ebola?



- Ebola virus disease is a fatal illness, with a death rate of up to 90%.
- The origin of the virus is unknown, but fruit bats may be a host.
- People become infected either through contact with infected animals or bodily fluids of infected humans.
- Ebola symptoms are fever, intense weakness, muscle pain, headache and sore throat at the beginning of the disease.
- As the disease progresses vomiting, rash, internal and external bleeding occur.



## 01 : Overview

### What Happened?



- The first Ebola virus disease (EVD) was confirmed in Sierra Leone on 25 May, 2014.
- 17 July, 2014 cases related to EVD in Sierra Leone was 442, including 206 deaths.
- In December 2014, 11751 cases 3691 deaths.



## 01 : Overview

### What Happened?



- The World Health Organization (WHO) recommends a healthcare worker for every 439 individuals.
- Sierra Leone had 5319 people for one health worker.



## 01 : Overview

### What Happened?



- The World Health Organization (WHO) recommends \$86 spent for health services per person.
- Sierra Leone government spent only \$14.



## 01 : Overview

### What Happened?



- Guinea and Liberia are severely affected from the outbreak.
- Other affected countries: Nigeria, US Italy, Spain, UK.



# 01 : Overview

## What Happened?



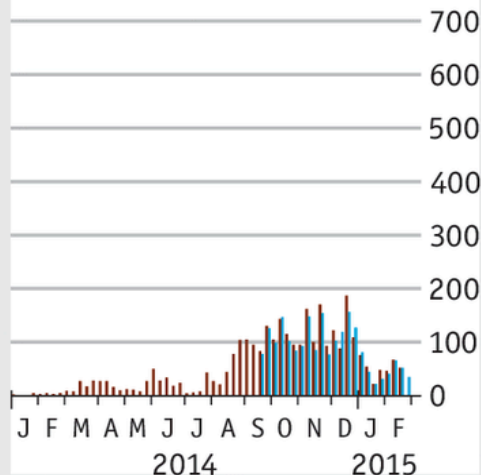
### New cases\* of Ebola infection per week

To February 22nd 2015

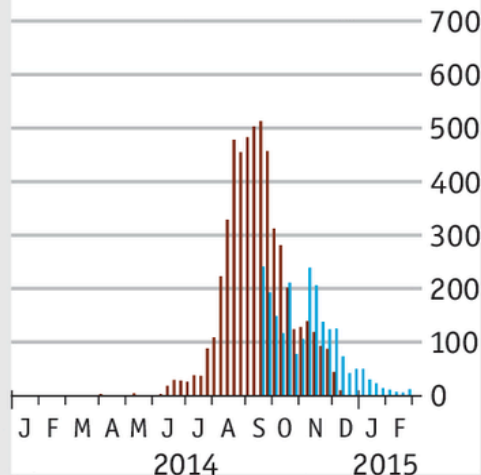
■ Patient database

■ WHO Situation Report

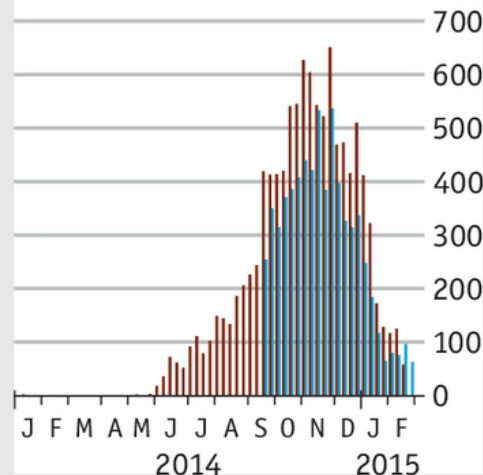
Guinea



Liberia



Sierra Leone



Source: WHO

\*Confirmed and probable



## 01 : Overview

### What Happened?

- Ebola epidemic also had a socio-economic impact in Guinea, Liberia, and Sierra Leone.
- According to World Bank, an estimated \$2.2 billion was lost in 2015 in the gross domestic product of the three countries.
- The outbreak resulted in lower investment and a substantial loss in
  - Private sector growth
  - Agricultural production
  - Cross-border trade



## 01 : Overview

### What Happened?

- The US, the UK and Germany were the top donors to the international Ebola response, donating more than \$3.611 billion by December 2015.
- The US government allocated \$2.369 billion for Ebola response activities in Guinea, Liberia, and Sierra Leone.



## 02: Precautions

- There was no precaution to Ebola virus since government did not expect that it spread that much.
- Infrastructure was not enough.

“Sierra Leone’s infection prevention and control capacity was extremely limited and as a result, healthcare facilities became dangerous places where Ebola was transmitted to patients” Centers for Disease Control and Prevention Ebola in Response Report

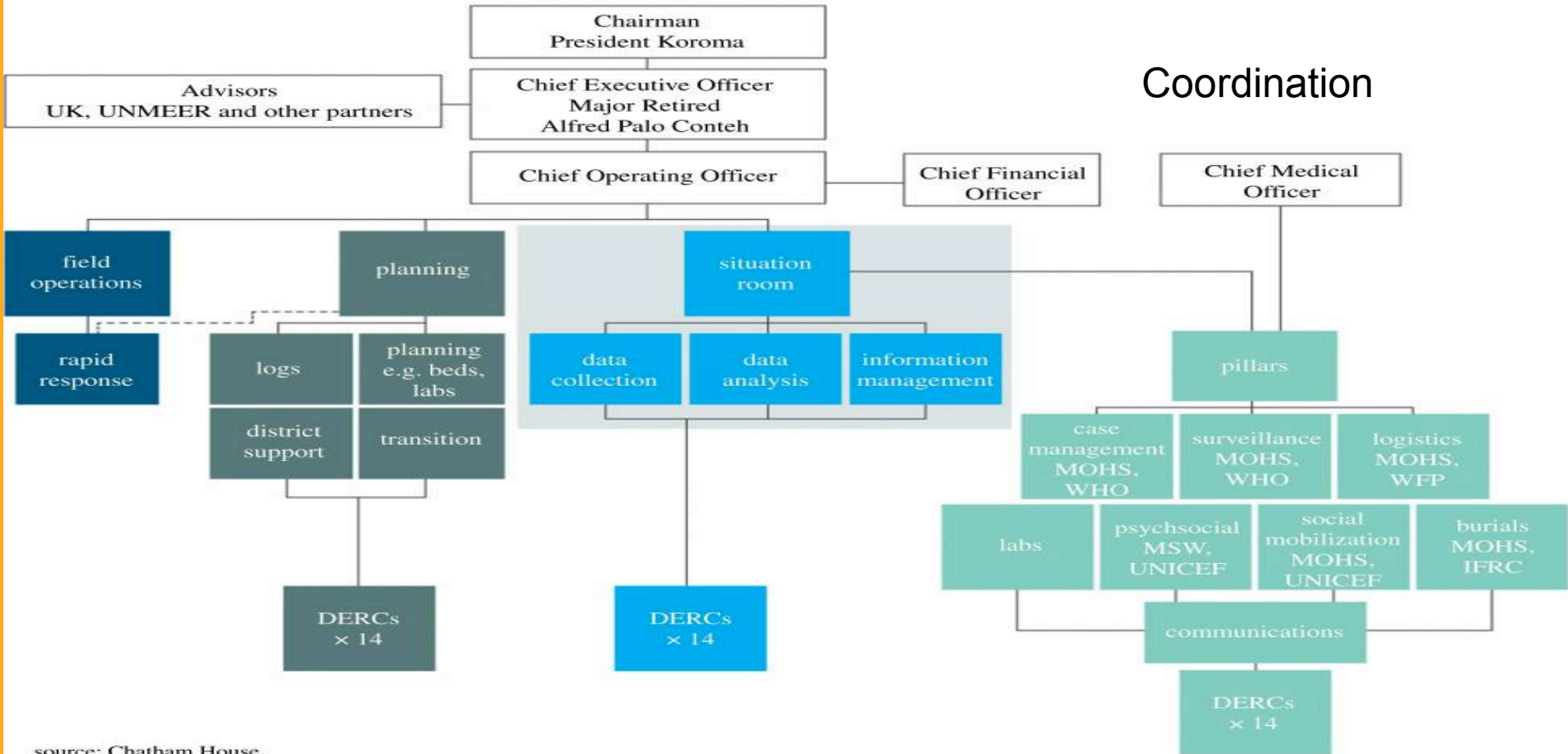
## 03: Disaster Management

- Coordination/finance/logistics.
- Epidemiology/surveillance and laboratory.
- Case management, infection control and psychosocial support.
- Social Mobilization/public information

WHO

# 03: Disaster Management

## National Ebola Response Centre (NERC)



source: Chatham House

DERC: District Ebola Response Centre

## 03: Disaster Management

### Allocation of lands



For

- Isolation
- Treatment centers
- Safe burial areas



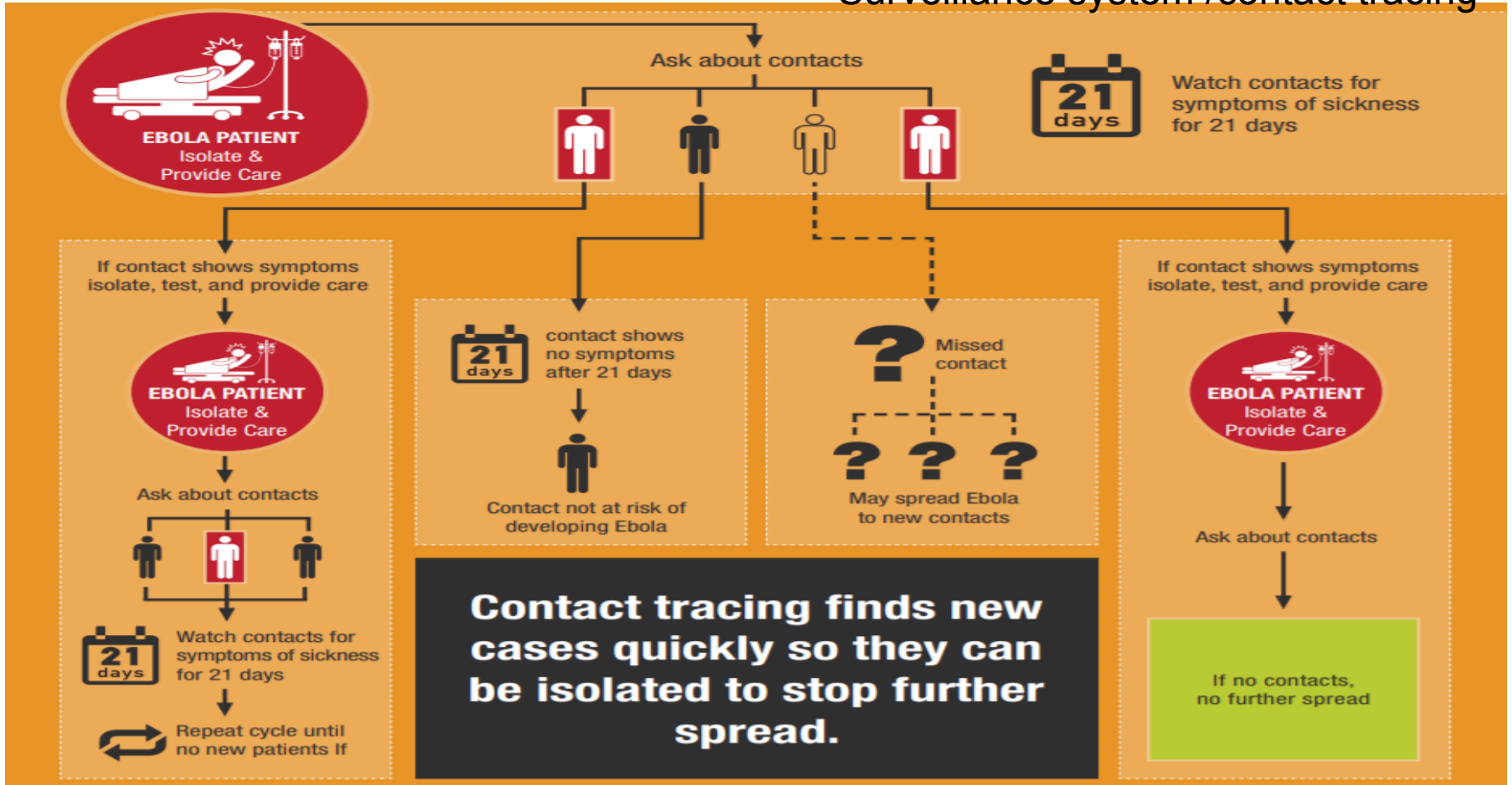
## 03: Disaster Management



- Operation Center
- Surveillance Team
- Military
- Safe and Dignified Burial Team

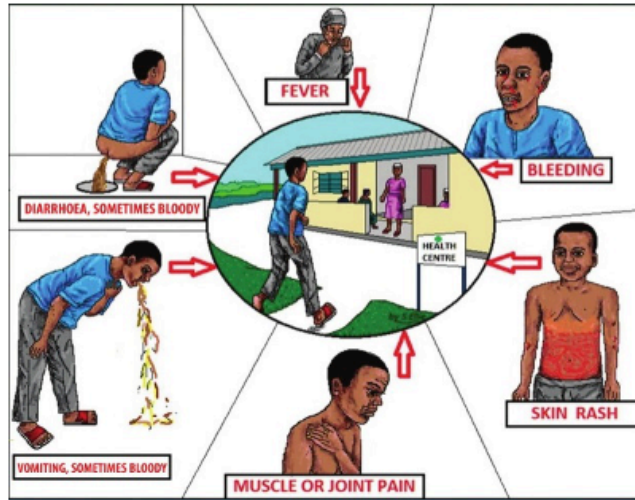
# 03: Disaster Management

## Surveillance system /contact tracing





# 03: Disaster Management



- Symptoms
- Thermometer
- Chlorinated Water Buckets



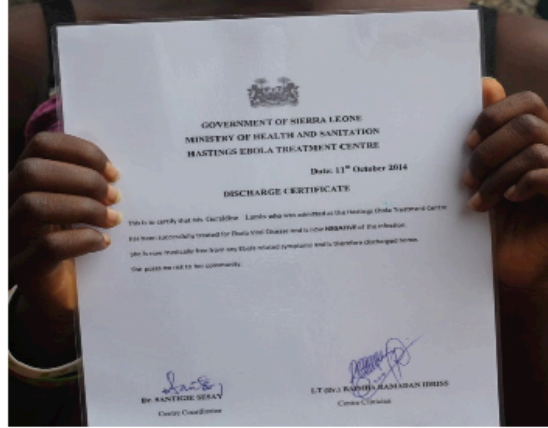
### 03: Disaster Management



Public information

Social mobilization

## 03: Disaster Management



- Discharge Certificate
- Gifts
- Social worker



## 04: What Was Right/Wrong?



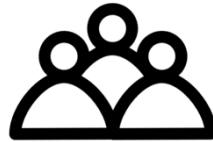
What were some mistakes?

01.



Slow  
Response Times

02.



The Infection of  
Staff

03.



Ineffective Tracking of  
Ebola Patients

# 1<sup>st</sup> Issue : **Slow Response Times**



- The World Health Organization (**WHO**) provided significant support to help those in need.
- However, most staff who went there stated that they should have been sent to Sierra Leone earlier:  
*“We are running behind Ebola. We came too late when villages already had dozen of cases and right now we don’t know where all chains of transmission are taking place”. [5] (Anja Wolz, Emergency Coordina*

- Jose Rovira stated that in just 12 days within arriving to Kailahun, the staff had to bury 50 people. This number did not include the people who died in their own homes. [5]



# 1<sup>st</sup> Issue: **Slow Response Times**



## Why was the Response Late?

The government declared the 'state of emergency' at a late time for several reasons.

President of Sierra Leone, Ernest Bai Koroma said he initially had conflict with WHO advisers. [6]

April

MSF warns that the Ebola outbreak may spiral out of control.

WHO states that the infections are only occurring at irregular intervals [7].

MSF (Medecins Sans Frontieres):  
international medical humanitarian organization

WHO's Head of Global Response and Alert:

In the beginning, the outbreak seemed similar to what had happened other places in Africa. But, by June, it was different.



## 2<sup>nd</sup> Issue: Infection of Staff



- Many staff and volunteers who went to help became infected and fell ill during the outbreak.
  - mainly due to “hospital-acquired infections”.

Ex: In Kenema (Sierra Leone’s 3rd biggest city):

A government-run hospital → 2 wards became Ebola-designated treatment facility

Over time, 40 staff (doctors & nurses) became infected and passed away [8].

+ to the problem of finding sufficient staff  
willing to work under dangerous conditions

## 3<sup>rd</sup> Issue: **Ineffective Tracing of the Infected**



Identifying these people who show symptoms and isolating them so they don't spread the disease is crucial.

**Contact Tracing: “identifying, assessing, and managing people who have been exposed to the disease to prevent onward transmission” (duration: 21 days) [9].**

Inexperienced staff → leads to lower quality of contact tracing



Many people who had high-risk exposure were missed

Cases not detected early → Chains of transmission spread more quickly



## 04 : What Was Right/Wrong?



What was done correctly?

- Isolation wards → to keep infected people from spreading the disease
- Staff conducting the burials wearing protective suits
- Covering the body during the burial to prevent future infections
- Even placing surveillance in countries with no reported Ebola cases for safety (borders, airports, hospitals, etc.)



## 05: Lessons Learned



- An emergency fund should be set in the state budget and shared with districts in times of need. (insufficient funds → problems in getting medical supplies)
- A crisis communication plan → where key messages are clear (wrong information can result in confusion, chaos, etc.)
- Support of the military → crucial to enforce discipline, ensure security and provide a sense of order during an outbreak
- There should be stand-by healthcare specialists for a quick emergency response.
- Food and non-food items should be pre-positioned at strategic points for fast distribution to affected communities. [10].
- Cultural differences and how they can affect the disaster itself need to be taken into account (burial rituals)

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**THANK YOU  
FOR YOUR  
LISTENING**



**ANY  
QUESTIONS ?**