AFTER EBOLA

The future of pandemic risk management

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AFTER EBOLA: THE FUTURE OF PANDEMIC RISK MANAGEMENT

MARGARET LAMUNU

Epidemiologist, Ebola Response Lead in Sierra Leone, World Health Organization

ESTHER BAUR

Head, Global Partnerships, Swiss Re

SUNKARIE KAMARA

Mayor, Makeni, Sierra Leone

OB SISAY

Director, Situation Room, National Ebola Response Centre, Sierra Leone

M. MOHAMED BEAVOGUI

Director General, African Risk Capacity (ARC)

MADS OYEN

Regional Emergency Advisor for West Africa, UNICEF

Understanding the Risk from Pandemics

Case Study: Sierra Leone's Ebola Virus Disease Outbreak

OB SISAY

Director, National Ebola Response Centre,
Sierra Leone

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OB SISAY

DIRECTOR – SITUATION ROOM & SECRETARIAT
ACTING DIRECTOR - PLANS
NATIONAL EBOLA RESPONSE CENTRE (NERC)
SIERRA LEONE

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- Epi trend
- Ebola Epidemiology Status
- Response Structures
- Key Response Interventions
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- Getting to Resilient Zero Strategy
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- Economic impacts
- What next?

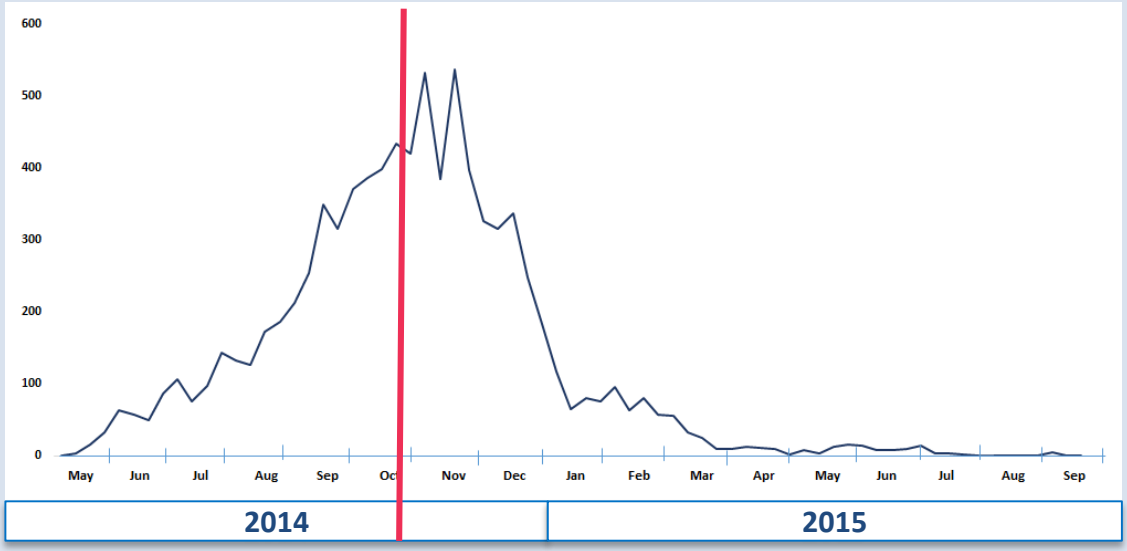
BACKGROUND

SIERRA LEONE'S HEALTH SECTOR PRE-EBOLA

- **Damaged physical infrastructure due to the country's 10 years civil war – rebuilding process continues**
- **Reduction in the real resources available to the health sector**
- **Low number of skilled professionals – LESS THAN 200 DOCTORS IN A POPULATION OF NEARLY 7 MILLION PEOPLE**
- **Limited access to health by everyone – PREVALENCE OF TRADITIONAL HEALERS**

EPI Trend

Sierra Leone Ebola Outbreak 2014/2015 (ongoing)



Case Statistics

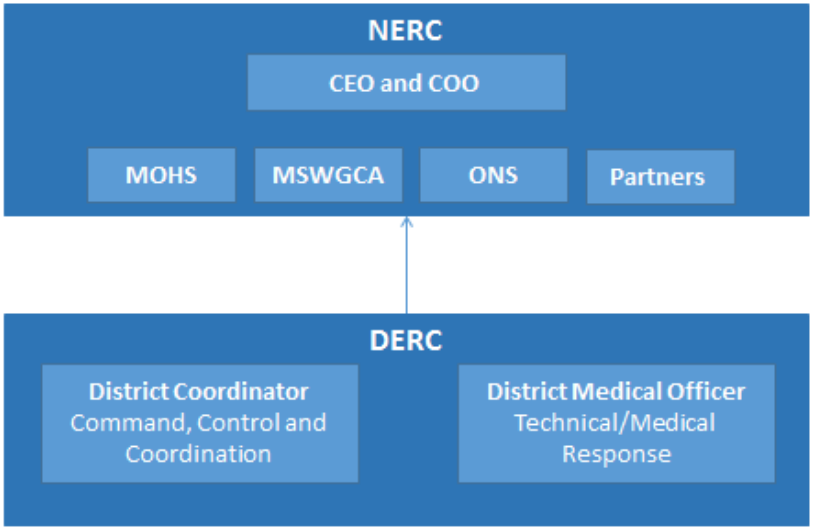
- Cases Reported in all 14 Districts
- 8,704 Confirmed
- 3,589 Deaths
- 4,051 Survivors

20 October 2014
Formation of NERC

ZERO EBOLA

Response Structures:

New, temporary structures created to support the Response

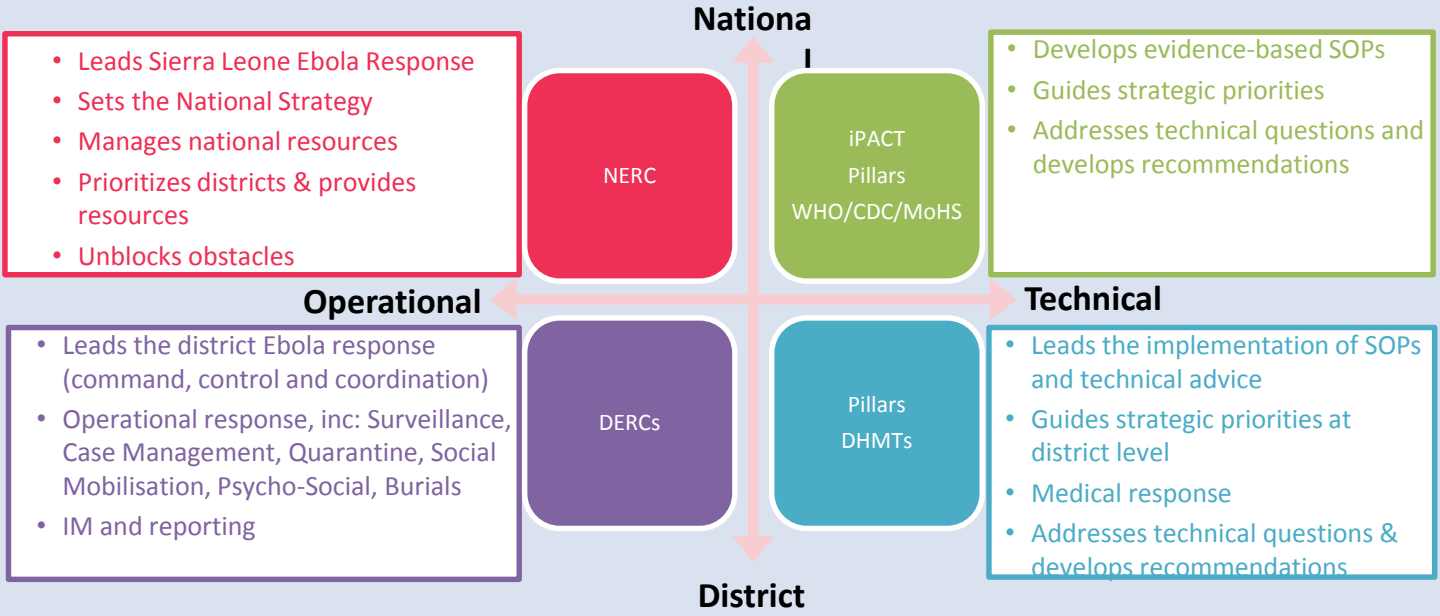


The National Ebola Response Centre and 14 District Ebola Response Centres were appointed the leadership of the response by HE The President in October 2014.

MOHS, MSWGCA, ONS and Partners provide the critical technical/medical guidance to the response

Response Structures:

National, District, Technical & Operational



- Leads Sierra Leone Ebola Response
- Sets the National Strategy
- Manages national resources
- Prioritizes districts & provides resources
- Unblocks obstacles

- Develops evidence-based SOPs
- Guides strategic priorities
- Addresses technical questions and develops recommendations

- Leads the district Ebola response (command, control and coordination)
- Operational response, inc: Surveillance, Case Management, Quarantine, Social Mobilisation, Psycho-Social, Burials
- IM and reporting

- Leads the implementation of SOPs and technical advice
- Guides strategic priorities at district level
- Medical response
- Addresses technical questions & develops recommendations

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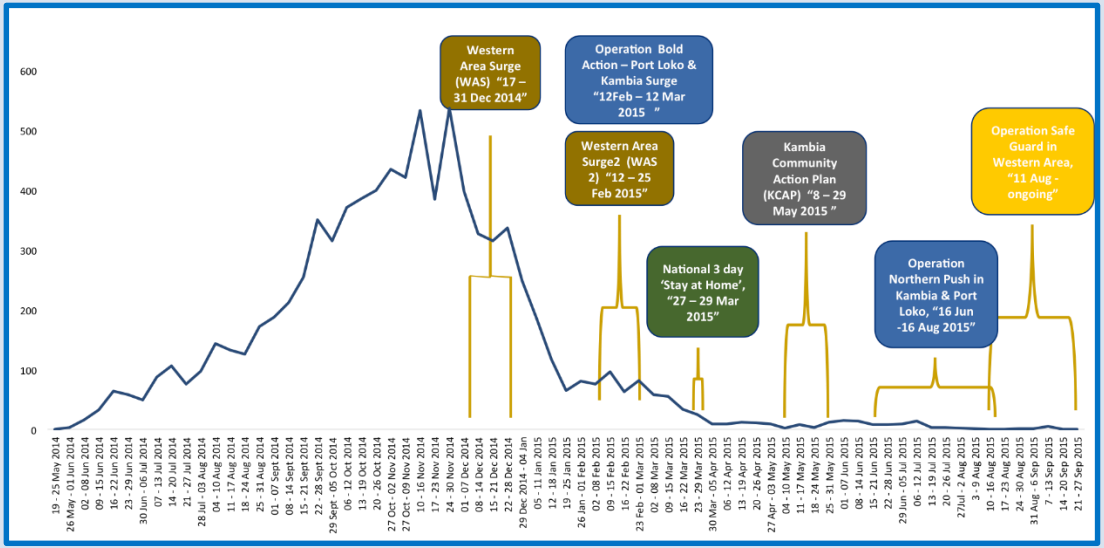
Key Response Interventions



The NERC, DERCs and Partners have launched a series of national/district interventions to influence the epi trend

SOP's Developed

Over 16 SOP's have been developed by our technical partners in WHO/ MoHS and others to provide the technical guidance for the response activities at District Level

SOP	Pillar Responsible
Ebola Virus Disease Contact Tracing	Surveillance
Entry and Exit Screening Freetown Airport	Surveillance
Quarantine	Surveillance/Security
Reintegrating Ebola Survivors in Communities	Psychosocial
Management of Check points	Surveillance/Security
Social Mobilisation and Community Engagement	Social Mobilisation
Decontaminating Ebola Facilities	Case Management
Safe and Dignified Burials	Burial Pillar
Decontaminating Ebola Care Centres	Case Management

SOP	Pillar Responsible
Home Decontamination after Collection of Corpses or Transfer of Suspect/Probable Ebola Cases	Burial Pillar
Interim Home Protection and Support	Case Management
Screening and Infection Control of Ebola Virus at PHUs and other Non-Ebola Healthcare Facilities	Case Management
Rapid Response Team (Draft)	Surveillance
Community Based Surveillance (Draft)	Surveillance
Swabbing of Corpses	Laboratory
Nutrition Response to Ebola	Nutrition

SOP's Developed

Two of the most important SOP's are:

Safe and Dignified Burials

Key principles:

- All corpses must be buried within 24 hours
- All corpses must be buried in a safe dignified medical burial by the GoSL and authorised partners
- All corpses must be swabbed and tested for Ebola
- Burial does not wait for the results of the swab
- Families are allowed to attend to the graveside, pay last respects with a religious figure and incorporate a coffin or shroud

Quarantines

Key principles:

- All positive lab results (live or dead body swab) result in the quarantine of all contacts of the index case
- Quarantine is either conducted in the home or an off-site quarantine facility
- Contacts are quarantined by risk category with high seperated from low and from each other
- Food, non-food items, education materials, psychosocial support and medical care are provided

Partners Support to the Response

Our local and foreign partners have provided financial, technical and operational support in our EVD fight. Below is a list – not comprehensive - of some of them.

Donors and Key Partners

- World Bank, AfDB
- UNMEER, WHO and other UN Agencies
- CJIATF (Government of United Kingdom)
- US CDC, China CDC

Key International NGO's

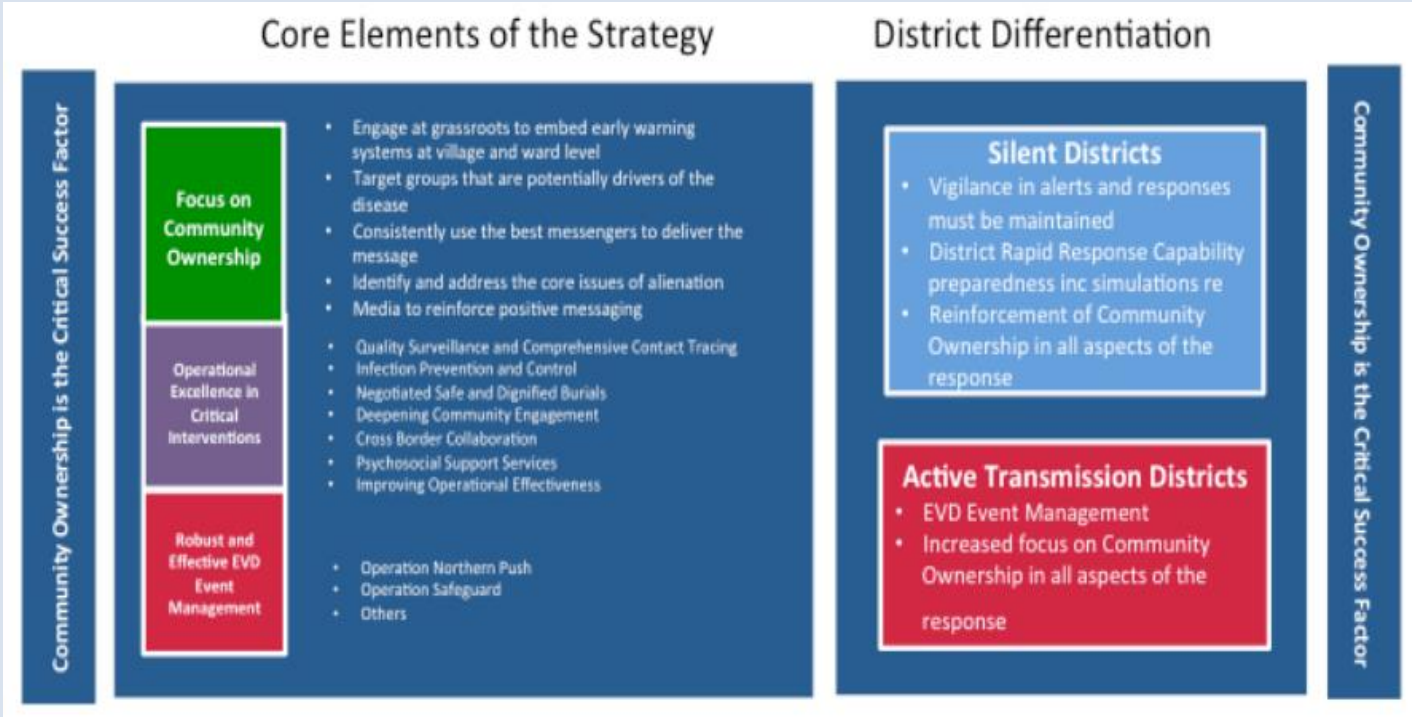
- IFRC
- Concern Worldwide
- CRS, CAFOD, World Vision Consortium
- GOAL
- WHH

Support from Africa has also been significant – for the response and to shore up the wider healthcare system

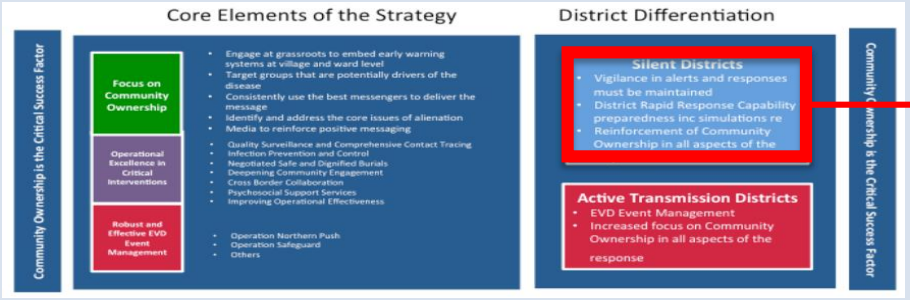
- AU – doctors, nurses and Epidemiologists
- South African Laboratory, PLUS EVD sample storage
- Mano River Union

NERC Strategy for Resilient Zero

Revised Strategy published in July 2015



Specific Strategies required for the Silent Districts



Silent District components relevant to all districts but especially those with no recent transmissions

4 key outcomes of the response in the silent districts..

1. Rapid Response in the event of an EVD EVENT

- Ability to plan, stand up and deploy rapid response teams
- Ready access to technical expertise and logistics
- Isolation space
- Simulations

2. Maintain vigilance (sustained alerts and Rapid verification processes)

- Active surveillance
- High levels of alerts (sick and death)
- Real time verification
- Implement community based surveillance systems

3. Reinforce Community Ownership

- High levels of alerts (sick and death)
- Community owned local responses given accountability for finding contacts, supporting quarantined hh's and target active surveillance

4. Improve Survivor Engagement

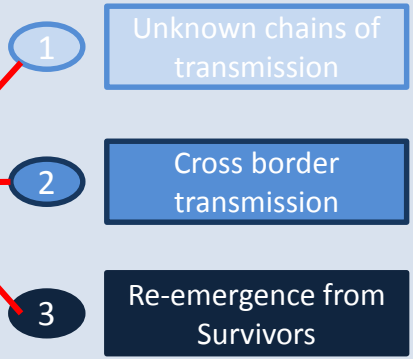
- Enhanced capacity to support medical and non-medical needs of survivors

Strategy is designed to address risks to a resilient zero

Components of Getting to Resilient Zero Strategy

1. Rapid Response in the event of an EVD Event
2. Maintain Vigilance
3. Reinforce Community Ownership
4. Improve Survivor Engagement

On-going Risks

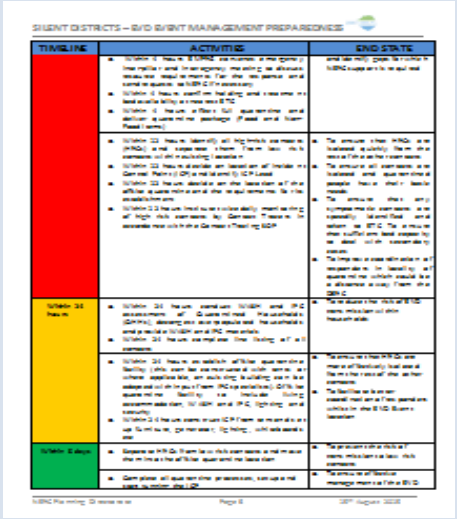


Component 1-

Rapid Response in the event of an EVD Event

1. **EVD Event Management Preparedness Document issued as District Planning Guidance**
   - EVD Event Management Protocols: 12hrs; 24hrs; 72 hrs
   - Missing Contacts; Enhanced Quarantine; Livelihood Support etc.
   - Centralisation of locations and contact information

2. **Preparedness Testing Team**
   - Simulation Exercises in Districts
   - In-district support to District Teams



Component 2 –

Maintaining Vigilance (examples)

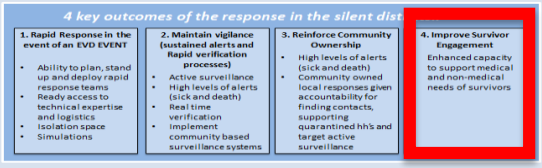
1. **Maintain alerts and ability to respond**
   - Live alerts and Death alerts – Best Practice promoted to all districts
   - Promotion of lessons learned from events where vigilance contributed to the event.

2. **Burials**
   - Swabbing remains critical as confirmed by recent cases
   - Maintaining ability to swab impacted by current challenges with burial vehicles

Component 4 –

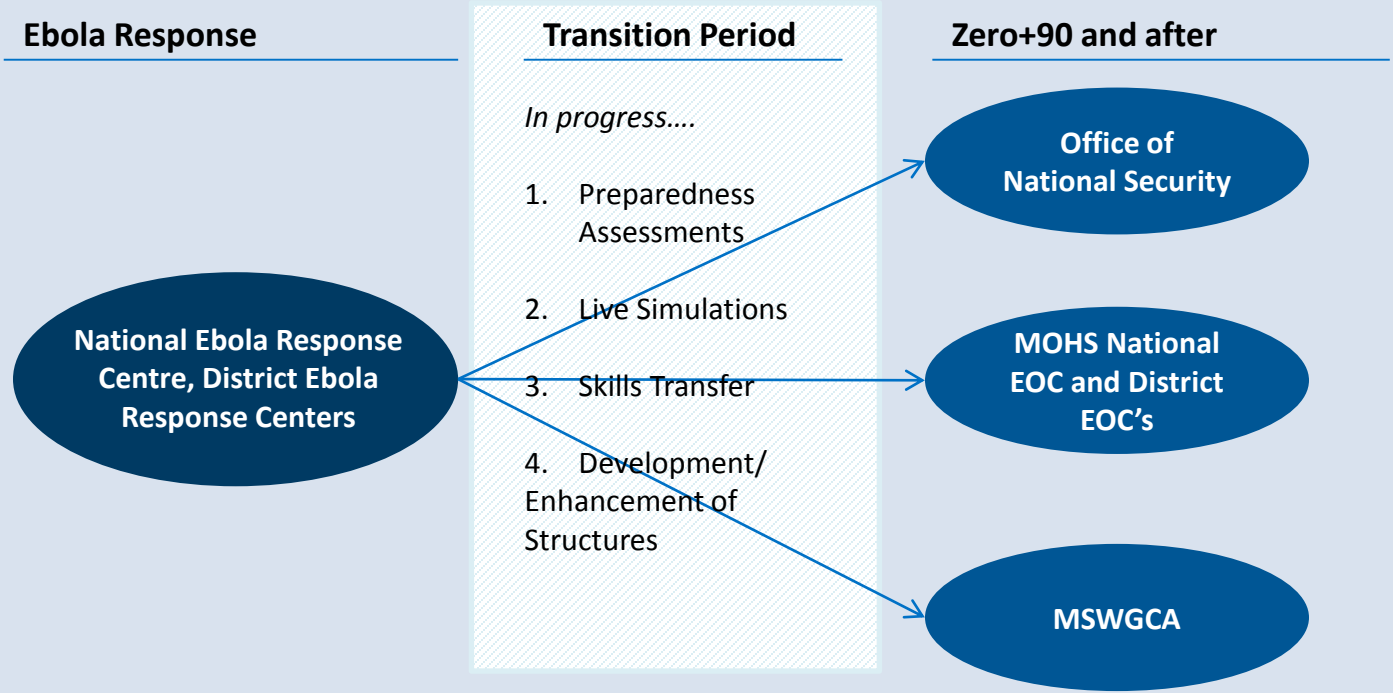
Improving Survivor Engagement

1. **Managing Re-emergence Risk**
   - On-going interventions through existing survivor programmes targeting psychosocial support, sex education and issue of condom
   - Project Shield to build on this with comprehensive survivor registration, sex education and counselling, semen testing and vaccinating survivor partners



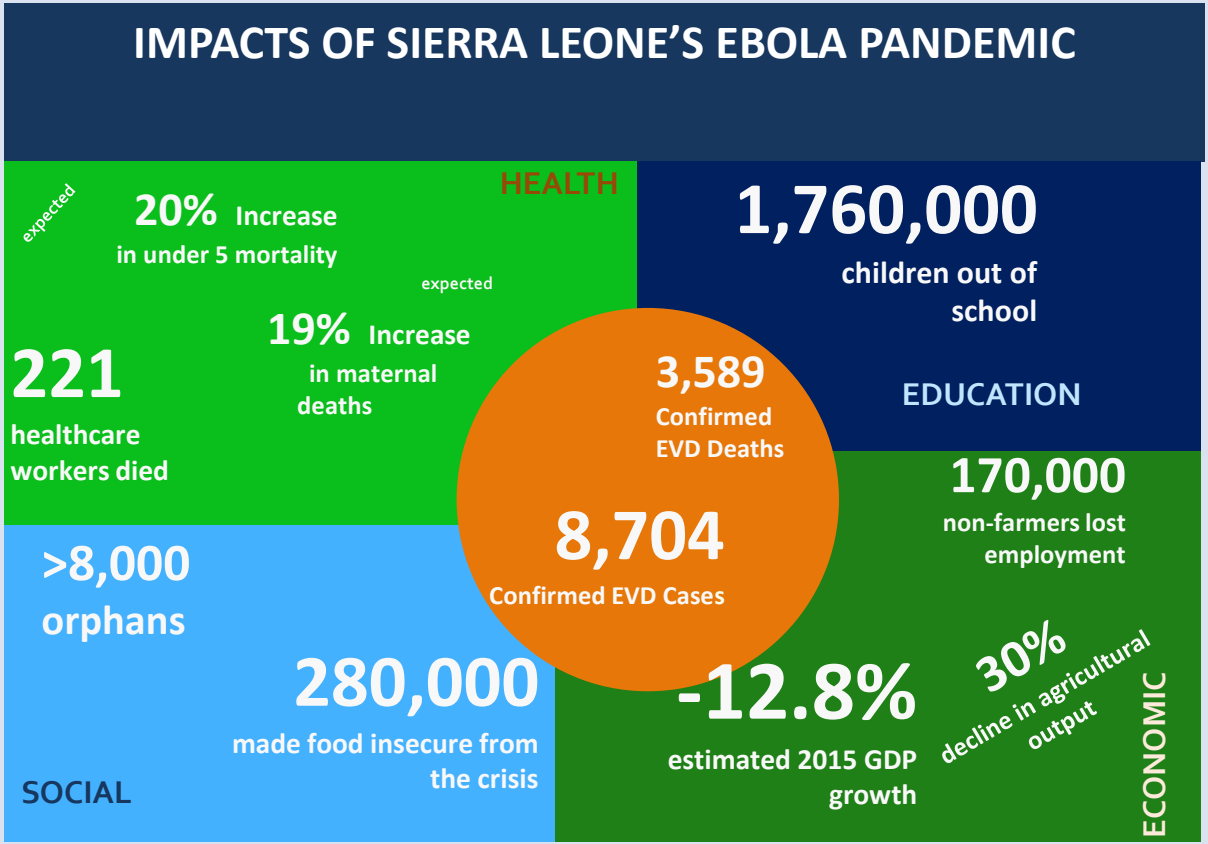
2. **Comprehensive Package for Ebola Survivors**
   - Holistic assessment and delivery of medical and non-medical assistance to survivors

Transitioning out of Response Mode



KEY CHALLENGES FACED IN FIGHT AGAINST THE EVD OUTBREAK

1. ***Late Intervention of Partners***
2. ***Resources***: Throughout the campaign, there was a challenge to attain and properly allocate resources
   - Human Resources – Situation Room Academy
   - Financial resources to fund projects – speed, national ownership, financial rules
   - Physical equipment, facilities to aid response – Three Phases of the Response
3. ***Coordination with partners***: Due to the rapidly changing-response it was difficult to maintain alignment with partners on all key decisions, actions. – Introduction of Command & Coordination Groups
4. ***Behavioral Changes***: Influencing the behavior of people to reduce overall caseload was very difficult
5. ***Transition:*** Transitioning form response to longer term recovery has proved tricky
   - Government of Sierra Leone was eager to restore services while focusing on getting to 0
   - Partners have had to develop long-term strategy and continue day-to-day operations
6. ***Quarantine:*** Was difficult to build public confidence in quarantines and establish stable security to prevent escapes and potential spread of EVD


IMPACTS OF SIERRA LEONE'S EBOLA PANDEMIC
HEALTH
expected
20% Increase
in under 5 mortality
expected
19% Increase
in maternal
deaths
221
healthcare
workers died
1,760,000
children out of
school
EDUCATION
3,589
Confirmed
EVD Deaths
8,704
Confirmed EVD Cases
170,000
non-farmers lost
employment
>8,000
orphans
280,000
made food insecure from
the crisis
SOCIAL
-12.8%
estimated 2015 GDP
growth
30%
decline in agricultural
output
ECONOMIC

IMPACTS OF SIERRA LEONE'S EBOLA PANDEMIC ON TRADE AND ECONOMIC DEVELOPMENT

2014 Growth (GDP)	**6.0% down from an expected 11.3% pre crisis**
Projected 2015 growth (GDP)	**-12.8% (-2% excluding iron ore)**
Projected agricultural output growth	**Cut from 4.8% to 2.6%**
Tourism - Hotel occupancy	**Below 25% (down from 70 - 80% in July)**
Estimated no of people who have been made food insecure as a result of the crisis	**Estimated 280,000 (4% of population)**
People who have experienced loss of livelihoods due to the state of emergency, curfews and business opening restrictions	**24,000 people (0.4% of population)**
No of wage workers no longer working since start of crisis (excluding agricultural sector)	**9,000 wageworkers (0.2% of population)**
No of self-employed people no longer working since start of crisis (excluding agricultural sector)	**170,000 (2.9% of population)**
Number of Farming families having suffering considerable adverse impact on farming	**197,000 families**

ZERO EBOLA

WHAT CAN WE DO TO MITIGATE THESE SHOCKS IN THE FUTURE?

- World Bank estimates this outbreak could cost West Africa up to $15bn in the next 3 yrs – in trade, investment and tourism.
- Between 1997-2009, 6 major outbreaks - Ebola, SARS, avian and H1N1 flu—caused est $80bn losses
- Estimates of the cost of a severe outbreak could be 5% of global GDP – or USD $4 trillion.

Pandemic insurance can be used to fund:

- Rapid deployment of healthcare workers;
- Medical equipment, pharmaceuticals and diagnostic supplies
- Logistics, food and non food supplies
- Coordination and communication.

Pandemic risks may be insurable but the markets have a number of issues to deal with

- Understanding the real level of risk – data
- How do you have a facility that responds to low levels i.e. before an outbreak explodes into a pandemic, whilst keeping premiums affordable?
- Can vulnerable countries create a pandemic pool - supported by multilateral and bilateral donors and INGOs? These pools could work like insurance firms or captives with risk mgmt and an investment strategy for funds. This could also allow the re-insurance market to play a significant role in risk diversification.
- Data from the pool would allow further fine tuning of the coverage.

THANK YOU

18 November 2015

OB SISAY

DIRECTOR – SITUATION ROOM & SECRETARIAT
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NATIONAL EBOLA RESPONSE CENTRE (NERC)
SIERRA LEONE

The Future of Pandemic Risk Management

MARGARET LAMUNU
Technical Lead for Ebola Response for
Sierra Leone
World Health Organization

Presentation Outline

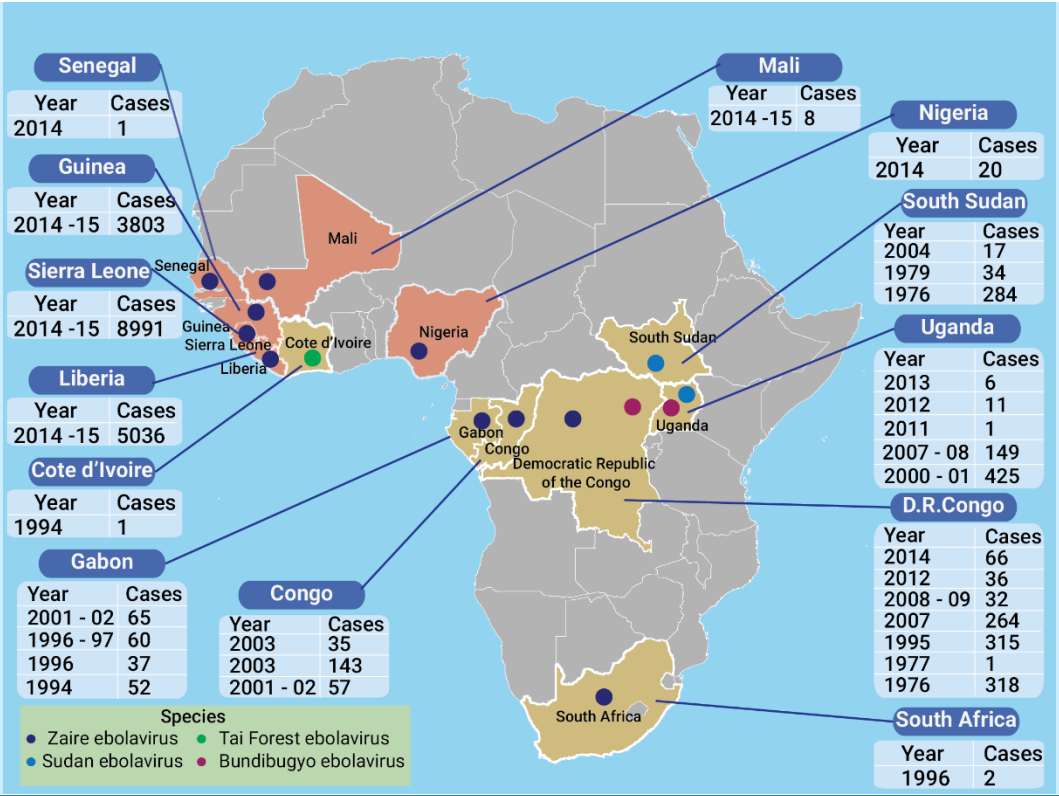
- Examples of Previous Pandemics and lessons
- A review of Previous Ebola Outbreaks, & Lessons from the Ugandan outbreaks
- A review of the 2014 West African Ebola outbreak
  - Achievements
  - Challenges and Systems Failure
  - Lessons learnt & implications for future Epidemic/pandemic risk management
- Key Recommendations

Previous Pandemics

- Black death – from Plagues in the 14th Century (between 75 – 200 M people worldwide died)
- 1918 Pandemic Spanish Flue – H1N1 (over 50 Million
- 1957 -58 Pandemic Asian Flue H2N2 (>70 M deaths in the USA alone)
- 1968 – 1969 Hong Kong Flue –H3N2 (>34 M deaths in USA,
  ,
- Small Pox eradication
- 2003 – SARs (estimated economic loss for Asian sub-region estimated between $18 – 60 Billion; case identification estimated at $2M/case
- 1980 to date; HIV/AIDs pandemic

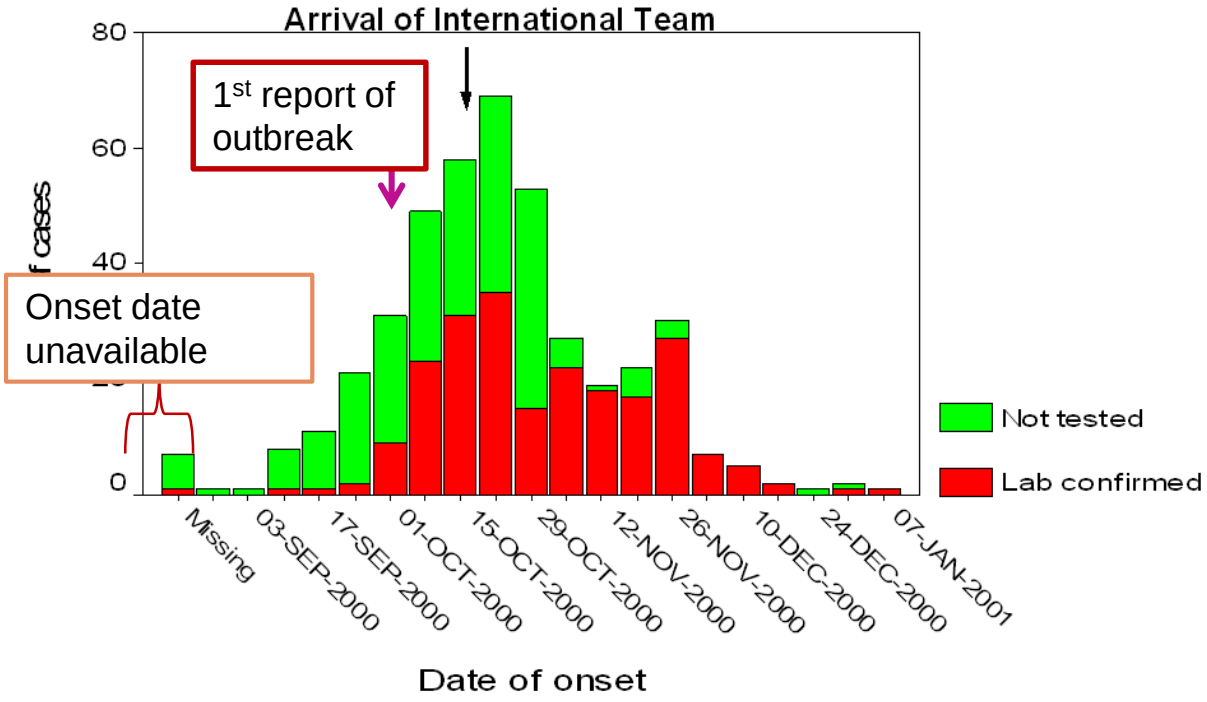
REVIEW OF PREVIOUS EBOLA OUTBREAKS & LESSONS

Recorded Ebola Outbreaks in Africa: 1976 - date



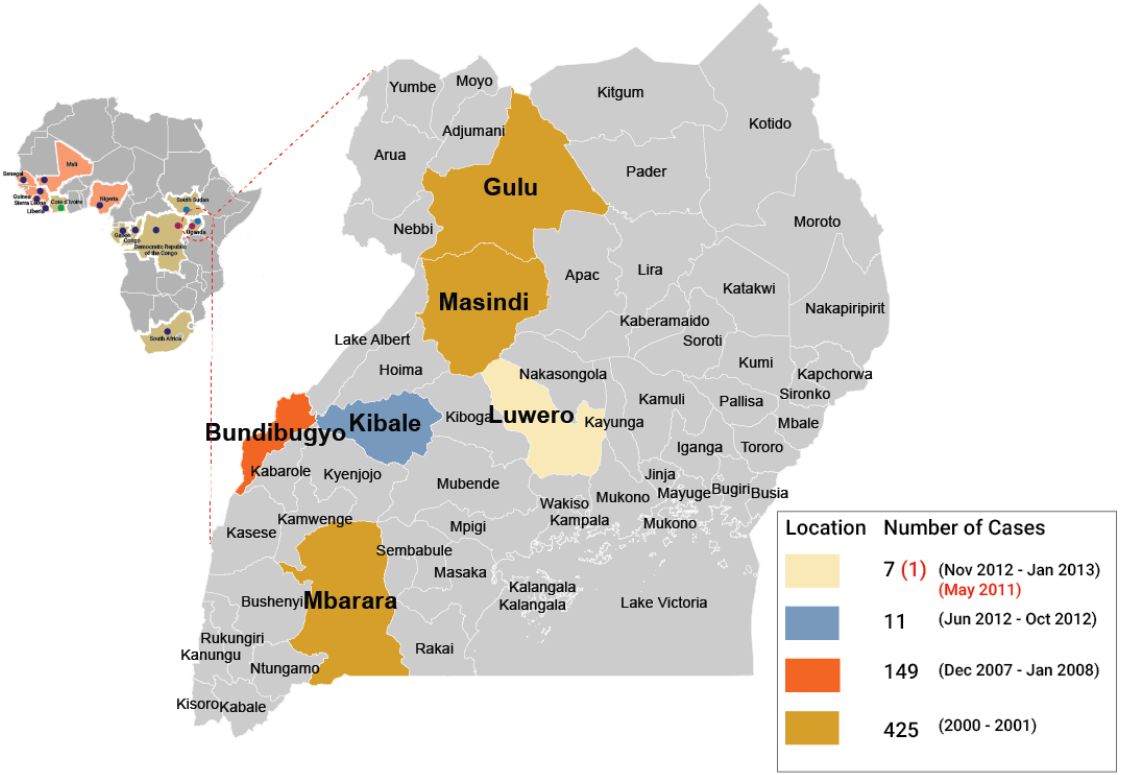
World Health Organization

Ebola - Uganda (2000-2001) – Presumptive Cases



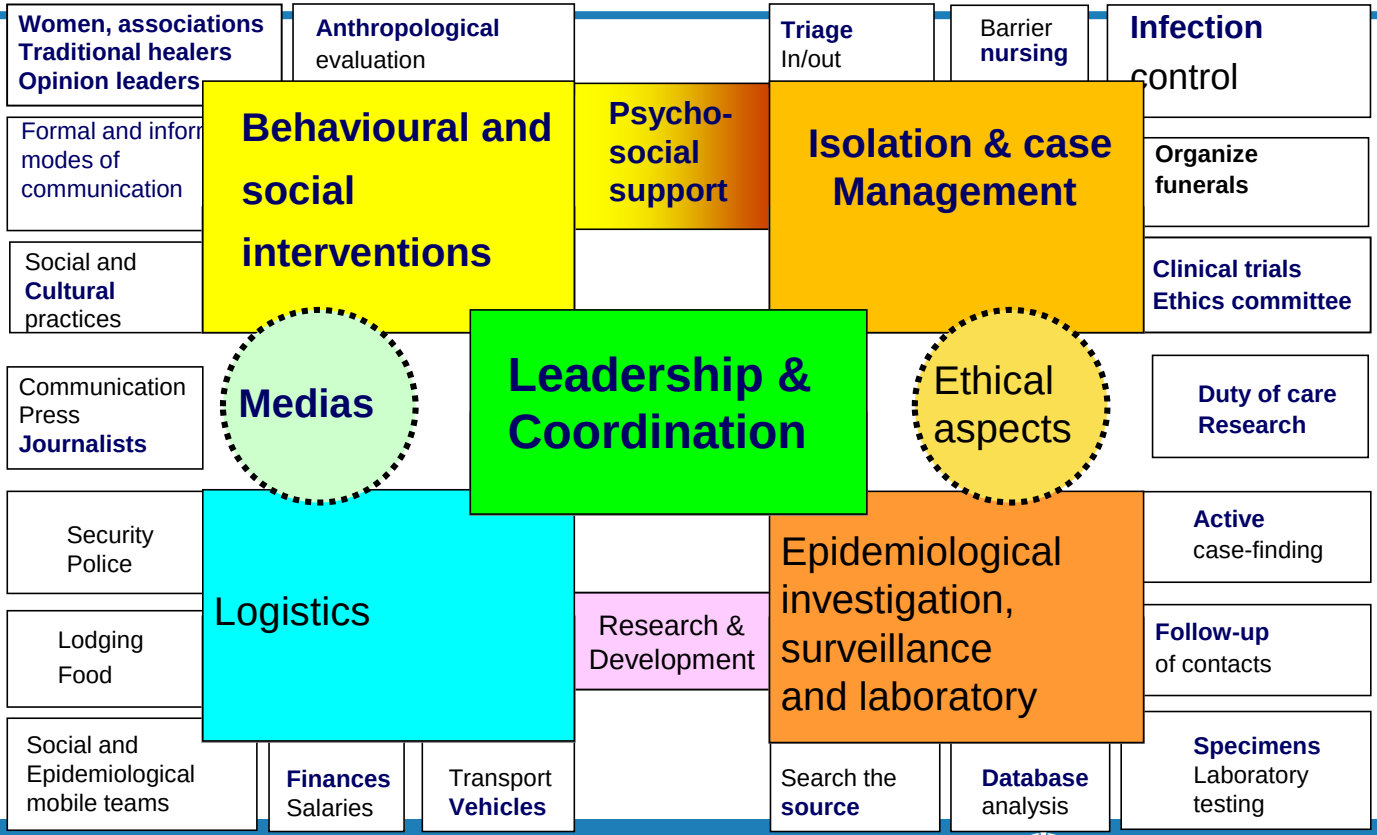
World Health Organization

Outbreaks of Ebola in Uganda (2000 to date)



World Health Organization

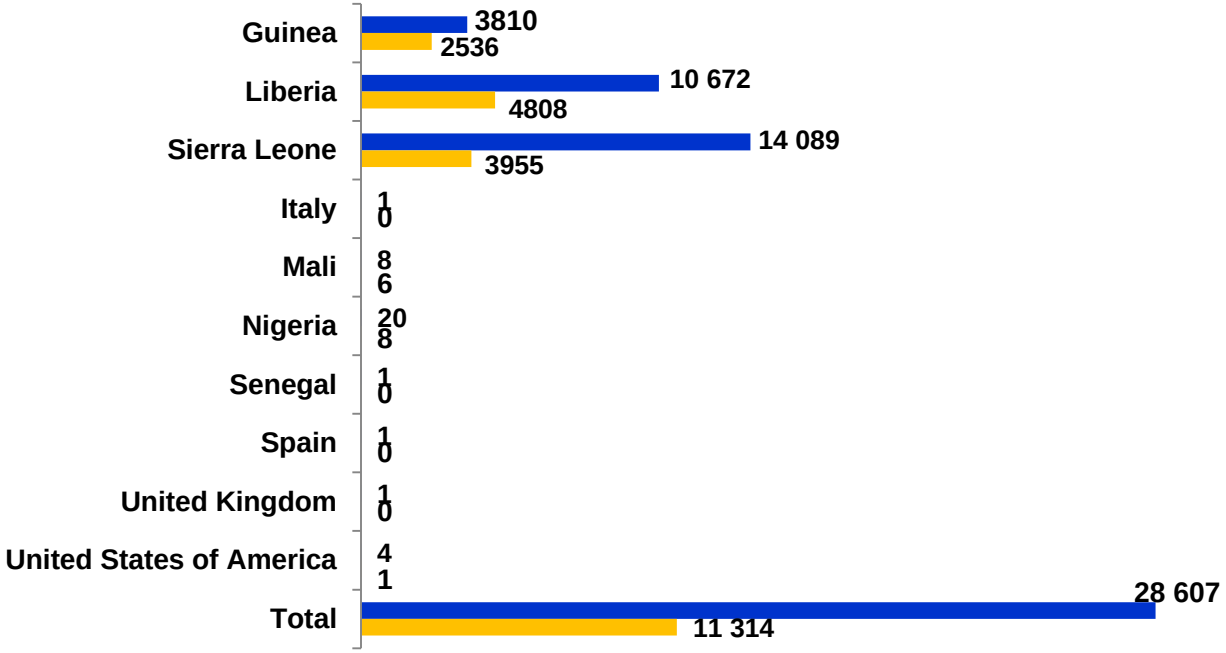
Classical Framework for Ebola Control



World Health Organization

THE 2014 WEST AFRICAN EBOLA OUTBREAK & LESSONS

Confirmed, probable, & suspected EVD cases worldwide (as of Nov. 01, 2015)



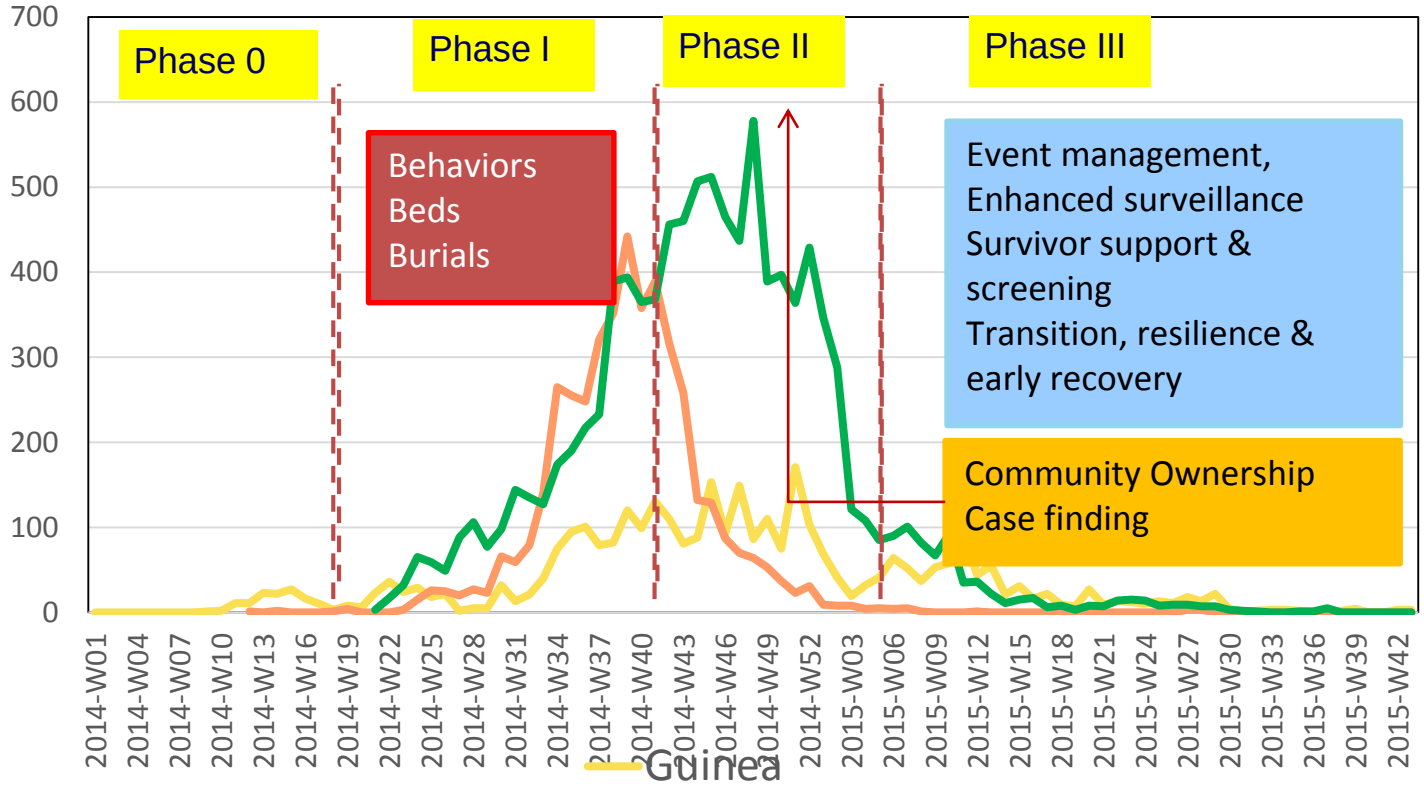
Source: WHO

World Health Organization

EVD infections in health workers in Guinea, Liberia, and Sierra Leone

Country	Cases	Deaths
Guinea	196	100
Liberia*	378	192
Sierra Leone	307	221‡
Total	**881**	**513**

The West African EVD response, Critical timelines & Lessons



World Health Organization

Ebola Response Roadmap

PHASE 1
SCALING RESPONSE

- Achieve full coverage with complementary activities
- Achieve immediate comprehensive Ebola response to new outbreaks
- Strengthen preparedness in high-risk countries

PHASE 2
GETTING TO ZERO

- Stop transmission
- Prevent new outbreaks
- Reactivate essential health services & increase resilience
- Fast-track research & development
- Coordinate national/international response

PHASE 3
RESILIENT ZERO

- Interrupt all chains of Ebola transmission
- Manage consequences of residual risks

UNMEER September 2014 – July 2015

WHO –ICE /OCHA

Challenges and Systems Failure in Response and Containment -1

- Delayed detection, reporting, & Requesting for help (Countries with intense transmission vs. limited transmission)
- Delayed /slowed understanding of the scale, magnitude and implication of the outbreak, as well as late acknowledgement of the problems
- In-country public health infra-structures to support response had collapsed & non existent
- Poor / or no compliance with IHR 2005
- Very high population movements, porous borders & international travels

Challenges and Systems Failure in Response and Containment - 2

- Slow /delayed response from WHO, sub-regional bodies & from the International communities
  - WHO declared PH emergency in August
  - UNMEER operational in October
- Initial response lacked resources, not comprehensive, and interventions had to be phased out versus comprehensive response to stop transmission chains
  - No capacity for isolation, no capacity for burial, Infection control, surveillance & contact tracing, etc,
- Poor messaging, & not true & targeted community mobilization & engagement

Challenges and Systems Failure in Response and Containment - 3

- At the peak of the outbreak, multiple actors with no or varied experience with Ebola control, - people had to learn by doing
- Delayed establishment /strengthening of coordination structures to coordinate multiple partners with varied experiences and skill sets, & to provide direction
- Socio-cultural factors coupled with inadequate community engagement that required targeted messaging & mobilisation came late

Positive achievements -1

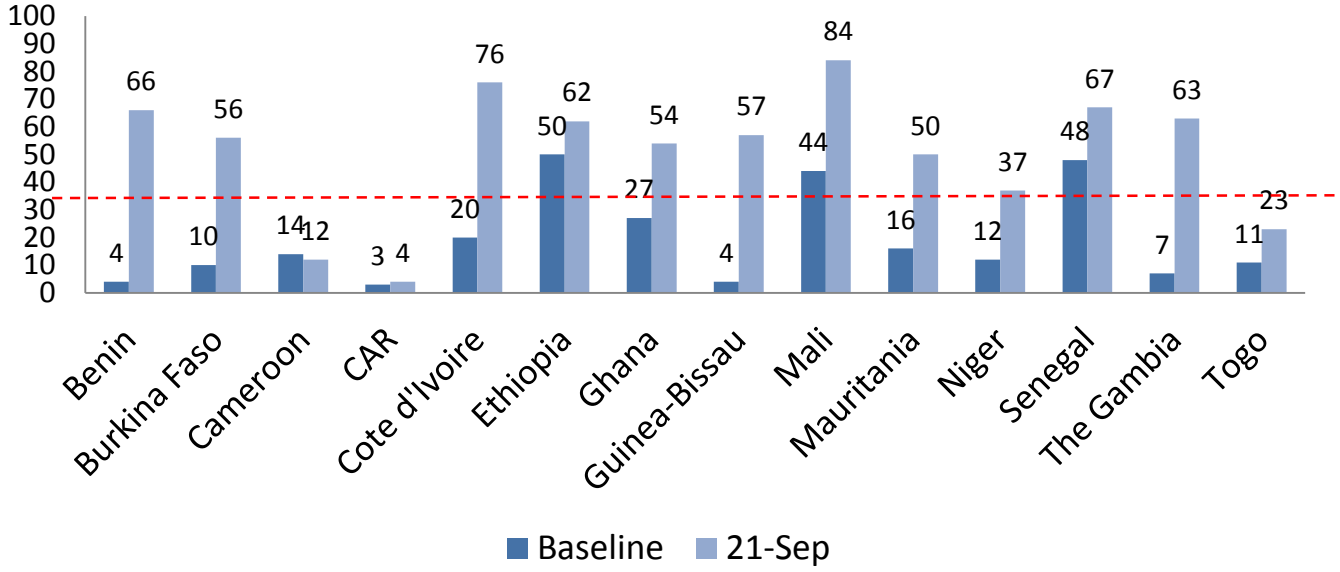
- Following declaration of the Public health emergency, the international communities and other Governments demonstrated unprecedented level of solidarity in support of the affected countries
- WHO re-orgarnized & made significant strides in supporting & mobilizing support for the affected countries
- Advances in vaccine trials with promising prospects for the future (VsV-EBOV

World Health Organization

Positive achievements -2

- Advances in diagnostics for Ebola (Gene sequencing, Gene Xpert machines, RDTs in various phases of developments
- Not much advances in drug trials, more needs to be done
- New knowledge related to the disease that needs to be considered in strategy development
  - Viral persistence in body fluids

Countries at Risk - implementation of Preparedness checklist (% tasks completed)



Review of the EVD Preparedness checklist and development of a generic version before end 2015

World Health Organization

Checklist implementation by component

World Health Organization

Key Lessons Moving forward -1

- Preparedness capabilities is key for early detection, verification, response and mitigation of potential pandemic risks
- Strong Leadership & effective coordination framework is crucial & central to effective response – need to strengthened at all levels
- The outbreak exposed;
  - substantial weaknesses in health systems,
  - health governance at all levels,
  - Regional & global emergency response capacities,
  - WHO capacities for outbreak & emergency response

Key Lessons & Recommendations Moving forward -2

- Without a proper framework & adequate financing mechanisms for systematic monitoring of pandemic risks, systematic risk verification, & assessments, structured, technically & evidence driven response, looming and potential pandemic threats can not be mitigated
- Future response needs to be fast, comprehensive & well resourced
- Need for greater investments & efforts to strengthen health systems in a manner that helps to prevent, detect & respond to potential infectious disease threats

Acknowledgments

- Affected communities
- National Governments, affected and non-affected
- Sub-Regional bodies (MRU, ECOWAS, AU, etc.)
- All Ebola responders
- Bilateral and Multilateral bodies
- UN partners and UNMEER

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