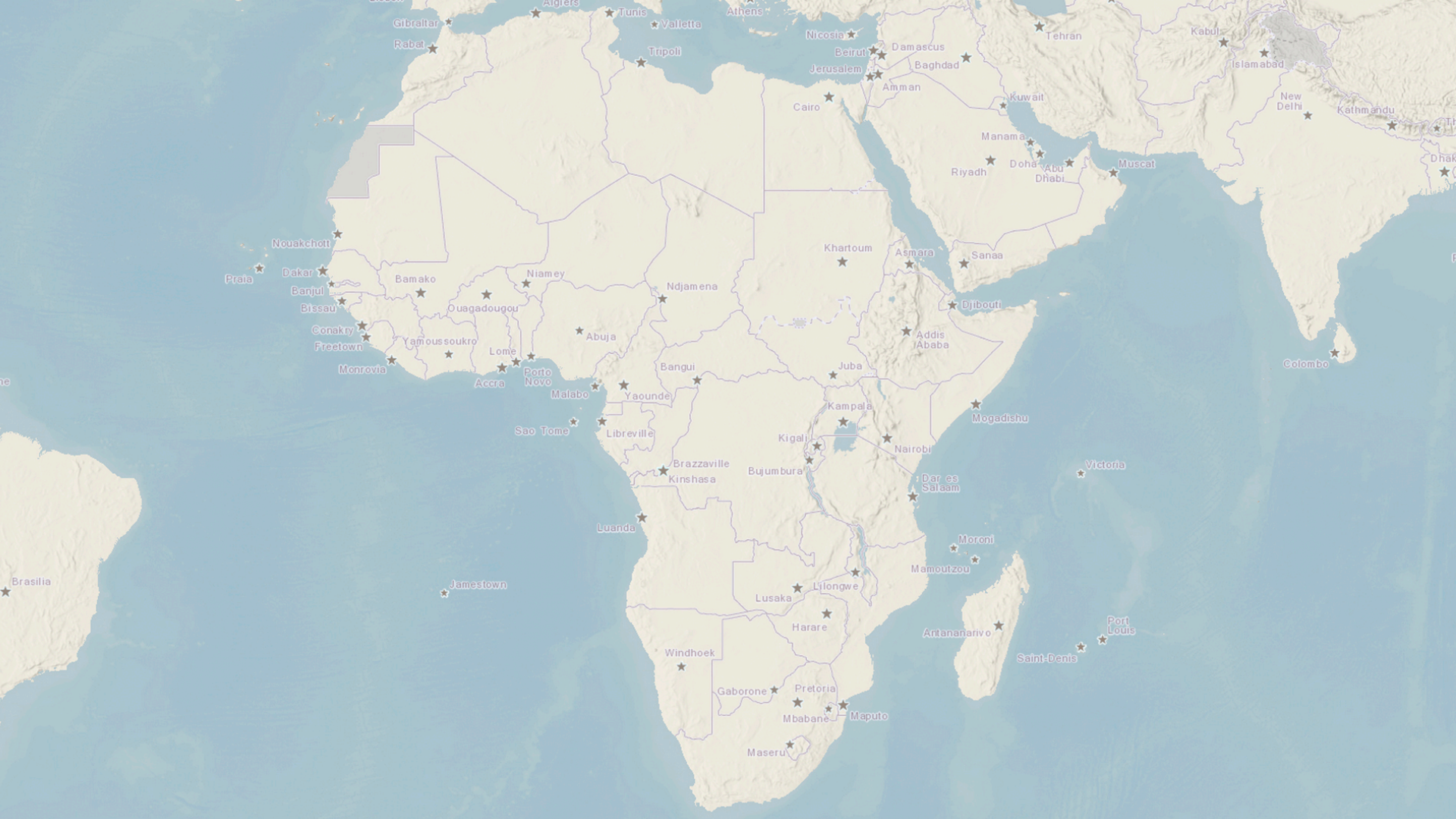
Biosafety in Liberia


Algiers
Tunis
Athens
Gibraltar
Valletta
Rabat
Tripoli
Nicosia
Tehran
Kabul
Beirut
Damascus
Islamabad
Jerusalem
Baghdad
Amman
Kuwait
New Delhi
Cairo
Kathmandu
Manama
Doha
Abu Dhabi
Riyadh
Muscat
Nouakchott
Khartoum
Asmara
Sanaa
Praia
Dakar
Niamey
Bamako
Ndjamena
Banjul
Djibouti
Bissau
Ouagadougou
Conakry
Abuja
Addis Ababa
Yamoussoukro
Freetown
Lome
Colombo
Monrovia
Porto Novo
Bangui
Juba
Accra
Malabo
Yaounde
Kampala
Mogadishu
Sao Tome
Libreville
Kigali
Nairobi
Brazzaville
Victoria
Bujumbura
Kinshasa
Dar es Salaam
Luanda
Moroni
Mamoutzou
Brasilia
Jamestown
Lilongwe
Lusaka
Harare
Antananarivo
Port Louis
Windhoek
Saint-Denis
Gaborone
Pretoria
Mbabane
Maputo
Maseru


GUINEA
Conakry
Freetown
SIERRA
LEONE
Monrovia
LIBERIA

THE LONG ROAD TO ZERO No NEW CONFIRMED CASES IN LIBERIA……

- The Ebola Virus Disease was first confirmed in Liberia **in March 2014. The first** case was identified in **Foya – Lofa County** – border with Guinea.
- The EVD epidemic started **with imported case** from Guinea in March 2014 and in May 2014 from Sierra Leone.
- Liberia remains the **worst affected** country in terms of the highest number of EVD reported cases and deaths out of the current 6 affected countries in West Africa.
- Declared **"EVD Free "**

- The journey to zero was difficult and took **many lives**

- The total cumulative cases and deaths as of the week of **May 9, 2015 : confirmed EVD cases: 3,150**
- **Deaths : 4,785**
- **378 healthcare workers** were infected with EVD, and **192 deaths**

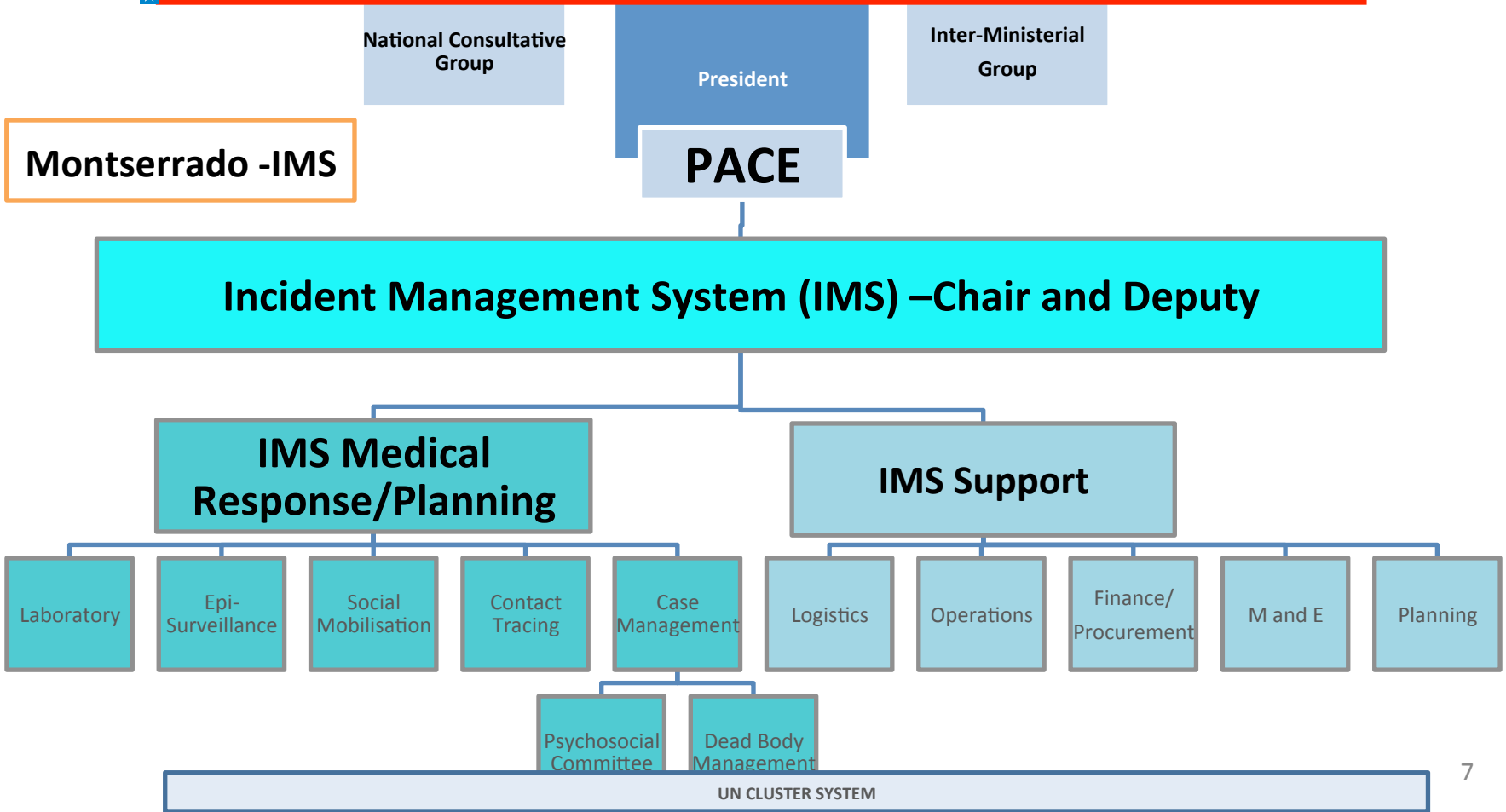
- All counties in Liberia reported EVD cases at different times within the outbreak period

- We adjusted and adopted various strategies across the thematic areas to get to Zero

Laboratory Hurdles

- Lab technicians abandoned their posts
- Staff at the NPHRL were stretched thin in numbers
- No formal sample transportation system
- No standard operating procedure or written communication strategy.
- No training in labeling samples and sample collection procedures.
- Lack of Triple packaging system
- Disconnect in reporting results
- 2 analysis site conducting DNA analysis.
- No training on post-mortem sample collection
- Minimum coordination and supervision of various diagnostics EVD laboratory to ensure biosecurity of samples

Coordination, Control and Command



EXPANDED TESTING FOR SUSPECTED CASES AND DEAD BODIES

Ruling Out EVD

THE FEW LABORATORY TECHNICIANS OVER STRETCH WITH TESTING

- The timing for specimen collection, testing and disclosure of Lab results improved with the establish of mobile labs at strategic locations in the country
- Prompt isolation ,management of cases ,burial and contact tracing was made possible with testing results delivered on time.
- The staffs were trained to manage testing

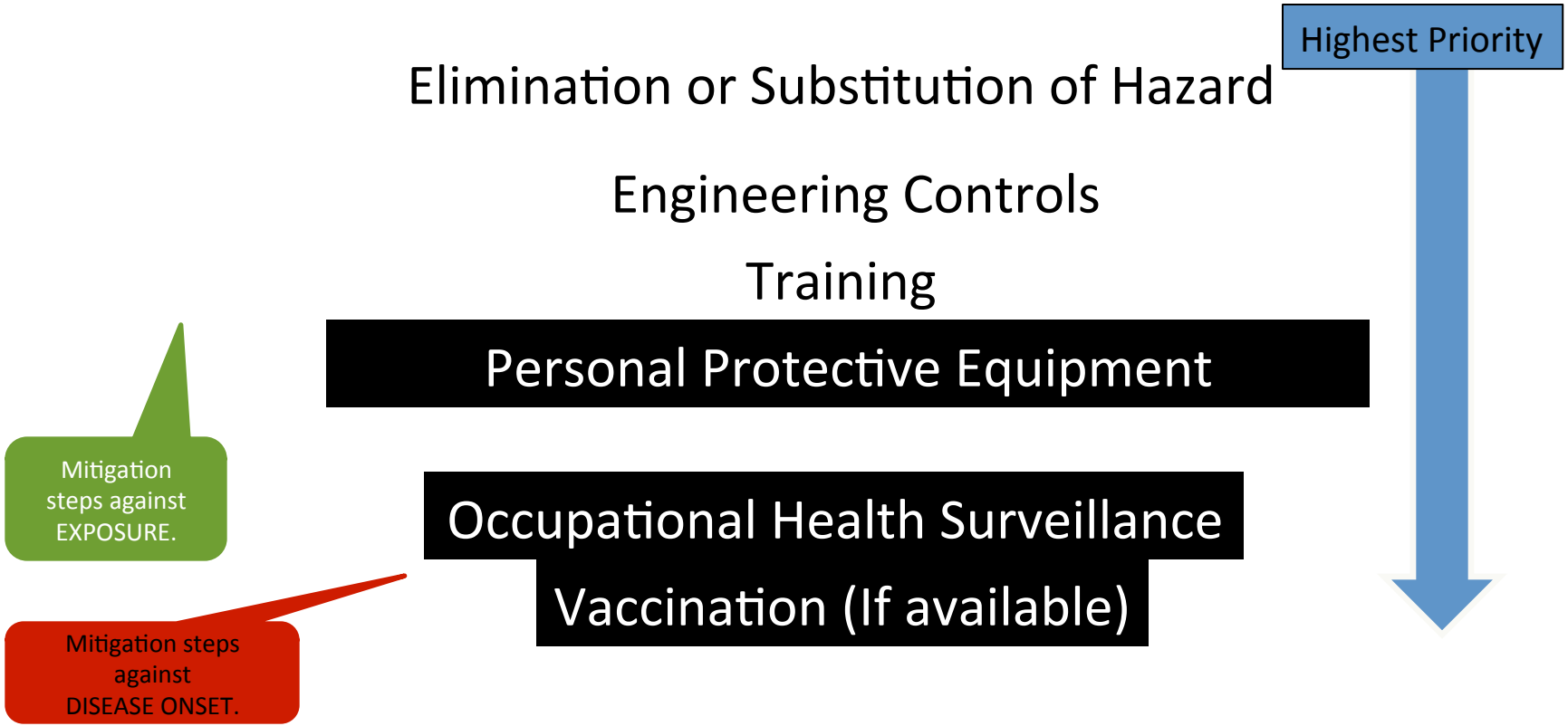
Strategies for Maintaining Zero

- **INFECTION PREVENTION AND CONTROL**
  - Monitor, regulate, and enforce IPC standards in all public and private facilities
  - Continue training staff in schools and maintaining supply chains for hand washing equipment, thermometers, and other screening and prevention tools
  - Ensure timely referral of all febrile cases for testing and treatment
- **DEEPENED COMMUNITY ENGAGEMENT**
  - Continue community involvement efforts (near and across borders) to sustain gains and minimize resistance
  - Prevent new cases and support health-seeking behaviors
  - Use social mobilization strategies to encourage ongoing vigilance

Labs Pre and Post Ebola (N=6)

BIOSAFETY ISSUES	Before	After
Biosafety Hoods	5/6	5/6, 1 operational, 0 certified
Biosafety Manual	None	None
Inventory Management Logs	None	None
Sharps Containers	Scanty	Scanty
Biosafety Officer	None	None
Sample Storage Space	2/6	2/6
Biosafety Training	1/6	1/6

Biological Hazard Mitigation



Issues to Address

- Needs to consider high vs low risk (Does it include lab techs?)
- Health workers responsible for best judgment for PPE utilization
- In a resource-limited setting, how do we address continued access to inventory
- Baseline requirements for governments to meet in ensuring safety

Overarching Issues

- Senior management support
- Safety culture
- Inventory Management
- Legislation and Regulation
- Education and competency
- Oversight