FROM EBOLA TO LASSA FEVER: LESSONS LEARNT (NIGERIA)

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OUTLINE

- Pre-Ebola Outbreak phase
- Ebola Outbreak Response
- Post Ebola Outbreak phase
- Lassa fever containment
PRE-EBOLA OUTBREAK PHASE

- Critical vulnerabilities
- Critical capabilities
- Specific capabilities/ events in first Ebola Epi-centre
The critical vulnerabilities

- Huge and dense population
- Poor IPC practices in health facilities
- Cultural beliefs and religious practices
- Terrorism in the northern part of the country
- Porosity of our boarders
- Poor control over informal health sector
The critical capabilities

- Health system with functional surveillance, diagnosis capacity and huge expertise (clinical & Public Health experts)
- Existing infrastructures and equipment: Ambulance services, specialist centre (IDH)
- Huge resources available in the community (private and public sectors) for mobilization: technical & material
- Organized community structures; CDAs, Traditional rulers etc
Surveillance flow

FLOW OF INFORMATION CHART FOR DISEASE SURVEILLANCE

1st tier

HEALTH FACILITY

For surveillance purposes, ALL institutions with outpatient and/or in-patient facilities are defined as a “health facility”. This includes both public and private health institutions.

2nd tier

LGA

DSNO

DSNO – Disease surveillance and Notification Officer
SMoH – State Ministry of Health
FMoH – Federal Ministry of Health
DHPRS – Directorate of Health Planning Research and Statistics.
NHMIS – National Health Management Information System.
WHO – World Health Organization

3rd tier

STATE

DSNO

EPIDEMIOLOGIST

SMoH
DHPRS

FMoH (Statistics Unit)
NHMIS
WHO
Other relevant bodies

4th tier

NATIONAL

FMoH
(Epid Unit)
Specific capabilities of Lagos (1)

- Establishment of virile and effective IDSR mechanism
- Establishment of Lagos State Emergency Management Agency (LASEMA) {February 2008}
- Infectious Disease Hospital now Mainland Hospital (1930s)
- Lagos State Ambulance Services (LASAMBUS) [2001]
- Law establishing crematorium [April 2013]
Specific capabilities in Lagos (2)

- State Environmental Monitoring Unit (SEHMU) [August 2000]
- Lagos State Waste Management Agency (LAWMA)
- Emergency Preparedness Committee in General Hospitals, LASUTH and LGAs
- Existence of Public Health Laws
Specific events

- Nigeria Medical Association Strike in the country paralysed health activities before EVD outbreak.
- Only Private health sectors are functional with skeletal activities in public health sector.
EBOLA OUTBREAK PHASE
Outbreak began on 20 July when an infected traveler (diplomat) from Liberia arrived in Lagos → immediately hospitalized

Subsequent spread of the disease in Lagos and Port Harcourt (PH) that marked the first EVD outbreak in Nigeria

Lagos & PH are

- complex urban mega cities with combined population of 21 million
- High influx of people from neighboring countries
- Require adequate supporting infrastructure. Crowded, many slums and squatter settlements making the spread and control difficult
- Main point of entry- Murtala Mohammed international airport in Lagos
Figure: LND001: Male, 40y, Liberian diplomat index primary case, traveled to Lagos on 20 July and was hospitalized 20-24 July 2014 in Nigeria, date of death 25 July 2014; EKY002: Female, 28y, Medical doctor; EKY024: Male, Protocol Officer, travelled to Port Harcourt from Lagos on 1 August and returned to Lagos late 4 August 2014; LSR008: Female, 56y, Nurse; LND005: Male, 29y, Medical doctor; EKY016: Female, 58y, Medical doctor; LND007: Male, 31y, Medical doctor; AAA009: Male, 39y, Protocol officer; EKY014: Female, 31y, Business woman; KTO010: Female, 25, Nurse; AAA020: Probable, Male, 62y, Hosp Administrator; LSD004: Male, 31y, Medical doctor. LSR009: Female, 30y; KSF015: Female, 32y, Nurse; PHC001: Male, 42y, Medical Officer, attended to EKY024; AAA019: Female, 52y, Wife of AAA020; LSD013: Male, 35y, Businessman; PHC002: Female, 35y, wife of PHC001; PHC003: Female, 62y, nosocomially acquired infection; PHC007: Sister of PHC001.
### Number of Ebola cases and deaths in Nigeria

<table>
<thead>
<tr>
<th>State</th>
<th>No. Cases*</th>
<th>No. deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lagos</td>
<td>16</td>
<td>6</td>
</tr>
<tr>
<td>Rivers</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>8</td>
</tr>
</tbody>
</table>

*Cases include confirmed and probable cases*
<table>
<thead>
<tr>
<th></th>
<th>Health-workers</th>
<th>Non-Health workers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirmed cases</td>
<td>11</td>
<td>8</td>
<td>19</td>
</tr>
<tr>
<td>Probable cases</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Suspect Cases</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Deaths (confirmed cases and Probable) *</td>
<td>6</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Total confirmed cases discharged</td>
<td>7</td>
<td>4</td>
<td>11</td>
</tr>
</tbody>
</table>
Summary of Ebola contacts data, 29 September 2014

<table>
<thead>
<tr>
<th>Contacts</th>
<th>Lagos</th>
<th>Port Harcourt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative contacts listed</td>
<td>362</td>
<td>530</td>
</tr>
<tr>
<td>Contacts that became EVD cases (Suspect, Probable, and confirmed)</td>
<td>16</td>
<td>2</td>
</tr>
<tr>
<td>Contacts currently under follow-up</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Contacts who completed 21- day follow-up</td>
<td>362</td>
<td>529</td>
</tr>
<tr>
<td>Contacts lost to follow-up</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
### The key requirements

- Strong political **will** and **leadership**
- Commitment and support from the community
- Compliance of healthcare workers with IPC protocols
- Mobilization of the needed resources
- Effective and efficient management and coordination
- Sustainability of the campaign – transit to routine system
Core strategies

- Case management: Isolation and treatment of confirmed cases
- Epidemiology & Surveillance: Hunting for the virus
- Community engagement: community support & risk reduction
- Cross-border surveillance and POE screening
- Strengthening of the surveillance system
Challenges (1)

- Stigmatization e.g. many contacts preferred discrete follow up due to stigma
- Panic among health workers
- Difficult, evasive, and hostile contacts. Contact tracers used innovative ways to reach them - SWAT, Special teams, SSS, Telecoms
- Misinformation/Hiding information by contacts
Challenges (2)

- Sustaining the payment of incentives - Rivers state
- Inadequate personnel and low capacity at the Points of Entry (PoE).
- Late receipt of Donor Funds
- Community resistance due to misconceptions and incorrect messaging
Critical Success Factors

- **One aim** – Political class, professionals and people
- **One overriding strategy** – Community engagement (Gatekeepers, Stakeholders, Media, Healthcare professionals, Masses)
- **One campaign plan** – combination of complex activities into one campaign plan under IMS
- **One command structure** – For effective and efficient coordination of all teams, management of their interdependencies, provision of resources and needed logistic support to the teams and alignment of response to outbreak trends all for hitting a common goal
Post Ebola Activities(1)

- EVD Core Research Group in Lagos, Nigeria.
- Collaboration with Global Emerging Pathogens Treatment (GET) Consortium.
- Planned upgrading of Mainland Hospital, Lagos to International Centre for Disease Control
- Upgrading of NCDC laboratories in the country
- New partnership involvement in disease surveillance (UMB) with NCDC and State Ministries of Health
Post Ebola Activities (2)

- Planned Collaboration of DRASA with Lagos State Ministry of Health on Simulation Training of health workers for health emergencies.
- West African Disaster Preparedness Initiative (WADPI).
- Planned collaboration of Lagos State Ministry of Health with African Centre for Genomics of Infectious Disease, Redeemer University.
Lassa fever in Nigeria

- Since the first case in 1969, Lassa fever has been reported in more than 18 of the 36 states in the country.
- The States of, Ebonyi, Edo, Nassarawa, Taraba and Plateau States are the most frequently affected. Oyo, Lagos, Bauchi, Kaduna, Kebbi, Rivers, FCT and Ondo are becoming the new endemic states.
- Majority of the deaths recorded in Nigeria so far have been among the youths in their primes of life, most especially health personnel and pregnant women.
Notable Lassa fever outbreak in Nigeria

- 2014 in 13 States
- 2015 in 14 States
- 2016 in 26 States
### As at Week 14 15th April, 2016

Lassa fever data

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>WEEK 1-14 2015</th>
<th>WEEK 1-14 2016</th>
<th>WEEK 1-53 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>LGA affected</td>
<td>16</td>
<td>115</td>
<td>37</td>
</tr>
<tr>
<td>States affected</td>
<td>9</td>
<td>27</td>
<td>14</td>
</tr>
<tr>
<td>Suspected &amp; Confirmed cases</td>
<td>87</td>
<td>585</td>
<td>430</td>
</tr>
<tr>
<td>Lab confirmed cases</td>
<td>6</td>
<td>58</td>
<td>25</td>
</tr>
<tr>
<td>Deaths (confirmed &amp; Suspected cases)</td>
<td>3</td>
<td>73</td>
<td>40</td>
</tr>
<tr>
<td>Case Fatality Rate (CFR %)*</td>
<td>3.45%</td>
<td>12.5%</td>
<td>9.30%</td>
</tr>
</tbody>
</table>
Lessons Learnt (1)

- Health System Strengthening
- Human Capital Development
- Upgrading existing health structures (Laboratories [BSL3-4], Hospitals)
- Communication advocacy
- Community involvement & Mobilisation
Lessons learnt (2)

- Need for effective Public –Private Partnership coordination/involvement in Emergency Preparedness
- Importance of Operational Research
- Standing polyvalent clinical team an invaluable asset in the absence of fully complemented case management team
- Planned revamping/upgrading of Mainland Hospital, Lagos to Centre of Excellence for Emerging and Dangerous pathogens control (Disease Control)
Lessons learnt (3)

- Continuous readiness for widespread Public Health Education to overcome far-reaching stigmatisation of contacts and cases of Ebola
- Collaborative setting up & training of health for plasmapheresis using Ebola survivors
- Need for Regional Headquarters for Nigeria Centre for Disease Control for effective coordination and response to PHEIC.