Lagos State Preparedness For 2019 novel Coronavirus & Lassa Fever Virus
OUTLINE

• Pathogens of high Consequences Outbreak
  – Novel Coronavirus outbreak
  – Lassa Fever outbreak

• Critical vulnerabilities of Lagos State

• Role of health care workers
Pathogens of High consequence

• A pathogen with the potential to cause a high mortality rate among otherwise healthy people
• Direct clinical specimens pose generalized risks to laboratory personnel
• Known risk of secondary airborne spread within health care settings or unknown mode of transmission
• No routine vaccine exists
• Examples include
  – Middle East Respiratory Syndrome Coronavirus (MERS_CoV) in Saudi Arabia (2018);
  – ongoing Ebola Virus Disease (EVD) Outbreak in Democratic Republic of Congo (DRC) since 2018;
  – Lassa Fever in Nigeria ongoing
  – nCOV 2019 ongoing
Introduction

- In December, 2019, a series of pneumonia cases of unknown cause emerged in Wuhan, Hubei, China.
- Between then and now it has infected 1400 people with 56 deaths.
- It is present across 3 continents and 14 countries including China and the US with heavy traffic into Lagos.
Coronavirus cases

Deaths

Confirmed cases 1,315

Confirmed cases of the new coronavirus as of Jan. 24.

Health Emergency Office, Johns Hopkins University
Los Angeles Times
WHO is on the verge of declaring a PHEIC.

It met last Thursday and decided to observe for a while. However, it has increased by more than 100% in both morbidity and mortality!!!
### Novel Coronavirus update; Saturday 25 January 2020

<table>
<thead>
<tr>
<th>Country</th>
<th>Confirmed</th>
<th>Death</th>
</tr>
</thead>
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<tr>
<td>China</td>
<td>2800</td>
<td>81</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>8</td>
<td>0</td>
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<td>Taiwan</td>
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<td>0</td>
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<td>0</td>
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<td>0</td>
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<tr>
<td>South Korea</td>
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<td>0</td>
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<tr>
<td>USA</td>
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<tr>
<td><strong>Cumulative</strong></td>
<td><strong>2858</strong></td>
<td><strong>81</strong></td>
</tr>
<tr>
<td>Country</td>
<td>Confirmed</td>
<td>Death</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>China</td>
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<td>81</td>
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<td>Hong Kong</td>
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<td>Thailand</td>
<td>19</td>
<td>0</td>
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<tr>
<td>France</td>
<td>6</td>
<td>0</td>
</tr>
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<td>Malaysia</td>
<td>08</td>
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<td>Germany</td>
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<td>0</td>
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<tr>
<td>Singapore</td>
<td>18</td>
<td>0</td>
</tr>
<tr>
<td>Australia</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Taiwan</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>UAE</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Italy, Philippines, UK, Russia</td>
<td>2</td>
<td>1(Philippines)</td>
</tr>
<tr>
<td>Japan</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Canada</td>
<td>4</td>
<td>0</td>
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<tr>
<td>Vietnam</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Nepal, Finland, Cambodia, Spain, Sri Lanka, Sweden</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Macau</td>
<td>9</td>
<td>0</td>
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<tr>
<td>South Korea</td>
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<td>0</td>
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<tr>
<td>USA</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>Cumulative</td>
<td>20629</td>
<td>427</td>
</tr>
</tbody>
</table>
Signs of Infection

Common signs and symptoms:
- Running nose
- Headache
- Feeling of being unwell
- Sore throat
- Fever
- Cough

In more severe cases, infection can cause:
- Pneumonia
- Severe acute respiratory disease
- Kidney failure and even
- Death
The symptoms of 2019-nCoV and how it spreads:

- Fever
- Chest pain
- Chills
- Rapid heartbeat
- Breathing difficulties
- Pneumonia
- Kidney failure

- Headache
- Sore throat
- Cough
- Shortness of breath

Spread via coughing & sneezing.
Management of a suspected case of Wuhan novel coronavirus (WN-CoV)

Does the patient have:

**EITHER**
- acute respiratory infection of any degree of severity (including at least one of: shortness of breath, cough or sore throat) **OR**
- severe acute respiratory infection requiring admission to hospital with clinical or radiological evidence of pneumonia or acute respiratory distress syndrome

**Primary care**
- isolate the patient (and their belongings or waste) in a side room with the door closed
- do not physically examine the patient
- if consultation/examination had already started, leave the room and wash your hands
- seek specialist advice from a local microbiologist, virologist, or infectious diseases physician

**Secondary care**
- place the patient in respiratory isolation, and PPE is worn by any person entering the room
- seek specialist advice from a local microbiologist, virologist, or infectious diseases physician

**Patient phone call**
- advise the patient to stay at home whilst appropriate transport can be arranged

- Notify the local PHE Health Protection Team by phone

Has the patient lived in or travelled to Wuhan, Hubei Province, China in the 14 days before onset of illness?

- **YES**
- **NO**

Anyone who has had contact with a confirmed case of WN-CoV in the last 14 days should be reported to the local health protection team immediately.

Have they had contact with a confirmed case of WN-CoV in the 14 days before onset of illness?*

- **YES**
- **NO**

- **YES**
- **NO**

Does the patient have risk factors for avian flu?

- **YES**
- **NO**

Footnote - For further guidance:

Link to background information
Link to initial investigation of possible cases guidance
Link to infection prevention and control guidance
Lassa Fever Outbreak

• Lassa fever, known as Lassa hemorrhagic fever (LHF), is a type of viral hemorrhagic fever caused by Lassa fever virus.

• Symptoms include fever, weakness, headaches, vomiting, and muscle pains.

• The risk of death once infected is about one percent and frequently occurs within two weeks of the onset of symptoms.
Mastomys natalensis

- “Multimammate rat”
- Peri-domestic
- Inhabits fields and cleared forest
- Prolific breeder (8-12 pups/litter)
- Infected at birth and become chronic asymptomatic carriers of Lassa virus
- Shed virus in the urine and feces
- Numerous sub-species
Lassa Fever updates

• New confirmed cases --- 195.
• Twenty nine deaths
• At least two dead health workers
• Eleven states have recorded at least one confirmed case across 32 Local Government Areas.
• States involved: Ondo, Edo, Delta, Taraba, Plateau, and Bauchi --
• The overall case fatality rate (CFR) for 2020 is (14.7%)
• confirmed cases: 89% Edo, Ondo and Ebonyi
Lassa fever Situation Report  
Epi Week 10: 02 - 08 March 2020

Key Points

Table 1: Summary of current week (10), cumulative from Epi week 01–10, 2020 and comparison with previous year (2019)

<table>
<thead>
<tr>
<th>Reporting Period</th>
<th>Suspected cases</th>
<th>Confirmed cases</th>
<th>Probable cases</th>
<th>Deaths (Confirmed cases)</th>
<th>Case Fatality Ratio (CFR)</th>
<th>States and LGAs affected (Confirmed cases)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current week (week 10)</td>
<td>364</td>
<td>81</td>
<td>2</td>
<td>9</td>
<td>11.1%</td>
<td>State(s): 15, LGA(s): 29</td>
</tr>
<tr>
<td>2020 Cumulative (week 1-10)</td>
<td>3416</td>
<td>855</td>
<td>11</td>
<td>144</td>
<td>16.8%</td>
<td>State(s): 27, LGA(s): 119</td>
</tr>
<tr>
<td>2019 Cumulative (week 1-10)</td>
<td>1752</td>
<td>472</td>
<td>15</td>
<td>110</td>
<td>23.3%</td>
<td>State(s): 21, LGA(s): 73</td>
</tr>
</tbody>
</table>
Figure 1. Epidemic curve of confirmed Lassa fever cases from epidemiological week 01 to 10, 2020

Figure 2. Confirmed Lassa fever cases by States in Nigeria, week 01-10, 2020
Figure 3. Confirmed Lassa fever rate per 100,000 population for LGAs in Nigeria, week 01-10, 2020

Table 2: Key indicators for current week 2020 and trend compared to previous week, Nigeria

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Number for current week</th>
<th>Trend from previous week</th>
<th>Cumulative number for 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probable cases</td>
<td>2</td>
<td>↑</td>
<td>11</td>
</tr>
<tr>
<td>Health Care Worker affected</td>
<td>2</td>
<td>↑</td>
<td>29</td>
</tr>
<tr>
<td>Cases undergoing treatment in Treatment centres</td>
<td>133</td>
<td>↓</td>
<td>879</td>
</tr>
<tr>
<td>Contact tracing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative contact listed</td>
<td>2007</td>
<td>↑</td>
<td>8114</td>
</tr>
<tr>
<td>Contacts under follow up</td>
<td>2841</td>
<td>↑</td>
<td>2841</td>
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<tr>
<td>Contacts completed follow up</td>
<td>1495</td>
<td>↑</td>
<td>5210</td>
</tr>
<tr>
<td>Symptomatic contacts</td>
<td>8</td>
<td>↑</td>
<td>138</td>
</tr>
<tr>
<td>Positive contacts</td>
<td>0</td>
<td>←→</td>
<td>59</td>
</tr>
<tr>
<td>Contacts lost to follow up</td>
<td>0</td>
<td>↓</td>
<td>4</td>
</tr>
</tbody>
</table>
LAGOS STATE OF NIGERIA

- Smallest state with an area – 3,577 sq. km (22% Water)
- Commercial, Financial and Industrial nerve center of Nigeria
- Population of about 24 million people
HOW TO PREVENT LASSA FEVER

- Prevent rats from houses
- Block all holes in the house
- Do not touch rats, dead or alive with bare hands
- Cook all foods properly before eating
- Avoid eating food/fruits eaten by rats
- Store food in cover container
- Clean your home and surroundings regularly
- Dispose waste properly in covered dustbin
- Wash hands regularly with soap and water, running water always
- Avoid self medication: go to approved health facilities
- Do no dry food in open places and on the floor
- Avoid person-to-person contact with someone who has the disease

Source: NCDC
Lagos is vulnerable!!!

- Lagos has the highest population of people from South East Asia
- Lagos is the entry point for >90% of international travel in Nigeria
- Lagos is the port of choice for all purchases from China
- Population density : > 24 million
- Average flights to Lagos from South Asia > 4 per week
- Success of Ebola containment in 2014
LAGOS STATE UNIVERSITY TEACHING HOSPITAL, IKEJA
HEMORRHAGIC VIRUS DISEASES TRIAGE PROTOCOL
SCREEN--- ISOLATE ---NOTIFY
ARRIVAL IN MEDICAL EMERGENCY, OPD, LASEMS, CHILDREN EMERGENCY

ANY HISTORY OF FEVER

NO
ALLOW ACCESS TO FACILITY & TREAT AS USUAL OBSERVING UNIVERSAL PRECAUTIONS

YES
INTERVIEW AT A RESPECTFUL DISTANCE OF 1-2 METERS

HISTORY OF TRAVEL / WHERE DOMICILE PAST 3 WEEKS
ANY SORE THROAT, DIARRHOEA, VOMITING, MYALGIA
BLEEDING (EPISTAXIS, HEMOPTYSIS, HEMATEMESIS, GINGIVAL, HEMATOCHEZIA OR FROM OTHER SITES)
ANY HISTORY OF VISIT TO AFFECTED STATES/ AREA IN THE PAST 3 WEEKS
ANY HISTORY OF CLOSE CONTACT WITH A CONFIRMED CASE OF VIRAL HEMORRHAGIC FEVER
CLOSE CONTACT WITH PERSON CORPSE FROM UNDIAGNOSED FEBRILE ILLNESS WITHIN THE LAST 3 WEEKS
EXTENSIVE / REGULAR EXPOSURE TO RATS /RATS EXCRETA

NO
ALLOW ACCESS TO FACILITY & TREAT AS USUAL OBSERVING UNIVERSAL PRECAUTIONS

YES
ALERT CASE
SECURE IN THE TRIAGE AREA
MINIMAL CONTACT EXAMINATION
NOTIFY RESPONSE TEAM IMMEDIATELY FOR REVIEW
VHF ISOLATION PRECAUTION
REMEMBER 'WUHAN' TO PROTECT YOURSELF FROM CORONAVIRUS

Wash your hands often
Use masks properly and when necessary
Have your temperature checked for fever
Avoid large crowds and stay home if you're sick
Never touch your face with unclean hands

SOURCE: DEPARTMENT OF HEALTH