ROLES OF THE LABORATORIES IN EVD PREPAREDNESS
OBJECTIVES

• Discuss the roles of the laboratories in EVD preparedness
  o RITM NRL
  o SNL
  o Laboratories in the Regional Hospitals and Referral Centers for EVD
  o Laboratories in the Private Hospitals

• Provide points for consideration to the regional hospitals and hospitals hosting SNLs for EVD preparedness
LEVELS OF LABORATORY CAPACITY

- National Reference Laboratory
- Subnational Laboratory
- Regional Laboratory
- Provincial/City Laboratory
- Other Laboratories
Surge capacity = 500/day (max)

Number of diagnostic specimens received at the National Influenza Center, Research Institute for Tropical Medicine, Philippines and percentage positive for pandemic (H1N1) 2009 from May to August 2009.
LIMITATION OF CENTRALIZED TESTING

- Only 1 testing facility
- Not easily accessible to all referring centers
- Logistic concerns
- Limited surge capacity
DEPARTMENT PERSONNEL ORDER  
No. 2009 - 244|

SUBJECT: Establishment of Capability in Sub-National and Regional Laboratories for the Detection and Confirmation of Influenza A (H1N1) Using Real-time PCR and Creation of Technical Working Group to finalize PCR equipment specifications and to support the COBAC

To assist the Research Institute for Tropical Medicine in the timely detection and confirmation of Influenza A (H1N1) using Real-time PCR, said capability will be established in the DOH Sub-National and Regional Laboratories. For the first batch of upgrading, these laboratories will be located in the following Hospitals: Baguio General Hospital & Medical Center, Vicente Sotto Memorial Medical Center, Davao Medical Center, San Lazaro Hospital, and Lung Center of the Philippines. Likewise, the Research Institute for Tropical Medicine urgently needs additional Real-time PCR machine to augment their existing one, which is being used extensively due to increasing number of Influenza A (H1N1) cases. The following major activities shall be done:
EMERGING RESPIRATORY AND ZOODONIC DISEASE ORGANIZATIONAL FRAMEWORK

DEPARTMENT OF HEALTH

Disease Prevention and Control Bureau – Infectious Disease Office
Emerging and Re-emerging Infectious Disease Program

Department of Health-Bureau of Quarantine

Department of Health-Epidemiology Bureau

Applied Public Health Surveillance Division (ESR/FETPI)

Public Health Surveillance and Informatics Division (PIDS)

Regional Epidemiology and Surveillance Network

Research Institute for Tropical Medicine

Philippine National Influenza Center

Virologic Surveillance Sentinel Site Network for ILI and SARI

NRL for Emerging Infectious Diseases

Sub-national Laboratory Network

PHILIPPINE INTER-AGENCY COMMITTEE FOR ZOONOSIS

Department of Environment and Natural Resources-Protected Areas and Wildlife Bureau

Department of Agriculture-Bureau of Animal Industry

DEPARTMENT OF INTERIOR AND LOCAL GOVERNMENT

Local Epidemiology and Surveillance Network
NATIONAL REFERENCE LABORATORY

- Provides specialized testing services and quality assurance
- Provides standards, guidelines and recommendations
- Provides training and technical expertise
- Provides logistics
- Planning
- Oversight
SUBNATIONAL LABORATORIES

- Equipment
- Training
  - Confirmatory testing
  - IPC, Biosafety, PPE
  - Specimen inactivation
  - Packaging and shipment

- Augment national testing capacity
- Provide specialized testing services
- Participate in QA of NRL
REGIONAL HOSPITAL LABS

- Training
  - IPC, Biosafety, PPE
  - Specimen collection
  - Packaging and shipment

- Provide laboratory services for regional hospital patients/referrals to guide management
- Collect specimens safely
- Package and ship specimens to next level laboratory with capacity (NRL or SNL)
PRIVATE HOSPITAL LABS

- Probably more sophisticated and capable than other labs at city, provincial and regional level.
- Provide laboratory services for hospital patients/referrals to guide management.
- Collect specimens safely
- Package and ship specimens to next level laboratory with capacity (NRL or SNL)
PROVINCIAL HOSPITAL LABS

- Training
  - IPC, Biosafety, PPE
  - Specimen collection
  - Packaging and shipment

- Collect specimens safely
- Package and ship specimens to next level laboratory with capacity (NRL or SNL)
REFERRAL SYSTEM

• Will link the laboratories at various levels
• Integrated with DOH National Epidemiology Center Disease Surveillance System (PIDSR)
  – Case Investigation Form
  – Laboratory Request Form
• RITM Guidelines for referral of outbreak specimens
• RITM Interim Guidelines for novel, emerging-reemerging, high consequence pathogens (e.g., NRP, MERS, EVD)
POINTS FOR CONSIDERATION

- Threat of EVD
- Hospital care for EVD
- IPC
- Safety of HCW
- Prevent transmission

SAFETY
INTERIM GUIDELINES FOR COLLECTION, HANDLING, PROCESSING AND PACKAGING OF SPECIMENS FROM PERSONS UNDER INVESTIGATION (PUI) AND EVD SUSPECTED CASES
Version 4 | 26 October 2014
## POINTS FOR CONSIDERATION

### BASIC REQUIREMENTS FOR ENSURING STAFF SAFETY IN SPECIMEN COLLECTION, HANDLING, PROCESSING AND TESTING OF SAMPLES FROM PUI’s AND EVD SUSPECT CASES

<table>
<thead>
<tr>
<th>SPECIMEN COLLECTOR</th>
<th>LABORATORY PROCESSING AND TESTING PERSONNEL</th>
<th>EQUIPMENT</th>
<th>SUPPLIES AND REAGENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum training and skill requirements:</td>
<td>Minimum training and skill requirements:</td>
<td>Functional and certified Biosafety Cabinet Type II</td>
<td>Supplies and reagents dedicated for routine testing of PUIs or EVD Suspect cases.</td>
</tr>
<tr>
<td>▪ Phlebotomy</td>
<td>▪ Good laboratory practices</td>
<td>▪ Dedicated centrifuge with cover</td>
<td>▪ Supplies dedicated for waste management, such as sharps container, trash bags, trash bins, etc.</td>
</tr>
<tr>
<td>▪ Biosafety</td>
<td>▪ Biosafety</td>
<td>▪ Dedicated handheld point-of-care testing system (e.g., i-STAT or equivalent)</td>
<td></td>
</tr>
<tr>
<td>▪ Donning and doffing of Personal Protective Equipment</td>
<td>▪ Donning and doffing of Personal Protective Equipment</td>
<td>▪ Appropriate Personal Protective Equipment as prescribed in these interim guidelines (see item XX)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Use of Biosafety Cabinet</td>
<td>▪ Autoclave</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Use of Point-of-Care system (e.g., i-STAT or equivalent)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Specimen packaging and shipment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
POINTS FOR CONSIDERATION

• 23 private institutions – 23 different scenarios, situations, challenges
  – No work flow yet from specimen collection to disposal
  – No dedicated POC testing equipment
  – Facility layouts, POC lab not yet established
  – No dedicated BSC
  – No dedicated supplies, PPEs
  – Et cetera
If we cannot assure safety of the medical technologists, do not do the procedure.

**IDEAL**

- Established “POC” lab adjacent to isolation rooms.
- Do all procedures in the dedicated BSC (POC testing, specimen handling, processing, packaging) wearing full PPE
- Dedicated supplies and materials
- Work flow considerations
- **Buddy system**
- **Waste management/lab decontamination procedures**

Minimize lab testing

If lab will perform POC testing, staff should wear full PPE and there should be adequate and dedicated space in the isolation room

Only perform testing if you have the supplies, training and staff can do so safely (confidently)

Minimize/NO aerosol generating procedures

Buddy system

Waste management/lab decontamination procedures
POINTS FOR CONSIDERATION

• Hospitals encouraged to do a risk assessment and come up with hospital preparedness plan

• Do include the laboratory staff in your discussions
  – Needs (equipment, training, supplies, number of staff)
  – Concerns (ensuring IPC, integration to work flow, roles and responsibilities, fears)
  – Capabilities and Limitations
NEXT STEPS FOR REGIONAL LABS

• Follow through with the hospital laboratories
  – Workflow assessment
  – Laboratory assessment

• Refresher training

• Training of trainers
NEXT STEPS FOR SNLs

• Legal mandate and operational support mechanisms
• Training of SNL laboratory staff on PPE and laboratory biosafety
• Training on inactivation procedures
• Training on realtime PCR
• Build capacity for serologic testing
One Nation, One Direction for Ebola Prevention

CAPACITY BUILDING FOR HOSPITAL RESPONSE TEAMS IN THE MANAGEMENT OF EBOLA VIRUS DISEASE

BATCH 3 / NOVEMBER 11 - 13, 2014