Training on Hospital Management for Ebola Virus Disease: Workshop

November 30, 2014

This training workshop was developed and taught by the Philippines Department of Health, particularly staff of the Research Institute of Tropical Medicine, in collaboration with the Philippine country office of the World Health Organization assisted by consultants from Johns Hopkins Hospital, Tropical Health Solutions and employed privately. The focus of the workshop is on hospitals since it is highly likely that, if EVD occurs in a country, patients will be identified and managed within the hospital system.

The workshop was developed in October 2014 and modified over November 2014 after being taught to more than 350 health care professionals from over 50 Filipino hospitals.
Training on Hospital Management for Ebola Virus Disease (EVD)

How to Use these Materials:
The intention of offering the files as Word documents or Powerpoint (PPT) files is to enable them to be modified by other users. The PPT files currently use the Philippine Department of Health Research Institute of Tropical Medicine (RITM) master format. However, this can be changed as desired. The workshop used the Philippine Department of Health interim guidelines on the management of Ebola virus disease (EVD) as the foundation document for activities relevant to country-specific action. If this workshop is adapted for use in other countries, that countries guidelines should be used.

If you do use these files or the workshop, please cite the source as: Philippine Department of Health / World Health Organization. Training on hospital management for Ebola Virus Disease: Workshop. Research Institute for Tropical Medicine; Manila. 2014.

This document EVD-workshop-Guide-final.docx is a guide to the workshop structure. It lists the objectives for each module and the file names to be used for that module. Modules are numbered 1-23 with multiple files in each module being numbered consecutively; e.g., 1.1, 1.2, etc.

Documents that are used in multiple modules may be found in the Documents folder.

Content of the lectures was current as at November 19, 2014. However, since the knowledge about Ebola is accumulating rapidly and the epidemiology of the West African outbreak is dynamic, please update presentation before using them.

Goal of Workshop:
The goal of this workshop is to increase capacity to rapidly detected, isolate and safely care for EVD cases within the health system, both public and private.

Training Objectives:
1. To be able to provide safer care for patients with Ebola Virus Disease
2. To prevent disease transmission in the healthcare and community settings.

1. INTRODUCTION

Training goal: To give an overview of the workshop.

Materials:
Lecture – 1.1-Opening_Remarks.pptx

Documents – (in Documents folder)
 Philippine Department of Health Interim Guidelines for the Prevention and Management of Ebola virus disease (August 26, 2014) - Prevention and Control of Ebola Virus Disease.pdf
 ACTION PLAN FOR EBOLA PREPAREDNESS.docx
 EVD Training Objectives.pdf
 EVD TRAINING PROGRAM for 3rd batch_110614.docx

Comment: The workshop is based on official guidelines. If the workshop is used in countries other than the Philippines, that country’s guidelines should replace the Philippine guidelines. The EVD TRAINING PROGRAM
2. EBOLA BASICS, BACKGROUND and RESTON IN THE PHILIPPINES

Training goal: To provide a common base to understand the virus, the disease, the epidemiology of EVD in West Africa, communicable disease control terminology, and to emphasise the importance of rapid and early detection of cases and the need to manage them safely.

Objectives:
- To describe Ebolavirus and its natural history in the human host and in the environment
- To explain some communicable disease terminology and concepts useful for controlling Ebola
- To give an overview of the West African outbreak
- To highlight the importance of detecting cases rapidly and responding rapidly

At the end of this session participants will be informed of the following:
- The taxonomy of the Ebola viruses, life cycle, pathogenesis, survival outside the host, how the virus can be inactivated
- Philippines has Ebola Reston, a species which appears to be non-pathogenic to humans
- Epidemiology, mode of transmission of EVD, pattern of spread within and between countries
- The West African Ebola epidemic
- The socio-economic impact and burden of the present outbreak
- Terminology used in controlling the epidemic, the importance of reproduction number and their role
- Importance of acting quickly to identify and isolate cases and inform health system
- Importance of HCWs protecting themselves and not spreading Ebola.

Materials:
Lectures –
2.1-Ebola-basics-background.pptx
2.2 – Ebola_Reston-Philippines.pptx

Additional material:
Video –
2.3-Ebola_Virus_Explained_How_Your_Body_Fights_For_Survival.flv
2.4-Monrovia-Liberia-EVDmp4
2.5-BBC_Newsnight_Ebola_Liberia.mp4

Comment: Reston Ebolavirus is found only in Philippines and China. It appears to be non-pathogenic to humans. Lecture 2.2 may not be relevant to other countries.

3. SCREENING AND TRIAGE

Training goal: To train participants on the clinical presentation of EVD, screening cases and triage

Objectives: At the end of the training the participants will have a basic understanding of:
- Case definitions (Person Under Investigation (PUI), suspect, probable, confirmed)
- Concept of screening and triage
- Define a triage, isolation or holding area
- Conduct rapid identification and assessment of PUI
Hospital management of EVD: Training workshop

- Classify suspect cases and isolate them promptly
- Ebola’s clinical features - its early and late signs and symptoms and how to recognize these manifestations

Materials:
Lecture – 3 – Screening and triage for EVD.pptx

4. CLINICAL MANAGEMENT AND DISCHARGE CRITERIA

Training goal: To train participants on how to recognize, diagnose and safely manage cases of EVD. At the end of the training the participants will have a basic understanding of:
- Clinical manifestations of EVD
- Principles of managing EVD cases
- Criteria for discharge
- Follow-up among EVD cases
- Current investigational drugs and vaccines for Ebola virus

Materials:
Lecture – 4.1–Clinical_management-EVD.pptx
Video – 4.2-MSF-Ebola-discharge-procedures.mp4

5. PATIENT SCREENING AND TRIAGE EXERCISE

Training goal: To guide participants in using the Department of Health (DOH) screening and triage form to classify cases into PUI or suspect or of no concern.

At the end of the session, the participants should:
- Know the importance of screening and triage
- Know how to use the DOH forms (Appendix B.2 and Appendix B.3)
- Know how to classify cases
- Understand the responses required depending on the case classifications
- Appreciate the importance of keeping staff and patients safe from suspect EVD cases

Materials: Small group work on screening and triage:
- 5.1- patient_screening_triage_exercise.docx
- 5.2- patient_screening_triage_exercise-facilitators_guide.docx

6. LABORATORY SUPPORT AND BIOSAFETY IN SPECIMEN HANDLING IN THE MANAGEMENT OF EVD

Training goals:
1. To present laboratory set-up to support EVD case and specimen management; collecting blood from patients in triage/room
2. To identify issues in biosafety during EVD case management (POC and BSC)

At the end of the training the participants will be able to:
- consider resources needed for safe laboratory support for EVD case management
- To discuss “point of care” (POC) diagnostic testing for patient management
- To discuss the biosafety guidelines in the handling of specimens
7. LABORATORY DIAGNOSIS OF EVD

Training goal: To discuss available methods for the rapid diagnosis of EVD.

At the end of the training the participants will understand:
- Diagnostic tests available for EVD and indications for use
- Interpretation of results
- Timing of specimen submission and result turn-around

Materials:
Lecture – 7- Laboratory Diagnosis of EVD.pptx

8. INFECTION PREVENTION AND CONTROL

Training goals:
- To emphasize the importance of infection control and prevention.
- To review Basic Infection Prevention and Control Principles and strategies
- Provide information on Ebola disease transmission and how infection control measures can effectively disrupt the chain of transmission

At the end of training, the healthcare worker should be able to:
- Identify the appropriate IPC interventions to prevent Ebola transmission in the hospital setting
- Assess the current IPC capacity and practice in their workplace and identify needs and gaps
- Know how to doff gloves by inverting them

Materials:
Lectures –
8.1-Infection_Control_Principals.pptx
8.2-Hand_Hygiene.pptx
8.3 –PPR-EVD.pptx

Documents - 8.4-Technique_removing_Disposable_Gloves.pdf

Equipment –
One set of gloves per participant
Alcohol based hand rub for each participant
Glow germ powder and UV lights

Exercises:
Use of alcohol hand gel – individual practice with gloves and alcohol based hand rub (ABHR).
Doffing gloves using the turning inside out technique – 8.4-Technique_removing_Disposable_Gloves.pdf – individual practice;
Select 10 people to do it in front of group using UV sensitive powder contamination of gloves and assess for contamination.
9. DEMONSTRATION OF PROPER DONNING AND DOFFING OF PPE FOR EVD

Training goals:
- To provide information on the selection and use of PPE in treating Ebola
- To demonstrate the proper sequence of donning PPE.
- To demonstrate the proper sequence of doffing PPE and the importance of being meticulous.
- To highlight the importance of a trained observer and their role in insuring safety.

At the end of training, the healthcare worker should be able to:
- Be aware of risks and identify the appropriate set of PPEs to use for EVD
- Confirm that they know the importance of working with a trained observer and following the sequence of donning and doffing PPE
- Correctly demonstrate how to don and doff PPE
- Be aware of the sharp demarcation between high risk area and low risk area
- Know how to safely cross the border from high risk to low risk
- Undergo a respiratory fit test

Materials:
Documents -
9.1-PPE_for_EVD-Donning.pdf
9.2-PPE_for_EVD-Doffing.pdf
9.3-PPE_Practice-Facilitators_Guide.pdf

Demonstration – Have a person don and doff PPE in front of audience while being assisted by a trained observer. The lecturer plays the part of the trained observer’s voice and reads out the instructions step by step.

Practical exercise: All participants don and doff PPE supervised by a fellow participant acting as a trained observer. Staff supervisors assist and comment on competence. Incident reports issued for serious breeches that would have put the HCW at risk.

Feedback: Participants are asked to don and doff PPE after hours and to email a picture of them fully dressed in PPE for comment. A facilitator then sends back comments promptly pointing out any problems that are visible.

10. GROUP DISCUSSIONS ON ETHICAL ISSUES

Training goal: To discuss possible ethical issues concerning management of EBOLA patients (eg. surgery, invasive procedures)

Exercise: Small group discussion about scenarios where possible benefit to patient, who is a suspect or confirmed EVD case, has to be balanced against risk to health professionals. For example, respiratory or cardiac arrest; when surgery is indicated; pregnant women who needs intervention.

11. ISOLATION AND PATIENT FLOW
Hospital management of EVD: Training workshop

**Training goal:** To train the participants on the operating principles of isolation, patient and staff flow, evaluation of a facility for ability to administer care, and how to keep safe in an isolation unit

At the end of the training the participants will:

- Know the requirements in designing and planning of an isolation room/unit
- Have an overview on proper patient and staff flow, intensive care facilities and equipment, availability of isolation areas and PPE
- Be able to evaluate the ability to safely administer care and assess the needs of their individual institutions
- Know how to keep safe in an isolation unit by being familiar with basic and disease-specific infection control strategies

**Materials:**
Lecture – 11-Isolation_Workflow_for_EVD.pptx

Equipment –
Manilla or butchers’ paper and a black marking pen for each group
Participants have their facility plans

**Exercise:**
Training goal: To guide the participants in setting up an isolation unit that is adapted to the capabilities and needs of their own institutions

At the end of the session, the participants should be able to:

- Have a floor plan/working isolation unit layout and process plan for their own institutions
- Evaluate the ability of their institutions to function in isolation units, including logistics, flow, clinical knowledge and skills, coordination, manpower
- Identify possible problems and suggest practical modifications or solutions to address institution-specific concerns
- Describe patient and staff flow in an isolation unit

**Feedback:** Facilitators provide advice and comment during the exercise. The next day the facilitator most experienced in facility and workflow design comments on each plan in a lecture format by projecting pictures of the final plans that have identifiers removed.

12. MANAGEMENT OF SHARPS AND POST-EXPOSURE MANAGEMENT

**Training goal:** To discuss provide information on proper practices on disposing sharps and to identify the roles and responsibilities of all staff involved.

At the end of the session, the participants should be able to:

- Understand that a sharps injury from a EVD patient is 100% fatal
- Understand the need to limit use of sharps in caring for EVD cases
- Be aware of strategies to do this.

**Materials:** Lecture – 12- Sharps_Management-Post_exposure-EVD.pptx

**Exercise:** Role play.
13. ENVIRONMENTAL CLEANING and WASTE MANAGEMENT

Training goal: To increase the safety of the healthcare work environment through proper handling and transport of patients, waste disposal, burial and decontamination of the environment.

At the end of the session, the participants should be able to:
- Increase the safety of the healthcare work environment through proper handling and transport of patients, waste disposal, burial and decontamination of the environment
- Discuss proper waste and burial procedures for Ebola patients
- Discuss the different disinfection solutions and the proper steps in decontaminating the environment
- Discuss the different disinfection solutions and the proper steps in decontaminating the environment
- Enumerate the steps in proper decontamination of the environment

Materials:
Lecture –
13.1-Cleaning_Disinfection-EVD.pptx
13.2-Linen-Waste_Management-EVD.pptx
Video -
13.3-MSF-EBOLA_PRACTICAL_DECONTAMINATION_EQUIPMENT.mp4

14. TRANSPORT

Training goal: To discuss transporting patients with suspected/confirmed EVD in a safe and dignified manner.

At the end of the session, the participants should be able to:
- Be aware of how to keep staff safe when transporting EVD cases
- Prepare the vehicle prior to transport
- Disinfect the vehicle after transport

Materials:
Lecture – 14.1-Transporting_patients-EVD.pptx
Videos
14.2-Example_of_Ebola_Patient_Transport_Training.flv
14.3-MSF-EBOLA_PRACTICAL_DECONTAMINATION_AMBULANCE_hd.mp4

15. COMMUNITY HEALTH AND SUPPORT

Training goal: To discuss the important role of community knowledge, attitude, behavior and skills in the setting of an Ebola outbreak

At the end of the session, the participants should:
- Know the important role of community health promotion in overall outbreak response.
- Be familiar with the psychosocial consequences of Ebola including its impact on families, and dealing with the associated fear and stigma
- Be able to treat Ebola patients with empathy

Materials:
Lectures –
15.1-Psychological_First_Aid-EVD.pptx
16. STAFF HEALTH AND SUPPORT (PSYCHOSOCIAL FIRST AID)

Training goal: To discuss causes of workplace stress associated with treating Ebola, individual commitment required to work in an Ebola outbreak setting, when to access healthcare and other support for responders.

At the end of the session, the participants should:
• Be aware of the psychological issues faced by staff who care for EVD cases
• Know how to recognize staff that are stressed and at risk for Ebola post traumatic stress disorder
• Know strategies that could be used to assist staff

Materials: Lecture -
Lecture – 16.1-Staff_Health_Support-PSS-EVD.pptx

Videos –
16.2-PSS1-WHO_Ebola_Outbreak_Response_in_DRC.mp4
16.3-PSS2-Interview_With_an_Ebola_Survivor.mp4

17. SAFE AND DIGNIFIED BURIALS

Training goal: To describe proper burial procedures for deceased EVD patients.

At the end of the session, the participants should:
• Know that dead bodies are very high risk sources of Ebolavirus
• Be aware of the strategies that can be used to decrease HCW and community members being infected by dead bodies
• Know that embalming, washing or touching the body should not be permitted.

Materials:
Lecture – 17.1- Safe_Dignified_Burial-EVD.pptx
Video
17.2- Ebola_ Safe and dignified burials in Liberia.mp4
17.3-MSF-handling-dead-body.mp4

18. RISK COMMUNICATION AND MEDIA

Training goal: To emphasize the importance of effective risk communication.

At the completion of this session participants should:
• have an understanding of the function of risk communications in EVD prevention and control
• have a basic understanding of the process of risk communication in EVD prevention and control
• understand the role of the media for EVD risk communications in preparedness and control stages
• know how to respond to media enquiries, should an event occur
Materials:
Lectures –
18.1-Rick_communication-EVD.pptx  
18.2-Media_engagement-Rick_Communication-EVD.pptx

Practical –
18.3-Rick_communication-Practical-EVD.pptx  
18.3-Rick_Communication-Practical-EVD-handout.docx

19. EPIDEMIC MANAGEMENT AND SURVEILLANCE
Training goal: To describe the communicable disease surveillance and response system in Philippines, to emphasize the importance of promptly detecting, isolating and reporting Ebola cases and how contact tracing is done.

At the end of the session, the participants should:
• Understand the communicable disease surveillance system and how it would function with EVD
• Know their essential role in identify cases of EVD and reporting them promptly
• Understand the importance of contact tracing and monitoring in EVD

Materials:
Lectures –
19.1-Surveillance-Response-EVD.pptx  
19.2-Contact_Tracing-EVD.pptx

Audio file: 19.3-Contact-tracing-Ebola-Nigeria-CBCnews.mp3

Documents: EVD-Case_investigation_Form.pdf

20. SUBNATIONAL LABS; REGIONAL HOSPITALS AND REFERRAL CENTERS: ROLES IN EVD

Training goals:
• To provide information on Administrative Orders for designating facilities as subnational reference laboratories for EIDs
• Networking, share resources (data/ information, technical support; logistics)
• Follow-up of checklist on post-training plans and AO

Materials:
Lecture – 20-Roles-Laboratories-EVD.pptx

21. POST TRAINING PLANS

Training goal: To teach participants on how to cascade training and logistic plans and be able give feedback to their respective institutions.

Exercise: Three hospitals selected to present their Ebola Preparedness Plans. All participants were asked on day 1 to work progressively on their facility action plans throughout the workshop.
Baseline document: *ACTION PLAN FOR EBOLA PREPAREDNESS.docx*

**SPECIALIST LABORATORY STREAM**

**22. RISK ASSESSMENT AND BIOSAFETY FOR LABORATORY PERSONNEL WORKING WITH EVD**

**Training goal:** To identify issues in biosafety during specimen handling and testing

At the end of the training the participants will be able to identify potential biosafety risks and how to minimize or mitigate them.

**Materials:**
Lecture – 22-Laboratory-Biosafety-EVD.pptx
Video - 6.2-MSF-Ebola-blood-draw.mp4

**23. REFERRAL SYSTEM, TRANSPORT AND STORING OF SPECIMENS FOR EVD**

**Training goal:** To ensure that samples are safely collected and transported to the testing laboratory.

At the end of the training the participants will know safety procedures in specimen management and international standards in specimen transport and storage All specimens tested are sent to EVD NRL

**Materials:**
Lecture – 23-Specimen_Referral-Transport-Storage-EVD.pptx

**24. LABORATORY WASTE MANAGEMENT, DECONTAMINATION AND LABORATORY EMERGENCIES FOR EVD**

**Training goal:** To emphasize best practices for safe disposal of laboratory wastes, spillage, needle stick injuries

At the end of the training the participants will participating laboratories know (or are refreshed) of best practices in laboratory waste disposal to prevent contamination of local environment with potentially EVD infected clinical specimens/ samples.

**Materials:**
Lectures –
24.1-Laboratory_Waste_Management_Decontamination-EVD.pptx
24.2- Laboratory_Emergencies-EVD.pptx

**25. LABORATORY PROCEDURE WITH PPE**

**Training goal:** For a subgroup of laboratory and clinical staff undertake laboratory procures wearing full PPE
At the end of training, the healthcare worker should be able to:

- Blood extraction practicum
- Specimen handling practicum
- Packaging/transport practicum

**Materials:**

Equipment –
PPE items
Blood collection gear
Specimen packaging materials

Documents
- 9.1-PPE_for_EVD-Donning.pdf
- 9.2-PPE_for_EVD-Doffing.pdf
- 9.3_-PPE_Practice-Facilitators_Guide.pdf
- RITM Guidelines for Specimen Collection_V4 10262014.pdf
- SOP Blood Extraction_other specimen for EVD_ver3.pdf

**26. EVALUATION OF THE WORKSHOP**

The immediate impact of this workshop can be evaluated by changes in knowledge and changes in the level of confidence in being able to manage EVD cases. An EVD specific evaluation form can also be used post-workshop.

**Materials:**

1. A test administered pre and post workshop (same test) and changes determined – 26.1-Pre-Post-Ebola-Workshop-Test.docx
2. A final evaluation form administered at the completion of the workshop – 26.2-Ebola-Workshop-Evaluation-Form.docx

**27. ASSESSMENT OF HOSPITAL PREPAREDNESS FOR EVD**

Files to assess the preparedness of hospitals to manage cases of EVD were developed for use in Philippine hospitals.

There are two files found in Documents folder:
- Hospital_Assessment-Facilitators_Guide-Final.docx
- Hospital_assessment-Assessment_Too_for_Philippine_Hospitals.xlsx

**28. CONTACTS**

Research Institute of Tropical Medicine – Dr Weng Capistrano - weng.capistrano@gmail.com
Tropical Health Solutions – Emeritus Professor Rick Speare – rickspeare@gmail.com
Johns Hopkins Hospital – Ms Melanie Curless – mcurles1@jhmi.edu
Private consultant – Ms Wendy Rhymer - wendyrhymer@hotmail.com