

FACILITATOR GUIDE

Case Scenario

A case of EVD on board an aircraft arriving from a country with Ebola Virus Disease transmission, to a non-affected country

Developed in association with WHO Collaborating Centre for the International Health Regulations: points of entry at University of Thessaly, Greece



**World Health
Organization**

The case study in core capacities (as required in Annex 1b of the International Health Regulations (IHR) (2005) and event management at points of entry (PoE) has been developed by WHO to be used in the training of personnel involved in the preparedness and response to events of Ebola Virus Disease (EVD) at points of entry, which have been characterised as a public health emergency of international concern (PHEIC). This case study is one of three scenarios addressing health measures implemented when implementing exit screening at airport of a country with initial cases of EVD transmission and when a case of EVD occurs on board an aircraft or a ship arriving from a country with Ebola Virus Disease transmission to a non-affected country.

Learning objectives

On completion of the exercise, trainees will be better able to:

- Describe the main components of a contingency plan implemented at a PoE according to IHR annex 1b, in the case of event of EVD
- Identify the capacities that must be in place at a PoE in order to prevent the exit of EVD cases from an affected country or to detect EVD cases among travellers on board affected conveyances arriving at a PoE.
- Explain the specific requirements for communication and collaboration needed between different authorities and stakeholders and with the health competent authority at the point of entry and the IHR National Focal Point, the national surveillance systems, the WHO and the points of entry in other countries.
- Understand the value of the health documents including the Health Part of the Aircraft General Declaration, the Maritime Declaration of Health and the Ship Sanitation Certificate.
- Decide on and implement health measures that are commensurate with the risk, avoiding unnecessary interference with international traffic and trade, including EVD event management onboard conveyances.
- Practice infection control measures for EVD when applying health measures as part of the exit screening of travellers from affected countries.

Important note

The scenario-based exercises are examples and should be taken as such. Suggested modifications and/or proposal for alternate exercises are very welcome.

Material

1. International Health Regulations (2005).
2. International Health Regulations (2005). Assessment tool for core capacity requirements at designated airports, ports and ground crossings.
3. WHO Interim Guidance for Ebola Event Management at Points of Entry. September 2014.

4. International health regulations (2005): a guide for public health emergency contingency planning at designated points of entry. 2012.
5. Global Alert and Response (GAR). WHO guidance for the steps to put on and to remove personal protective equipment (http://www.who.int/csr/resources/publications/ebola/filovirus_infection_control/en/)
6. WHO Statement on travel and transport in relation to EVD outbreak management. 18 August 2014.
7. WHO Ebola Virus Disease (EVD or Ebola) Exit Screening at Points of Departure DRAFT: November 3, 2014.

Instructions to the trainees

These exercises will help you think about different aspects of travel and transport under the IHR, related to PoE, including:

- (i) core capacities required at PoE
 - (ii) health documents;
 - (iii) elements of event management; and
 - (iv) communication and reporting (intra- and inter- national, multi-sectoral).
- You will be split into groups.
 - You will receive a case-based exercise. The case is divided in three scenarios. Each scenario consists of several parts. For each part, you will have to answer one or more questions.
 - The facilitators will debrief outstanding issues that arise in the group discussions.

Instructions to the Facilitators

The case study is a component of the Events Management Training program and addresses the principles covered in available WHO e-learning and the face-to-face course. Facilitators will distribute the relevant material listed above and the hard copies of the case study in parts to trainees. One trainee of the group will read each part and the following question. Then trainees will be engaged in a discussion of the answer. Trainees will be encouraged to cross reference to the WHO guidance documents. After the group has answered the question satisfactorily, another trainee will read the next question.

PART A

On 8 August 2014, the WHO Director-General declared the Ebola outbreak in West Africa a Public Health Emergency of International Concern (PHEIC). Country C is an unaffected country having four international airports and does not share borders with any country with Ebola Virus Disease (EVD) transmission.

The Ministry of Health in Country C, on 11 of August 2014, organizes a meeting with the aim to review the obligations of the country in regards to preparedness and response as required in IHR and to identify available resources and response capacities specifically to the an EVD event. In this meeting, representatives of the airport C participate and review with the Ministry about the capacities that are available at the airport. A general public health emergency contingency plan has been prepared two years ago and is available at the airport, but has never been activated and has no special content for response to events of EVD.

Question 1 (5 minutes)

What are the core capacities that need to be in place at airports for responding to an event of EVD that constitute a public health emergency of international concern?

Suggested answer

References:

- *IHR Annex 1b (pages 41-42).*
- *WHO Interim Guidance for Ebola Event Management at Points of Entry. September 2014 (page 3-4)*
- *ICAO Procedures for Air Navigation Services – Air Traffic Management*
- *ICAO Annex 9 – Facilitation*
- *IHR Annex 9 (Health Part of the Aircraft Declaration)*
- *ICAO Health Related Documents (updated December 2014)*
(<http://www.capsca.org/CAPSCARefs.html>)
- *ACI Airport preparedness guidelines for outbreaks of communicable disease*
(<http://www.aci.aero/About-ACI/Priorities/Health/Documentation>)

For all points of entry:

- *Ensure a public health emergency contingency plan is in place at each designated PoE. The aerodrome emergency plan should include a chapter on public health emergencies*
- *Allocate a place at PoE for health assessments, in the event of suspected illness detected in a traveller.*
- *Establish standard operating procedures for referral of ill travellers to designated hospitals, including the identification of adequate ambulance services.*
- *Ensure a sufficient number of trained staff, with appropriate and sufficient Personal Protective Equipment (PPE) and disinfectant.*
- *Raise awareness among conveyance operators of the need to use the accepted ICAO procedure (ref.) to immediately notify PoE health authorities prior to arrival of any suspected cases. Ensure that passenger locator forms are on board flights and/or at the airport, and that airport ground staff and cabin crew are trained in managing EVD and environmental contaminants.*

- Ensure that if an aircraft general declaration is required to be submitted on arrival, the latest version is available (with an up to date Health Part)
- Ensure that aircraft operators and public health officers at destination are aware of the recommended ICAO/WHO/IATA procedure for identifying a case of communicable disease on board an aircraft as outlined in the Health Part of the Aircraft Declaration
- Ensure that public health officers are aware of the procedure for communicating with an affected aircraft prior to arrival after initial notification
- Maintain effective and rapid communication between PoE health authorities and the national health surveillance system.
- Promptly establish lines of communication between public health and transport sector officials, e.g. representatives of the national civil aviation authority, airport operators and aircraft operators. Raise awareness of EVD and disseminate information among all relevant stakeholders at PoE.

Question 2 (20 minutes)

What should be the main content points of the public health emergency contingency plan for the airport C, specifically for the response to an event of EVD?

Suggested answer

References:

- *International health regulations (2005): a guide for public health emergency contingency planning at designated points of entry (pages 35-52).*
- *International Health Regulations (2005). Assessment tool for core capacity requirements at designated airports, ports and ground crossings (page 26).*

Some elements of the content of the public health emergency contingency plan, specifically for the response to an event of EVD:

- purpose;
- disease specific information for EVD (e.g. symptoms, mode of transmission) and the virus (e.g. persistence in the environment, inactivation);
- risk assessment for the importation of cases of EVD in the country and identification of aircrafts and travelers arriving at the airport after visiting affected countries;
- authorities involved in the response, their role and responsibilities and contact details: e.g. health authority, operator and administrator of the airport, health care services at the airport, appropriate health care services for the treatment of EVD patients, ambulance services to transport suspect cases from the airport to the health care setting, customs, veterinary services, border guards, immigration services, public health surveillance units at intermediate level, national surveillance center, IHR National Focal Point;
- if applicable, contact details of other points of entry outside the country;
- communication flows at local and national level;
- communication flows with aircraft operators;
- arrangements for immediate reporting of events;
- SOPs for the interview and medical examination of suspected cases arriving with aircrafts; SOP for entry screening?

- *hygiene protocols to be applied in the facilities used for the interview and medical examination of suspected cases arriving with aircrafts, including application of disinfection effective to inactivate Ebola virus in the environment;*
- *protocol for transportation of suspected or ill passengers to medical facilities for treatment;*
- *protocol for quarantine of suspected travelers;*
- *infection prevention plan to be applied by personnel including hand hygiene, PPE and training of staff involved in the interview and medical examination;*
- *plan for the training of personnel involved in the implementation of health measures;*
- *linen and waste management protocol at the facilities used for the interview and medical examination of suspected EVD travelers;*
- *procedures for responding to death and managing dead bodies with EVD;*
- *aircraft operators' capacities to disinfect aircrafts appropriately to inactivate Ebola virus in the environment;*
- *capacities for waste management and for waste delivered from aircrafts with suspected case of EVD.*

PART B

On the 28 of August, a traveler (Passenger ABC) on board an aircraft, which is fully occupied with 400 travellers, asks for help from the cabin crew because he has vomited in his seat and feels weak and has a fever. His seat number is 15 C (aisle seat). Cabin crew A realizes that the passenger looks weak and quite ill. His jacket, hands, seat and floor are visibly contaminated with vomitus.

Question 3 (5 minutes)

- a) What are the actions that need to be taken by the cabin crew?
- b) What are the PPE that should be used by the cabin crew?

Suggested answer

Reference:

WHO West Africa - Ebola virus disease Update. Travel and transport 2014 Ebola Virus Disease (EVD) outbreak in West Africa

Travel and transport risk assessment: Recommendations for public health authorities and transport sector.

IATA Guidelines <http://www.iata.org/whatwedo/safety/health/Pages/diseases.aspx>

a) *In case of a passenger presenting with symptoms compatible with EVD (fever, weakness, muscle pain, headache, sore throat, vomiting, diarrhoea, bleeding) on board of an aircraft, the following measures should be immediately considered, in accordance with operational procedures recommended by the International Air Transport Association (IATA):*

- *Distancing of other passengers if possible from the symptomatic passenger (re-seating); with the ill travellers preferably near a toilet, for his/her exclusive use.*
- *Covering nose and mouth of the patient with a surgical facemask (if tolerated).*
- *Limiting contacts to the passenger to the minimum necessary. More specifically, only one or two (if ill passenger requires more assistance) cabin crew should be taking care of the ill passenger and preferably only the cabin crew that have already been in contact with that passenger. This cabin crew should be using the Universal Precaution Kit (see below).*
- *Hand washing with soap after any direct or indirect contact with the passenger.*
- *Immediate notification of Public Health and Civil Aviation authorities at the destination airport in accordance with procedures promulgated by the International Civil Aviation Organization (ICAO).*
- *Immediate isolation of passenger upon arrival.*
- *If possible, crew member should apply dry powder in Universal Precaution kit to vomitus on floor of Seat 15C and should provide wipes, cloths to passenger for his own personal clean-up. Vomitus bags and waste material should be double bagged and stored away from food or other passengers.*

b) *Dedicated crew member to assist the ill traveller, should be using suitable personal protection equipment (PPE) such as that recommended by ICAO Universal Precaution Kit (<http://www.capsca.org/CAPSCARefs.html>) for dealing with the traveller and for cleaning procedures on board as needed.*

Universal precaution kit content:

- *Dry powder that can convert small liquid spill into a sterile granulated gel*
- *Germicidal disinfectant for surface cleaning*
- *Skin wipes*
- *Face/eye mask (separate or combined)*
- *Gloves (disposable)*
- *Protective apron or impermeable full-length long sleeved gown that fastens at the back*
- *- Large absorbent towel*
- *- Pick-up scoop with scraper*
- *- Bio-hazard disposal waste bag*
- *- Instructions*

PART C

The Passenger ABC reported to cabin crew A who interviewed the patient that he started his travel from country A (which is a country with EVD transmission) at airport A with aircraft A. His first flight stopped in airport B in Country B; he waited at the terminal of the airport B of country B for 2 hours, before boarding aircraft B to travel to Country C. He first began to feel feverish and nauseous while waiting in the terminal in Country B.

The pilot provides information on the ill passenger to the destination airport in Country C using the ICAO procedure (put link to ICAO graphic for aircraft communication). The pilot sends the Health Part of the Aircraft General Declaration to the competent authority at destination in airport C, country C (see Figure 7).

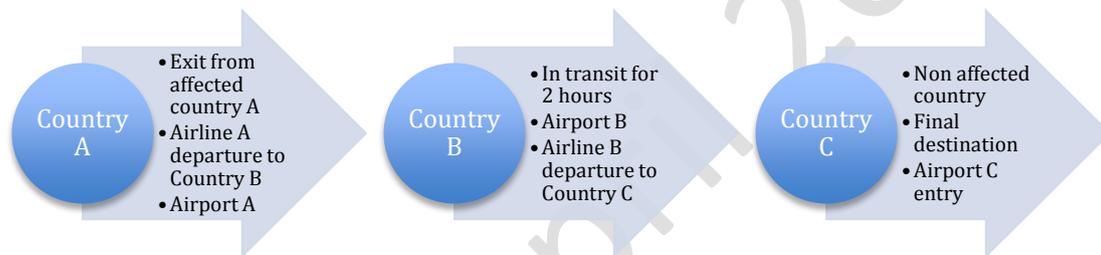


Figure 3 -1. Schematic of Passenger Travel

Health Part of the Aircraft General Declaration

Name and seat number or function of persons on board with illnesses other than airsickness or the effects of accidents, who may be suffering from a communicable disease (a fever - temperature 38°C/100 °F or greater - associated with one or more of the following signs or symptoms, e.g. appearing obviously unwell; persistent coughing; impaired breathing; persistent diarrhoea; persistent vomiting; skin rash; bruising or bleeding without previous injury; or confusion of recent onset, increases the likelihood that the person is suffering a communicable disease) as well as such cases of illness disembarked during a previous stop**Passenger ABC, Seat 15C has vomited and appears feverish and weak.**

Details of each disinsecting or sanitary treatment (place, date, time, method) during the flight. If no disinsecting has been carried out during the flight, give details of most recent disinsecting **Dry powder applied to vomitus on floor Seat 15C. No other sanitary treatment applied**

Signature, if required, with time and date : **Captain DaSantos, November 6, 2014** Crew member concerned

Figure 7. Health Part of the Aircraft General Declaration

Question 4 (20 minutes)

What are the actions that the public health authority in airport C, country C should take based on the information received in the Health Part of the Aircraft General Declaration, in order to perform a preliminary assessment (before the arrival of the aircraft)?

Suggested answer

Reference:

- *WHO Interim Guidance for Ebola Event Management at Points of Entry. September 2014. See table on pages 7-10, rows "On board aircraft" and "At destination where inbound aircrafts from EVD affected areas are available"*

Question 5 (10 minutes)

How should the available information be disseminated from the competent authority at airport C in country C that received the Health Part of the Aircraft General Declaration and performed the risk assessment?

Suggested answer

The public health emergency contingency plan needs to be activated and the information needs to be disseminated according to the communication flow. The contact details need to be up-to-date. The information needs to be sent immediately to the following parties:

- *IHR NFP, then the IHR NFPs of Country C must inform WHO and the NFPs of Country A and Country B.*
- *Ambulance and trained personnel for the initial medical assessment and transportation of patient*
- *Hospital where isolation, diagnosis and medical treatment will be given*
- *Laboratory where clinical specimens will be sent*
- *Place for the quarantine of asymptomatic contacts*
- *Authority to perform the inspection and supervise the implementation of health measures*

Question 6 (10 minutes)

What information will the public health authorities want to know as part of the initial assessment, in relation to Country A?

Suggested Answer

The public health authorities will want to know if exit screening was conducted for this flight in Country A and if so, what were the findings for this passenger? Can Country A

provide a copy of the Traveller Public Health Declaration form and if referred to secondary screening, a copy of the results of secondary screening.

Question 7 (10 minutes)

What are the actions that should be taken by the competent authorities in Country A:

- a. In the airport A (start of the travel in the affected country)?
- b. On aircraft A (the first flight of the patient)

Suggested answer

Reference

- *Guidance on the management of a case of EVD on board an aircraft is given by WHO at the following link: <http://www.who.int/ith/updates/20140910/en/>*

Question 8 (10 minutes)

What are the actions that should be taken by the competent authorities in Country B in relation to the Airport B (in transit)?

Reference

Guidance on the management of a case of EVD on board an aircraft is given by WHO at the following link: <http://www.who.int/ith/updates/20140910/en/>

Question 9 (10 minutes)

What are the actions that should be taken by the competent authority in regards to the Passenger ABC disembarkation and transportation at Airport C?

Suggested answer

The ill travellers should disembark in such a way as to avoid any contact with healthy travellers and wearing a surgical mask. Personnel in contact with the ill traveller during the medical evacuation should wear a surgical protection mask and PPE.

*Transportation of the patient to a medical facility for clinical and laboratory diagnosis should be arranged. Persons who will escort the ill traveller to the ambulance should use PPE as described in **Appendix 1** and **Appendix 2**. The ambulance should be disinfected after the transportation of the patient.*

Question 10 (10 minutes)

What are the immediate actions that should be taken by the authorities in Country C in regards to the other travelers on the aircraft B?

Suggested answer

Reference

- *Guidance on the management of a case of EVD on board an aircraft is given by WHO at the following link: <http://www.who.int/ith/updates/20140910/en/>*
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- *WHO CONTACT TRACING DURING AN OUTBREAK OF EBOLA VIRUS DISEASE. September 2014.*
- *Authority should start case investigation immediately.*
- *Airline should be asked to issue Passenger Locator Forms to designated passengers to be completed while on board prior to disembarkation at the destination. At the request of a governmental port health authority, aircraft operators shall also facilitate eventual contact tracing, from some or all travellers, by providing requested information on their itinerary and their contact details (when there is a particular reason to believe they may have been exposed to infection on board of the aircraft*
- *Protective equipment is not required when interviewing asymptomatic individuals, when a distance of one metre is maintained.*
- *Contacts should be identified and quarantined for 21 days. All travellers should be checked for symptoms of fever with non-contact thermometer and to be interviewed to assess the level of exposure:*
 - (a) Touched the patient's body fluids (blood, vomit, saliva, urine, and faeces).*
 - (b) Had direct physical contact with the body of the patient.*
 - (c) Touched or cleaned the linens or clothes of the patient.*
 - (d) Slept or ate in the same area as the patient.*

The possibility of transmission to other co-passengers and crew on board the aircraft should be assessed by health care providers on arrival. If the investigation concludes that the passenger has symptoms compatible with EVD and had a risk exposure in affected countries in the past 21 days, passengers as well as crewmembers may be at risk if they have been in direct contact with body fluids or heavily contaminated objects.

The following epidemiological measures based upon proximity to the index patient should be considered:

- ***Passengers and crew with reported direct contact***
To gather this information, any records of significant events on the flight should be obtained from the airline. Co-travellers and crew members who report direct body contact with the index case should undergo contact tracing.
- ***Passengers seated in an adjacent seat to the index patient***
As direct contact is the main route of transmission for Ebola virus, only passengers who were seated in an adjacent seat to the index case on the side, in front or behind, including across an aisle, should be included in contact tracing.
- ***Cleaning staff of affected aircraft section***
If the case is suspected or diagnosed after leaving the aircraft, the staff who cleaned the section and seat where the index case was seated should also undergo contact tracing.

Question 11 (5 minutes)

What is the personal protective equipment that should be used by:

- a) the persons performing the medical assessment
- b) the persons that will escort the patient to the ambulance
- c) the persons interviewing the asymptomatic travelers;

Suggested answer

*(a) and (b) the persons performing the medical assessment and persons who will escort the patient to the ambulance should use PPE as described in in **Appendix 1** and **Appendix 2***

(c) the persons interviewing the asymptomatic travellers should keep a distance of at least 1 meter.

Question 12 (20 minutes)

- a) What are the steps to put on the personal protective equipment?
- b) What are the steps to remove the personal protective equipment?
- c) What is the correct method for hand hygiene?

Suggested answer

- a) See **Appendix 1**
- b) See **Appendix 2**
- c) See **Appendix 3**

Bibliography

Heymann, D.L. (Ed.), Control of Communicable Diseases Manual, APHA, WHO, Washington, 2008

WHO, International Health Regulations (2005), Geneva, WHO, 2008 – 2ed.

WHO, Handbook for Inspection of Ships and Issuance of Ship Sanitation Certificates, Geneva, 2011

WHO, Ebola Virus Disease (EVD or Ebola) Exit Screening at Points of Departure, 2014.

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Global Alert and Response (GAR). WHO guidance for the steps to put on and to remove personal protective equipment (http://www.who.int/csr/resources/publications/ebola/filovirus_infection_control/en/)

WHO Statement on travel and transport in relation to EVD outbreak management. 18 August 2014.

IATA guidelines for air crew to manage a suspected communicable disease or other public health emergency on board

IATA guideline for cleaning crew for an arriving aircraft with a suspected case of communicable disease

ICAO Health related documents (1) Procedures for Air Navigation Services; (2) Annex 6 – Medical Supplies

WHO Aviation Guide (includes information on sanitizing of aircraft)

Appendixes

Appendix 1: Steps to put on the personal protective equipment

<http://www.who.int/csr/resources/publications/ebola/ppe-guideline/en/>

Appendix 2: Steps to remove the personal protective equipment

<http://www.who.int/csr/resources/publications/ebola/ppe-guideline/en/>

Appendix 3: Hand hygiene method

<http://www.who.int/gpsc/5may/background/5moments/en/>

Appendix 4: Cleaning and disinfection method

[http://apps.who.int/iris/bitstream/10665/132168/1/WHO EVD Guidance TravelTransportRisk 14.1 eng.pdf?ua=1&ua=1&ua=1](http://apps.who.int/iris/bitstream/10665/132168/1/WHO_EVD_Guidance_TravelTransportRisk_14.1_eng.pdf?ua=1&ua=1&ua=1)

Appendix 5: Passenger health questionnaire



Primary Screening
Passenger Health Que

Appendix 6: Secondary screening form



Secondary Screening
Form.docx