



SIMULATION EXERCISE FOR TESTING OF THE INTERNATIONAL HEALTH REGULATIONS (2005) AT THE POINT OF ENTRY: AIRPORT ALEXANDER THE GREAT – SKOPJE

SCENARIO

Simulation exercise under scenario for Ebola suspected case November 18, 2014 (Tuesday)

Introduction

The Ebola virus first appeared in Sudan and Congo in 1976. It is assumed that the Ebola disease originates from infected animals, such as monkeys, antelopes and bats, and that it is transmitted to humans via close contact with or via consumption of meat of infected animals. The disease symptoms include high fever, diarrhea, vomiting, weakness and fatigue, followed by both internal and external bleeding, open wounds and similar symptoms.

The World Health Organization (WHO) recommends the following case definitions for suspected and/or confirmed Ebola and Marburg cases:

Suspected Ebola or Marburg cases for routine surveillance:

- Illness with onset of fever and no response to treatment for usual causes of fever in the area, and at least one of the following signs: bloody diarrhea, bleeding from gums, bleeding into skin (purpura), bleeding into eyes and urine.

Confirmed Ebola or Marburg cases for routine surveillance:

- A suspected case with laboratory confirmation (positive IgM antibody, positive PCR or viral isolation)

(<http://www.who.int/entity/csr/resources/publications/ebola/ebola-case-definition-contact-en.pdf?ua=1>)

The transmission of the disease from human to human is through direct contact with the blood, excretions, organs or other bodily fluids of infected persons..

The global Ebola situation

The outbreak of the Ebola hemorrhagic fever in the beginning of 2014, which is caused by Ebola virus, has increased the preparedness of the World Health Organization (WHO) as well as of the healthcare systems in many countries.

The disease is endemic for the African continent, emerging in several West-African countries (Guinea, Sierra Leone, Liberia, and DR Congo), with the risk of of its spreading to other countries.

So far, the number of registered cases is 15,000, while the number of deaths to date is 5,000. The Ebola outbreak still isn't contained and the possibility for importation to other continents remains

possible. The world fears an Ebola pandemic. The pharmaceutical companies are intensively working on developing an Ebola vaccine which is nowadays in an early-phase trial.

The Republic of Macedonia and the system for preparedness and response to Ebola virus disease

The Republic of Macedonia is among the countries in the world that are vigorously organizing and undertaking every necessary measure to treat or prevent Ebola.

The WHO relevant protocols and fact sheets have been taken into consideration in defining the Ebola preparedness and response measures in the country:

- Travel and transport risk assessment: guidance for public health authorities and the transport sector (<http://www.who.int/csr/resources/publications/ebola/travel-guidance/en/>)
- Ebola event management at points of entry - Interim guidance (<http://www.who.int/csr/resources/publications/ebola/event-management-poe/en/>)
- Waste from health-care activities (Fact sheet N°253, November 2011) (<http://www.who.int/mediacentre/factsheets/fs253/en/>)

Since the beginning of August 2014, the Alexander the Great Airport has been equipped with a thermal imaging camera for 24/7 monitoring of passengers by health professionals. Also established is an entry-exit reporting system for passengers coming from risk countries. Ebola information brochures for passengers are being distributed at all ground and air border crossings, and information packages have been prepared for health care professionals as well. Personal protective equipment is also provided, and negative pressure isolation rooms have been equipped at the University clinic for infectious diseases and febrile conditions in Skopje. At the moment, in the country there is one IHR designated point of entry (the airport Alexander the Great). At the other points of entry the border police is informing the State Sanitary Inspectorate for the passengers coming from the risk countries and in case necessary measures are being undertaken.

Moreover, under the International Health Regulations (2005) that the country has fully aligned with, the following documents have been adopted:

- Protocol for Handling and Reporting at the entry point Alexander the Great Airport – Skopje in case of public health emergency or URGENT circumstances of international significance caused by biological agent,
- Protocol for Handling and Reporting at the entry point Alexander the Great Airport – Skopje in case of public health emergency or URGENT circumstances of international significance caused by chemical agent,
- Protocol for Handling and Reporting at the entry point Alexander the Great Airport – Skopje in case of public health emergency or URGENT circumstances of international significance caused by radiological agent.

These Protocols have been developed through multi-sectorial approach with participation of representatives of all concerned institutions. The Inter-sectorial coordination and communication is indispensable to the successful implementation of the Protocols in accordance with the International Health Regulations 2005.

Testing of Standard Operating Protocols and of the system for preparedness and response to possible public health or URGENT circumstances of international importance caused by biological agent – Ebola preparedness exercise

The planned exercise involving all competent parties will be the first testing of these standard operating procedures regarding the system's response, communication and coordination.

The topic of the exercise is the possibility of Ebola occurrence in the Republic of Macedonia, imported by infected passengers coming from affected country to the Alexander the Great Airport.

The exercise aims at demonstrating adequate and coordinated response not only by the health care institutions but also by other institutions within their competences for early intervention, action and response under public health URGENT circumstances of international importance caused by biological agent.

Performed according to the given scenario, the practical exercise will provide for evaluation of the health system preparedness and response to possible emergency of this type caused by biological risks and threats, as well as for a comprehensive post-exercise analysis and evaluation that will yield proposing measures to improve the identified gaps and challenges.

Future activities

In the upcoming period the Ministry of Health plans to also examine the system for preparedness and response to possible occurrence of risks and threats caused by chemical and radiological agents.



SCENARIO FOR EBOLA PREPAREDNESS EXERCISE

Date of exercise implementation:

18 November 2014

Venue:

Airport Alexander the Great - Skopje

Introduction

On November 18 around 14:20, two passengers traveling from Liberia (Ebola-affected country) with the regular airline flight no. LB 4563 have complained of nausea, vomiting and fever.

Both passengers are males and second-year students at faculties in the Republic of Macedonia, returning from a vacation in Liberia, their home country.

At 14:40 the flight crew informs the air traffic control personnel at the Alexander the Great Airport - Skopje about the sick passengers, as well as about the time of landing planned in approximately 50 minutes.

In accordance with the Protocol for the entry point Alexander the Great Airport – Skopje in public health emergency or URGENT circumstances of international significance caused by biological agent, as per the International Health Regulations, the following steps need to be taken:

1. The air traffic control personnel immediately informs the duty personnel at the Alexander the Great Airport (security, airport medical team and police) as well as the Ministry of Internal Affairs and the Crisis Management Center (CMC).
2. The doctor of the airport medical team informs, according to the Protocol, the State Sanitary and Health Inspectorate(SSHI), the Ministry of Internal Affairs (dial: 192) and the Crisis Management Center (dial: 195).
3. The State Sanitary and Health Inspectorate immediately informs the special Emergency Response Team consisting of an epidemiologist from the Center for Public Health, an epidemiologist from the Institute for Public Health and an infectologist from the Clinic for Infectious Diseases and Febrile Conditions (The team is established by a Decision of the Ministry of Health and consists of 3 members and 3 alternates).
4. The Emergency Response Team engages in mutual coordination and equips with their full personal protective equipment, and thereof heads to the airport with a vehicle. The team arrives in 30 minutes.
5. Right upon arrival, the team coordinates with the airport medical team. They jointly comment the received information from the flight crew and put on their personal protective equipment (overalls, glasses, masks, gloves and boots). (*World Health Organisation, Rapid advice guideline on Personal Protective Equipment in the context of Filovirus disease outbreak response, <http://www.who.int/csr/resources/publications/ebola/ppe-guideline/en/>*)

6. The Emergency Response Team is in constant communication with the Team for Rapid Risk Assessment, based at the Ministry of Health and established by the Minister of Health as main headquarters for coordination. This team consists of top-notch experts in various fields (two epidemiologist and one infectious diseases specialist) who, based on the received field information and their expertise, decide upon measures and give guidelines for further action.
7. Following the guidelines of the Team for Rapid Risk Assessment, the Emergency Response Team immediately informs both the Emergency Care Unit and the Service for Deratization, Disinfection and Disinsection (DDD) of the Center for Public Health - Skopje to send two vehicles to the Alexander the Great Airport - Skopje.

The aircraft lands at the Alexander the Great Airport – Skopje. The airport authorities send the aircraft to a separate part of the airport for further action.

Sequence of events (procedures) upon airplane landing in accordance with the standard operating protocols

No.	Time (hour and minute)		Activity
	From	To	
1	15:50		Upon landing, the aircraft is sent to a separate part of the airport for further action.
2	15:55		A four-member team (2 airport doctors, epidemiologist and infectologist from the Emergency Response Team) arrives at the runway in two airport emergency care vehicles. At the same time a vehicle of the Centre for Public Health for DDD arrives and positions itself sideways. <i>(The team members and the drivers wear their personal protective equipment.)</i>
			The team boards the aircraft.
			Two airport security agents in protective equipment secure the aircraft at the air stairs.
3	15:55	16:00	The team on board directly approaches the two suspected passengers seated at 8A and 8B, as informed by the flight attendant. They ask them the standard epidemiological questions. A standard questioner developed by the MoH Communicable Diseases Committee will be used for this purpose. The infectologist asks them about the symptoms while the epidemiologist asks them about the possible contacts with infected persons. When did the symptoms first appear: fever, vomiting, diarrhoea, stomach pain, fatigue? Were they in contact with someone infected back in their country? To the flight attendant and the flight crew: Did the suspected passengers use the toilets or move around or were in any contact with any of the other passengers? The team reports by telephone to the Rapid Risk Assessment Team and consults on the measures (crisis headquarters at the Ministry of Health) <i>The passengers on the aircraft are volunteers of the Red Cross of the Republic of Macedonia.</i>
4	16:00	16:05	The suspected passengers are being assisted and escorted by the team members to the sanitary vehicles that belong to the airport medical services and that are already waiting outside. They are put in the two airport medical vehicles, one by one. The first vehicle is accompanied by a doctor from the airport service whereas the second one is accompanied by the infectologist. The two vehicles head to the airport ISOLATION room, which is located inside the airport, Entrance Gate. - A person of the DDD service disinfects the aircraft stairs.

			<ul style="list-style-type: none"> - At that moment the aircraft is approached by a van (for the passengers to be put in quarantine – please see below) and a bus (for the remaining passengers that are taken to the passport control).
5	16:05	16:10	<p>The remaining two doctors from the team stay behind in the aircraft and identify the passengers that might have been in contact with the suspected passengers (seated in the two rows in front and two rows behind the suspected persons), 7 passengers in total, as well as the two flight attendants.</p> <p><i>(Although Ebola is not air – borne diseases the scenario is developed to pre – suppose that there might be possible contact with fluids in the airplane (e.g. neighboring seats and other surfaces in the air -plain), due to sneezing etc.)</i></p> <p>This group of 9 passengers is being transferred by a 10-seater airport van whose driver wears protective clothes.</p> <ul style="list-style-type: none"> • The passengers that were in direct contact with the suspected passengers, including the two flight attendants that helped them, are considered as possible contacts and should be put in 21-day quarantine, as per the Macedonian law. The purpose is to prevent the spreading of a threatening infectious disease. <i>(According to the Law for communicable diseases, every person that has been in contact with suspected or diseased case of high contagious communicable disease should be quarantined (Law for communicable diseases 66/2004))</i> • The quarantine provides all necessary conditions (accommodation, food and medical care. The passengers will be provided the means to contact with and inform their families).
6	16:10	16:15	<p>The epidemiologist and one of the airport doctors accompany the seven passengers and the two flight attendants outside of the aircraft directly into the van that heads for the QUARANTINE room where they will be admitted by two medical persons.</p> <p>A person from the DDD service disinfects once more the aircraft stairs before the remaining passengers get off the aircraft <i>(The second disinfection is envisaged for the stairs and inside the plain up to the seats 8A and 8 B where the suspected cases were seating. At the end the scenario third last disinfection, of the whole inside of the plain is envisaged).</i></p> <p>The passengers are being guided to an airport bus (parked next to the aircraft). Once they pass through passport control, they are welcomed by representatives of the State Sanitary and Health Inspectorate where they provide the information needed for health monitoring procedure and receive informative brochures.</p> <p>A person of the DDD service – Center for Public Health Skopje disinfects the two doctors in front of the aircraft with a pump sprayer before they appropriately remove and dispose off their personal protective equipment in yellow plastic bags.</p> <p><i>(After the DDD responsible person performs disinfection of the two doctors, they wait for 10 minutes in order the disinfectant to have the effect, after which they take off the PPE according to the WHO protocol, and they perform personal disinfection of hand with appropriate liquid hand disinfectant, also provided by the DDD team. The PPE that has been already used is placed in yellow plastic bags for disposal of infectious waste, and will be handled by the airport communal hygiene services, with a special vehicle for medical waste).</i></p>
			<p>The team urgently requests for two ambulance vehicles from the Emergency Medical Services (EMS) of the Health House Skopje.</p> <p>Two EMS vehicles arrive at the airport through the authorized entry point with the purpose of transferring the suspected passengers to the Clinic for Infectious Diseases and Febrile Conditions.</p>
7	16:15	16:25	<p><i>(After this scene is finalized the audience and the guest will be transferred with an airport van to Entrance Gate, and they will have a chance to see the isolation and quarantine rooms, before the exercise continue further)</i></p>
8	16:25	16:30	<p>At Entrance Gate arrive the two airport medical vehicles, carrying the two suspected passengers along with the two doctors. They are sent to the isolation room.</p>

			<p>Once they enter the isolation room, a person from the DDD service disinfects the transportation route.</p> <p>The suspected passengers are given medical care.</p>
			<p>The van transporting 9 persons* arrives and they are put in the quarantine room. A person from the DDD service disinfects the transportation route.</p> <p>*The passengers remain in quarantine for 21 days or until confirmed to have negative Ebola test results.</p>
			<p>The remaining 30 passengers also arrive at Entrance Gate where they are welcomed by doctors (volunteers of the Red Cross of the Republic of Macedonia) who educate them and give them information materials. The State Sanitary and Health Inspectorate prepares documentation for putting them under active medical surveillance (according to the MKD Law for Communicable diseases 66/2004).</p> <p>Once the passengers pass the passport control, it is planned to transfer them to the city of Skopje by an airport bus.</p>
9	16:30	16:35	<p>Two sanitary vehicles of the Emergency Medical Services with a driver, doctor and a nurse wearing protective equipment arrive at airport Entrance gate, go to the isolation room and put each passenger on a stretcher and into the vehicles and head for the Clinic for Infective Diseases and Febrile Conditions under police escort.</p>
			<p>▪ The Clinic for Infective Diseases and Febrile Conditions is equipped with:</p> <ul style="list-style-type: none"> • Negative pressure rooms, • Special medical teams for treating infected patients, • Movement regime, treatment protocols.
10	16:35	16:40	<p>The Centre for Public Health and a personnel wearing protective equipment perform mechanical cleaning and complete disinfection of the entire aircraft, of both airport sanitary vehicles and of the interior, together with the TAV personnel.</p>
11		17:05	<p>The two sanitary vehicles arrive at the Clinic for infectious diseases and febrile conditions in Skopje. A team in full protective equipment admits the passengers and transfers them to a separate clinic department intended for treating patients with suspected highly infectious diseases. The passengers are accommodated in two negative pressure rooms.</p> <p><i>(There are 3 teams in the Clinic for Infectious disease, composed of: one doctor – infectious disease specialist, medical nurse and hospital assistant. These teams are assigned by the Director of the Clinic for Infectious diseases, they are well informed on the protocols and trained to proceed in cases of highly contagious diseases. According to the protocol of the Clinic for Infectious diseases these teams are immediately informed and should be available).</i></p> <p>The department operates under special protocol; a medical team is responsible for treating patients in supervised isolation. The movement of the team is limited to the isolation department only. The team wears full personal protective equipment and proceeds upon agreed protocols. The hygiene maintenance and the disposal of potentially infectious waste are handled according to agreed protocols. Material sampling for laboratory analysis is performed under agreed protocols as well. All adopted protocols are in accordance with the WHO recommendations.</p>
12	17:05	18:00	<p>The patients are admitted and immediately given medical care. For the purposes of laboratory diagnostics, material sampling is performed. The samples are then packed and transported to a reference laboratory for Ebola testing. The material sampling, packaging and transport is performed as per adopted protocols. The material samples are transported to a reference laboratory in Hamburg under previously signed cooperation agreement.</p> <p><i>(There is specific equipment in the Infection Disease Clinic that is assigned for performing bio – chemical blood analysis in case of suspected cases for high contagious communicable diseases. Basic bio – chemical analysis will be performed using this equipment. For</i></p>

		<i>malaria, a drop blood is taken is kept accordingly, but is not examined before receiving the results of the Ebola samples from Hamburg. After the confirmation for Ebola is negative, than other analysis could be performed. This is due to the fact that the laboratories in MKD are BIO SAFETY LEVEL 2)</i>
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- According to the provisions of the International Health Regulations (2005) and the adopted Protocol for Handling and Reporting at the entry point Alexander the Great Airport – Skopje in case of public health emergency or URGENT circumstances of international significance caused by biological agent, the national contact point for the International Health Regulations informs immediately (within 24 hours) the WHO Regional Office in Copenhagen and the WHO Office in Skopje.
- The Ministry of Health immediately organizes a press conference so to present to the media the latest circumstances in a timely and objective manner as well as to prevent the spreading of panic and misinformation among the population.
- In the upcoming days, the population is regularly updated on the course of events, on the situation with the infected persons and those in quarantine. Information materials are prepared and distributed, providing general facts about Ebola (clinical overview, mode of transmission, preventive measures). In order to calm the population, the competent authorities inform: “The cases of Ebola have been imported. All necessary measures have been undertaken so to prevent the spread of the disease. The persons that were in contact with the infected persons are put in 21-day quarantine under constant supervision. The health status of the remaining passengers who were sent home is continuously monitored for a 21-day period by an epidemiologist from the competent Center for Public Health.
- If the Ebola test results obtained in the reference laboratory in Hamburg are negative, the quarantine will terminate as well as the health monitoring of the remaining passengers. The patients admitted at the University clinic for infectious diseases and febrile conditions will be treated for the primary disease as per the evidence-based medicine.

Evaluation

A team from the Ministry of Health and Public Health Institute will be responsible to evaluate the exercise.

A specific check list for evaluation will be developed.

The following will be taken into consideration in the process of evaluation:

- Steps to put on personal protective equipment according to the WHO guidelines (http://who.int/csr/disease/ebola/put_on_ppequipment.pdf?ua=1)
- Steps to remove personal protective equipment according to the WHO guidelines (http://who.int/csr/disease/ebola/remove_ppequipment.pdf?ua=1)
- Time of response / Is the MKD MoH Protocol for IHR points of entry followed?
- Transport of Ebola suspected case / Is the MKD MoH Protocol for IHR points of entry followed?
- Activities for isolation of patients / Is the MKD MoH Protocol for IHR points of entry followed?

After the finalisation of the exercise an evaluation briefing will take place in the Ministry of Health, in order to discuss and evaluate the exercise and evaluation report with recommendations for future actions based on the lessons learned will be developed.

In addition to the evaluation of the exercise, it is also planned to discuss:

- Waste management
- Non-patient care activities: diagnostic laboratory activities, movement and burial of human remains, post-mortem examinations, managing exposure to virus through body fluids, including blood.

Exercise Organizers/Participants:

- **Ministry of Health**
- **Crisis Management Centre**
- **Institute for Public Health**
- **Centre for Public Health – Skopje**
- **Ministry of Internal Affairs**
- **Health House Skopje – Emergency Care Unit**
- **Alexander the Great Airport – Skopje (TAV)**
- **Red Cross of the Republic of Macedonia**
- **Clinic for Infectious Diseases and Febrile Conditions**
- **Directorate for Protection and Rescue**
- **State sanitary and Health Inspectorate**

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Skopje

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