**Scenario-based skills-drill**

***“Unexplained death of famous football player”***

**C2.1 Participant guide**

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|  | Description: WHO-EN-BW-H |

Contents

[1. Introduction to the scenario-based skills-drill 1](#_Toc529955057)

[1.1 Exercise objectives 1](#_Toc529955058)

[1.2 Group work organization 2](#_Toc529955059)

[2. Scenario and instructions 2](#_Toc529955060)

[Country context 2](#_Toc529955061)

[C1 RRT mobilized 7](#_Toc529955062)

[C2 At Agader Hospital: interview with medical staff 8](#_Toc529955063)

[C3 At Agader hospital: interview with patient/laboratory sample collection 9](#_Toc529955064)

[C4 Communication and community engagement 10](#_Toc529955065)

[C5 Contact tracing 11](#_Toc529955066)

[C6 Investigation report 12](#_Toc529955067)

[Conclusion 13](#_Toc529955068)

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# 1. Introduction to the scenario-based skills-drill

## 1.1 Exercise objectives

This scenario-based skill-drill uses a progressive scenario together with series of scripted injects to enable multidisciplinary Rapid Response Teams (RRT) and their individual members to practice and demonstrate the knowledge and skills needed to early detect and effectively respond to a potential Ebola Virus Disease (EVD) outbreak.

The scenario illustrates the detection of a potential Ebola Virus Disease case in an imaginary West African country (Sohara); all the information is fictitious and was specially created for learning purposes.

Both the didactic component of the EVD RRT Training Package and the scenario-based skills drill enable RRTs to acquire and demonstrate the knowledge and skills needed to early detect and timely respond to a potential EVD outbreak, more specifically to:

* Act as a functional multidisciplinary team when requested by the relevant public health authority.
* Enhance surveillance activities and adequately manage surveillance data in the context of EVD.
* Carry out epidemiological investigation of suspected EVD case either to confirm or discard the EVD outbreak.
* Apply standard precautions and additional Infection Prevention and Control measures for EVD.
* Perform safe collection of sample from EVD suspected case.
* Conduct active case finding and contact tracing activities to effectively control a potential EVD outbreak.
* Engage with communities in the context of an EVD outbreak.
* Conduct safe and dignified burial of patients who died from EVD.

## 1.2 Group work organization

* Participants will work in groups of 8/10 (1 group = 1 RRT).
* Each group may assign a chair and presenter.
* Team coaches will provide minimal guidance to groups.

# 2. Scenario and instructions

## Country context

Sohara is located on the West Coast of Africa. It shares boundaries with Monogo to the east, Barry to the west, Bamboka to the north and the ocean to the south. The country lies between latitude: 6 degrees, 30 minutes north and longitude: 0 degrees, 20 minutes east. The coastline is 539 km long and has a total area of 238,540 km2 and a land area of 230,020 km2.

The capital city of Sohara is Agader, which also has the largest population density in the country. The national airport is located in the suburb of the city. The second largest city is Tomogo which is located along the coast.

Figure 1: Sohara map



**Climate**

The climate in Sohara is tropical. The eastern coastal belt is warm and moderately dry. The southwest corner has a hot and humid climate, and in the north, the climate is hot and dry. In the south of Sohara, there are 2 distinct rainy seasons: May to June, and August to September. In the north the rainy seasons tend to be merged. In January and February, there is a dry north-easterly wind. There is an annual rainfall in the coastal region that averages 83 centimeters. The rainy season could be considered as a challenge for many people. Heavy rains could plunge many parts of the country in darkness due to power cut off. Villages and small cities would be totally isolated an inaccessible as the transportation network will be affected.

**Population**

Sohara has an estimated population of 30,500,420 (2010 Population and Housing Census) and an average population density of 102 per km2 (varying from 1,205 per km2 in the central region to 35 per km2 in the border regions). The male to female ratio is 1.2. An estimated 75% of Soharian are under the age of 25 with just 3% over the age of 65, making it one of the most youthful populations in the world. There are over one hundred ethno-linguistic groups, some with their own justice and political systems. English and Arabic are the official languages. The main religions in Sohara include Christianity, Islam and Traditional African. The country is divided into nine administrative regions and 150 decentralized districts. The government is a presidential democracy with an elected parliament and independent judiciary.

**Economy**

The economy in Sohara is dominated by the agriculture sector, which includes 55.8% of the adult labor force. The economy also consists of a small capital-intensive mining sector and a growing informal sector (small traders and artisans, technicians and businessmen).

In recent years, Sohara has started to establish a place in world trading. There is intense traffic between Sohara and its neighbors, as well as continents near and far. There are an estimated 30 flights landing per day at the Sohara International Airport, carrying 4 000-10 000 passengers, and 100 000 tons of goods. Air, land and sea border crossing are also frequent, with an estimated 57 authorized entry points used daily. Because of its economy, migrant workers started to come to Sohara.

**Health**

Life expectancy in Sohara is estimated to be 66 years for men and 77 years for women. The adult literacy rate (age 15 and above is 65%). The mission of the Ministry of Health is to contribute to socio-economic development and wealth, by promoting health and vitality, ensuring access to quality health, population and nutrition services for all people living in Sohara and promoting the development of a local health industry. Its mission shifts that focus of health beyond the limits of clinical care to other socio-economic determinants of health.

The well-being of Soharians are greatly impacted by their poor environmental conditions that they live in, work in and go to school in. A serious threat to public health is the poor air, water and soil quality caused by the improper disposal of waste, emission of dangerous gases from industries and vehicles, smoke from the burning of waste and bush fires.

Sohara’s infrastructure for waste management has not kept pace with the population growth. Only one third of the waste produced in the urban centers are collected and therefore leaving the rest to pollute the environment. Access to potable water is also a problem. Less than half of the population in Sohara have access to potable water. The rest of the population accesses water from streams and rivers which are often contaminated with organic and inorganic substances. The situation is more pronounced in communities located around mining areas in which substances such as cyanide flow to pollute the water. Therefore, due to poor lifestyle and environmental factors, morbidity and mortality rates are high.

Sohara, like other developing countries, can be described as in an epidemiologic transition characterized by high burden of infectious (communicable) diseases, rising incidence of non-communicable diseases, having a slow but gradual reduction in child mortality, and an increasing ageing population. Even though Malaria accounts for approximately 30-40% of outpatient visits and approximately 20% of deaths, Sohara is prone to epidemic diseases, and this continues to be a public health problem. Frequent outbreaks of Cholera, Cerebra-spinal meningitis and Yellow Fever are among the top causes of death and disability each year. Other emerging diseases at risk of an epidemic, posing to cause serious health insecurity include SARS (2003), Avian Influenza (2005- 2006), Pandemic H1N1 2009, (2009-2010), Rift Valley Fever (2012) as well as the currently evolving Ebola Viral Disease.

There are many challenges facing the health system in Sohara. There are serious leadership and governance challenges that include weak public health leadership and management; inadequate health-related legislations and their enforcement; limited community participation in planning, management and monitoring of health services; weak inter-sectorial action; horizontal and vertical inequities in health systems; inefficiency in resource allocation and use; and weak national health information and research systems.

Moreover, there are extreme shortages of health workers. This issue has been exacerbated by inequities in workforce distribution and brain drain. Thus, the delivery of effective public health interventions to people in need is compromised particularly in remote rural areas. The ability to access quality medical care can be quite difficult for most of the population in Sohara. Cost is another aggravating factor contributing to healthcare access issue. It is estimated that over 70% of Soharan rely on traditional medicine for treatment of both communicable and non-communicable diseases. Herbalists are supposed to register with the National Council of Chiefs and Elders of Sohara in order to practice and open a clinic, although many are not registered.

**Sohara Ministry of Health organogram**

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**Culture, beliefs and practices**

Soharians have extended family structure. It is not unlikely that a household be composed of 30 – 40 members. Decision making on big family issues are the domain of male elders (grandfather, eldest son) while caring and day to day household decisions are the function of the mothers/grandmother. Communal eating is the norm even when somebody is sick. In case of an ill member of the family, the closest female member will be assigned to care for the sick (mother for children and husband, sister or mother for females).

As in most countries in the region, Saharans place very important regard in burying their dead (“It is NOT a dead body, but a body of a person who died”). After a person dies, the body is washed thoroughly and dressed in the deceased person’s favorite outfit. Preparing the deceased is gender specific (men wash men, women wash women), while either can wash deceased children. The deceased is then laid in a bed and placed outside or in a big living room for relatives and community members to see. Often, mourners hug and kiss the deceased to show their love. After several days, the deceased is placed in a coffin or a mat together with personal possessions and buried. Those who joined the burial communally wash their hands communally.

In different parts of the country, after the deceased is washed by family member, the deceased is placed in clean clothes according to their religious rituals and carried on the shoulders to the grave where the mourners share the prayers and condolences.

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| C1 RRT mobilized **(2h00)** |

***1. Information for participants***

(In the bow below is copied the text of the video: C1.4\_SBSD\_breaking\_news\_en.mp4)

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| **Breaking news, Death of a famous football player at general hospital**  1st March 2015, 9:00 pm talk show  Reporter: “*Captain Mohamed Gaber, Captain of our national football team, died this morning due to another hospital negligent case. He was a 25-year-old young man in perfect health. He was admitted to Agader Hospital 4 days ago and today we are mourning his death. We cannot help but think something strange has happened in the hospital. He may have acquired an infection from the hospital aggravating his condition which caused his death. It does not make sense that in today’s world a young healthy man dies from diarrhea!*  *It is a national loss and we hope the Minister of Health will investigate the situations regarding this tragedy. There was another person who died at the same hospital last week. He was a father of 2 young children. The hospital should be closed, or there needs to be some action taken. Or any positive action should be done.”* |

***2. Instructions for participants, session outputs and references***

***Instructions:***

Responding to rumors addressed by the media, Dr Zaher, the Head of Communicable Disease Department/EOC Manager decides to mobilize the RRT to investigate, confirm, or discard the rumor and take initial control measures as required. You will hold a pre-deployment meeting, develop a plan of action for immediate next steps (you may update your plans based on new information received), develop a logistic checklist with all you need for the deployment, and update the Head of Communicable Disease Department/EOC Manager with a situation report (SITREP).

***Outputs:***

1. RRT composition defined, including roles of each member.
2. List of topics to be discussed during the pre-deployment meeting.
3. RRT action plan designed addressing the following: What? Who? When? How? How many?
4. Logistic checklist developed.
5. Situation report (SITREP) to be sent to the Head of Communicable Disease Department/EOC Manager (using the Model Situation Report in Participant Annexes, Session C1 – Annex 1).

***References:***

* Foodborne disease outbreak, Guideline for investigation and control. WHO. <http://www.who.int/foodsafety/publications/foodborne_disease/outbreak_guidelines.pdf>
* Outbreak Investigation Team Roles and Responsibilities. Communicable Disease Outbreak Manual. New Jersey’s Public Health Response

<http://njlmn2.rutgers.edu/sites/default/files/Appendix_F1_Outbreak_Investigation_Team.pdf>

* INTERIM VERSION 1.1 Ebola and Marburg virus disease epidemics: preparedness, alert, control, and evaluation. WHO/HSE/PED/CED/2014.05 <http://www.who.int/csr/disease/ebola/PACE_outbreaks_ebola_marburg_en.pdf>

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| C2 At Agader Hospital: interview with medical staff **(1h30-2h)** |

***1. Information for participants***

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| *March 2nd, 2015, you and your team leave in the early morning and head to Agader to visit Agader general hospital. You have to meet the hospital manager to introduce your team and explain to him the objectives of your mission to ensure his cooperation, as well as several medical staff who are likely to provide you useful information.* |

***2. Instructions for participants, session outputs and references***

***Instructions:***

At Agader General Hospital you will interview:

* The **Hospital Manager** to introduce the team and explain to him the objectives of the mission to ensure his cooperation.
* The **Infection Control Focal Person** to assess the hospital preparedness for IPC using the designed checklist (Participant Annexes, Session C2 Annex 2).
* The **Surveillance Officer** to assess the hospital preparedness for surveillance at the reporting site, using the designed checklist (Participant Annexes, Session C2 Annex 3).
* The **Medical Doctor, Dr Naser,** to obtain data about contacts among health care workers.

***Outputs:***

1. Assessment checklists for hospital IPC preparedness completed (Session C2 - Annex 2).
2. Assessment checklists for surveillance completed (Session C2- Annex 3).
3. Contact listing form completed/initiated (Session C2 - Annex 4).
4. IPC standard precautions and additional measures for EVD applied as required.

***References:***

* Case definition recommendations for Ebola or Marburg Virus Diseases. <http://www.who.int/csr/resources/publications/ebola/ebola-case-definition-contact-en.pdf?ua=1>
* Ebola surveillance in countries with no reported cases of Ebola virus disease, WHO

<http://apps.who.int/iris/bitstream/handle/10665/134581/WHO_EVD_Guidance_SurvNonECount_14.1_eng.pdf;jsessionid=EBA732689F34365193AEE70708C75170?sequence=1>

* Investigating cause of death during an outbreak of Ebola virus hemorrhagic fever: draft verbal autopsy instrument.

<http://www.who.int/csr/resources/publications/ebola/Corrected%20CoverEboladoc1.pdf?ua=1>

* CONTACT TRACING DURING AN OUTBREAK OF EBOLA VIRUS DISEASE, WHO

<http://www.who.int/csr/resources/publications/ebola/contact-tracing-during-outbreak-of-ebola.pdf>

* IPC guidance summary, WHO

<http://apps.who.int/iris/bitstream/handle/10665/131828/WHO_EVD_Guidance_IPC_14.1_eng.pdf?sequence=1>

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| C3 At Agader hospital: interview with patient/laboratory sample collection **(1h30-2h)** |

***1. Information for participants***

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| Now you are going to interview the patient to further complete the contact listing form, initiate completion of the case investigation form, and obtain a laboratory sample. |

Before proceeding to the interview, questions to be discussed and addressed in the team:

* How do you ensure that patient will be open and honest in providing information and consent to laboratory sample collection?
* What is the appropriate PPE that you should be wearing before entering the patient room, if any? (NB. The case has not been confirmed at this time.).

***2. Instructions for participants, session outputs and references***

***Instructions:***

Before entering patient room, you should prepare all the required forms and materials that you will need. You have to enter in the patient’s room having taken the appropriate IPC measures, and most importantly being aware of the patient’s anxiety, her the need for respectful and dignified treatment. You will interview the patient to complete the contact list questionnaire, initiate completion of the case investigation form, and obtain the appropriate laboratory sample.

***Outputs:***

1. Relationship with the patient: respectful of her culture, situation, and her fears.
2. Informed consent of the patient obtained for laboratory sample collection.
3. Contacts listing continued (Session C2 - Annex 4).
4. Case investigation form for the patient initiated/completed (in Participant Annexes, Session C3 – Annex 1)
5. Correct practice of donning and doffing PPE observed, as relevant.
6. Interview and laboratory sample collection safely conducted, applying standard hygiene precautions and additional infection prevention and control precautions as relevant.
7. PPE and material for sample collection properly disposed after use.

***References:***

* Personal protective equipment in the context of filovirus disease outbreak response

<http://apps.who.int/iris/bitstream/10665/137410/1/WHO_EVD_Guidance_PPE_14.1_eng.pdf>

* Guideline on hand hygiene in health care in the context of filovirus disease outbreak response

<http://apps.who.int/iris/bitstream/10665/144578/1/WHO_HIS_SDS_2014.15_eng.pdf>

* How to safely ship human blood samples from suspected Ebola cases within a country by road, rail and sea

<http://apps.who.int/iris/bitstream/10665/137549/1/WHO_EVD_Guidance_Lab_14.3_eng.pdf>

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| C4 Communication and community engagement **(1h-1h30)** |

***1. Information for participants***

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| There has been very little information sharing with the communities affected, as neither the community leaders nor the officials have sufficient information to share. Rumors have started to spread, and the RRT must address these concerns to gain the community’s trust.  In the current situation and the anticipated threat of Ebola, the RRT gets prepared to engage with the community. As a first step, the RRT will meet with the community leader and elders, identify community influencers, concerns and rumors related to the ongoing deaths, identify traditions and cultural practices that may help stop or contribute to spread a potential outbreak.  Trust should be built early so the community becomes part of the solution. |

***2. Instructions for participants, exercise outputs and references***

***Instructions***

Before visiting the community, the RRT should review relevant pieces of Sohara’s country context, including key elements of the social dimension, cultural practices, kinship, mode of communication, and taboos of Salami, to better understand community dynamics.

Upon arrival at the community, the RRT will meet the community leader and elders as a courtesy call, and then request to visit different areas in the community to talk to people.

During the discussion, the RRT will try to capture information regarding community and family structures in the particular area where the first cases started. The RRT should start by listening to the community leader and elders. Some of the discussion points may be:

* Where do the community gather, where they get water, how they interact, their family structures, community groups, sources of income, practices in caring for sick members, etc.
* What are their concerns and the rumors spreading, and what they think have caused people getting sick and what may have prevented others from getting sick.
* Ask them if there had been previous event like this, and make sure that they also express what has been done in the past in similar situations, how they think it can be useful.
* Use this opportunity to ask information that will help you in disseminating the information e.g. the most common communication channel to reach the various community members.

***Outputs***

1. Capture of relevant issues, i.e. rumors, community problems related to outbreak (using exercise template 1 in Participant Annexes, Session C4 - Annex 1).
2. Identification of community practices and activities that can help or not help stop a potential outbreak (using exercise template 2 in Participant Annexes, Session C4 - Annex 1).
3. Determination of an appropriate tool to encourage community participation (using list and description of tools and exercise template 3 in Participant Annexes, Session C4 - Annex 2).

***References***

* Effective Media Communication during Public Health Emergencies

<http://www.who.int/csr/resources/publications/WHO%20MEDIA%20HANDBOOK.pdf?ua=1>

* Communication for behavioral impact (COMBI). A toolkit for behavioral and social communication in outbreak response

<http://apps.who.int/iris/bitstream/10665/75170/1/WHO_HSE_GCR_2012.13_eng.pdf?ua=1>

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| C5 Contact tracing **(1h30-2h)** |

***1. Information for participants***

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| The laboratory results for Fatma Gaber (FG) reveal that she has been tested positive for EVD.  No laboratory sample was taken from her late husband, the first suspect case (Mohamed Gaber).  Based on the contacts listed during your previous discussions with both the medical staff and the patient FG, your team will initiate contact monitoring. |

***2. Instructions for participants, exercise outputs and references***

Based on the contacts previously listed, you will have interviews with:

**Mohamed’s Gaber brother, Mr. Ali**

The team arranged to visit Mr. Ali Gaber, Mohamed’s brother. His phone number and address were obtained from Mrs. Fatma, Mohamed’s wife. You now arrive at Mr. Ali’s house.

* Should you wear any PPE? If yes what PPE should you wear?
* You will start a dialog with Mr. Ali: Greet him, explain to him the purpose and procedure of contact monitoring, ask about contact type to reassess his exposure, ask about symptoms and take his temperature, advise him…

**Mohamed Gaber’s driver, Mr. Ameen**

Mr. Ameen was one of contacts of first suspect case, Mohamed Gaber. The team goes to his house but could not locate him. Mrs. Ameen (the drivers’ wife) is at home. What should you do?

**A nurse who attended to Mohamed Gaber at the Emergency Room, Mrs. Salem**

You and your team arranged to visit Mrs. Farida Salem, one of the nurses who attended to Mohamed Gaber at the Emergency Room. You visit her in her home and asked about any symptoms. She says that she is feeling sick since this morning and having a fever of 38 oC. What should you do?

**Mohamed Gaber’s mother**

When you arrive to Mohamed mother’s house. A couple of neighbors standing in front of her house’s door start being hostile and violent. What should you do?

***Outputs***

1. Contact tracing interviews with various types of contacts conducted, overcoming challenges and barriers encountered.
2. Daily contact follow-up forms filled-in as needed (in Participant Annexes, Session C5 Annex 1).
3. Contact tracing summary form completed (in Participant Annexes, Session C5 Annex 2).
4. Standard hygiene precautions and additional infection prevention and control precautions for EVD applied as relevant.
5. Homework for the next day: develop a SITREP to be sent to the Head of the Communicable Disease Department/Emergency Operations Center (EOC) manager for next steps.

***References***

* Contact tracing during an outbreak of Ebola Virus Disease

<http://www.who.int/csr/resources/publications/ebola/contact-tracing-during-outbreak-of-ebola.pdf>

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| C6 Investigation report **(2h to 3h)** |

***1. Information for participants***

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| The number of cases and deaths starts to increase dramatically despite control and preventing efforts. Sohara Ministry of Health asked for the WHO country office to help. The ministry allocated resources to control this outbreak. |

***2. Instructions for participants, exercise outputs and references***

***Instructions***

* Each RRT has to write an investigation report that includes all findings and conclusions, data tables and charts (PPT format, 8 slides maximum, using the outline plus the line listing Excel file provided).
* Each RRT will present his summary report in plenary (8-10’ presentation).

***Outputs***

1. A summarized investigation report, including indicated information fields
2. The report integrates in a systematic way results and conclusions of the various phases
3. Data is presented in tables and graphics as appropriate.

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| Conclusion |

August 12th, 2015

Today, exactly 42 days (twice the maximum incubation period for Ebola Virus Disease) after the country’s last infectious contact with a confirmed or probable case occurred, the chains of transmission have been broken.

The virus is gone for now. The outbreak in Sohara has been defeated. WHO declared that Sohara is free from EVD.

What are the reasons for this success? To a large extent, the answer is straightforward: The country’s strong leadership and effective coordination of the response. The Soharan response to the outbreak was greatly aided by efforts of its Rapid Response Team who was deployed promptly to Agader. In addition, high-quality contact tracing by experienced epidemiologists accelerated early detection of cases and their rapid movement to an isolation ward. Therefore, it greatly diminished any opportunity for further transmission.

Dr Zaher, the head of Soharan CDC, and the WHO country team of epidemiologists, clinicians, logisticians and administrators have identified a number of specific lessons. These lessons may be useful for other countries facing their first imported Ebola case as well as preparing for one.

The most critical factor is leadership and engagement from the Head of State and the Minister of Health. Generous allocation of government funds and their quick disbursement helped as well. Partnerships with the private sector were another asset that brought in substantial resources to help scale up control measures that eventually stopped the Ebola virus dead in its tracks.

Health and government officials fully appreciated the importance of communication with the general public. They rallied communities to support containment measures.

House-to-house information campaigns and messages on local radio stations in local dialects, were used to explain the level of risk. Effective personal preventive measures and the actions being taken for control were also important actions take.

The full range of media opportunities was exploited, including: social media and televised facts about the disease delivered by well-known movie stars.

***Thank you for being a member on the Sohara Rapid Response Team!***