



Standard Operating Procedures for Contact Tracing and Follow up during Ebola Virus Disease Outbreak

August 2014

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1.0 Introduction

Contact tracing is an integral component of active surveillance during Ebola virus disease (EVD) outbreak. Contact tracing is defined as the identification and follow up of persons who may have come into contact with an infected person. Early detection and prompt isolation of new EVD cases is requisite for interrupting secondary transmission of Ebola virus in the community. Immediate evacuation of potentially infectious individuals who have signs and symptoms of the disease from the community prevents high-risk exposures during home-based care, other social activities, and subsequent customary burial procedures. During EVD outbreak, all potential contacts to suspected, probable and confirmed cases should be systemically identified and put under observation for 21 days (the maximum incubation period of the Ebola virus) from the last day of contact. Contact tracing is therefore one of the most effective outbreak containment measures that must be implemented prudently.

During the current EVD outbreak in Guinea, Liberia, and Sierra Leone, conducting contact tracing posed serious challenges; in parts, due to the wide geographical expanse of the EVD outbreak, insufficient resources (human, financial and logistics), and to some extent, limited access to affected communities. The procedures for setting up functional contact tracing systems were also not well articulated; inadvertently many stakeholders conducted contact tracing differently.

As part of the effort to ensure effective response to the current EVD outbreak, this guidance notes has been prepared to articulate and streamline the process of contact tracing. The primary objective of the guidance notes is to facilitate setting up a functional system for conducting systematic contact tracing. The guidance notes are meant to standardize and scale up contact tracing activities in all the affected communities. The document will also assist in estimating the resources required for conducting contact tracing as well as monitoring performance of affected districts on ensuring properly contact tracing activities.

This guidance notes is based on best practices from extensive field experiences during previous Filovirus disease outbreak response in the WHO African region. It is recommended that the guidance notes are adapted to local context during its application. The document has been structured such that it begins by describing the elements of contact tracing; followed by the procedures for conducting contact tracing up to the point of discharging the contacts; precautions to be taken by the contact tracing teams; contact data management, a guide to estimate the resources needed for conducting a functioning and effective contact tracing system and ends with checklist for monitoring performance of the contact tracing activities. The tools for contact tracing are contained in the annexes.

2.0 Elements of contact tracing

Practically, the process of contact tracing is broken down into three basic elements, namely contact identification, contact listing and contact follow up. Contact identification and contact listing have only been separated in this guidance notes for purposes of description; otherwise in practice, the two elements are performed in one sitting. The three elements of contact tracing are described hereunder as follows:

2.1. Contact identification

Contact identification is an important component of epidemiologic investigation carried out for all cases meeting the standard/surveillance case definitions of Ebola virus disease. These cases are classified as suspected, probable or confirmed. In addition, epidemiologic investigation is conducted for all deaths, either in the community or health facility, attributable to EVD. The process of verifying the cause of death is called verbal autopsy, aimed to establish the likely cause of death and identify chains of transmission. The tool for conducting epidemiologic investigation is the case investigation form. The use of a comprehensive and standardized case investigation form is therefore recommended. Case investigation forms should be completed for all the EVD cases and deaths meeting the standard/surveillance case definitions.

After completing the case investigation form, the epidemiologist or surveillance officer at any level of health system delivery should systematically identify potential contacts¹. Contact identification therefore begins from a case. Identification of the contacts is done through interrogating the activities of the case/deceased or the activities and roles of the people around the case/deceased since onset of symptoms. While some of the information can be obtained from the case, much of the information will come from the people around the case. In many instances, the case will have died. It is mandatory for the epidemiologist/surveillance officer to visit the home of the case/deceased. The interrogation should identify the following:

- a. All persons who lived with the case/deceased in the same households since onset of illness;
- b. All persons who visited the case/deceased either at home or in the health facility since onset of illness;
- c. All places visited by the case/deceased since onset of illness e.g. traditional healer, church, relatives, etc. All these places should be visited and contacts identified;

¹ A contact is any person without any disease signs and symptoms but had **physical contact** with a case (alive or dead) or the body fluids of a case within the last three weeks. Physical contact includes sharing the same room/bed, caring for a patient, touching body fluids, or closely participating in a burial.

- d. All the health facilities visited by the case/deceased since onset of illness and identify all health workers who attended to the case/deceased without appropriate infection prevention and control procedures;
- e. All persons who had contact with the corpse from the time of death and during the traditional burial procedures;
- f. During home visit, the contact tracing/follow-up teams should inquire about persons who might have been exposed to the case/deceased but were not identified and listed as contact through the above process.

Priority should be particularly given to the following high risk categories of contacts, persons who:

- a. Touched body fluids of the case (blood, vomit, saliva, urine, feces);
- b. Had direct physical contact with the body of the case or deceased;
- c. Touched or cleaned the linens or clothes of the case;
- d. Slept or ate in the same household as the case;
- e. Health care worker who suffered a needle stick injury from contaminated instrument while attending to a probable or confirmed EVD case;
- f. Health care worker who had a breach of barrier nursing procedures while attending to a probable or confirmed EVD case.

2.2 Contact listing

All persons falling under the categories described above should be listed as contacts, using the **contact listing form** (annex 1). Efforts should be made to physically identify each and every listed contacts and each contact person informed about their contact status, what it means, the subsequent actions that is going to follow, and the importance of receiving early care in the event of developing symptoms. The process of informing the contact persons of their status should be done with tact and empathy since being a contact is usually immediately associated with serious health outcomes. Advise all contacts to adhere to the following:

- a. Remain as much as possible at home and restrict close contact with other people;
- b. Should avoid crowded places, social gatherings, and public transport;
- c. Report any suspicious signs and symptoms immediately such as fever, bleeding ,etc (provide telephone numbers e.g. the Ebola hotline, numbers of the supervisor or the contact follow up team).

Contact identification and contact listing, including the process of informing the contact persons of their contact status should be done by the epidemiologist or surveillance officer; and **not by the community volunteers**, who will subsequently perform the follow up. The community volunteers should be introduced during this first visit as the person who will subsequently perform the home visits.

2.3 Contact follow-up

The epidemiologist/surveillance officer responsible for contact tracing should assemble a competent team comprising of community health workers, volunteers and community leaders to follow up all the listed contacts. An efficient contact tracing system depends on a relationship of trust with the community, which in turn fosters optimum cooperation. The communities should have confidence in the intervention for them to cooperate with the contact tracing teams and eventually allow referral of symptomatic contacts to the designated isolation facilities. Involvement of community leaders in contact tracing is therefore critical in cultivating this good relationship, trust and confidence of the community. The community structure for contact follow-up should be closely supervised by trained health workers.

The community health workers and their supervisors should be trained in a one-day orientation workshop (*a training guide to be developed*). The purpose of this training is to familiarize the team on the basic information on EVD, procedures and tools for contact tracing as well as the required safety precautions. The training package should cover the following:

- Basic facts about Ebola virus disease;
- How Ebola virus disease is spread;
- Preventive measures for Ebola virus disease;
- The roles and procedures for contact tracing/ follow up;
- Orientation on the contact follow-up tools, monitoring temperature, reporting, etc;
- Recommended safety precautions for contact tracing teams.

After conducting the orientation, the contact follow up teams should be equipped with all the necessary tools e.g. contact follow up and reporting forms, thermometer, etc.

Contact identification, listing and follow-up should start as soon as a suspected case or death has been detected. However, follow up of contact of suspected cases that test negative for EVD should stop forthwith and the contacts discarded from the contact list.

3.0 Procedures for conducting contact follow-up

The steps below provide guidance on the actual procedures for conducting contact follow-up:

1. Each morning, the epidemiologist/surveillance officer responsible for contact tracing prepares the list of contacts to be followed that day (using an appropriate software application e.g. FIMS or manually);
2. The epidemiologist provides the list of contacts to the supervisors in a meeting setting. The grouping of the supervisors should be done rationally, taking into accounts the routing, number of contacts to be followed in a particular area, etc;

3. The supervisors travel to their areas of work and meet the contact follow-up teams (a team comprising of a community health worker and a community leader) in a centrally agreed meeting point e.g. nearby health facility, school, church, etc); and the teams are assigned the contacts/ households/ homes to visit;
4. After receiving the lists of the contacts, the teams then go to their respective communities for home visit;
5. On arrival to the homestead, the team should observe culturally recommended practice of greeting, except for those that entail direct physical contact like shaking hands or hugging. Explain to the household members that the restrictions have been recommended to contain the spread of EVD;
6. If offered seats, inform the household members that you will not stay long and hence the need to quickly interview the contacts so that the team catches up with the other contacts before the day ends;
7. Interview and assess the contact for symptoms using the contact follow up form (annex 2), and have their body temperature taken (if recommended);
8. If a contact is not found at home, the team should inform the supervisor immediately while trying to establish the where-about of the contact. The role of the community leader becomes critical for such incidents. A satisfactory explanation should be obtained for the absence of a contact;
9. If a contact develops signs and symptoms, the team should immediately notify the supervisor, who should immediately inform the mobile/ ambulance team to conduct assessment and/or evacuation to the treatment centre (if necessary); The contact follow-up teams **must not** take temperature from contacts that develop symptoms; The case definition of EVD at community level should be disseminated to allow identification of a contact who will develop symptoms;
10. After finishing the interview/assessment, inquire whether there is any other person in the household who is not feeling well (even if the person is not a contact). This serves to identify any sick person in the community, referred to as active case search;
11. The contact follow-up team prepares a report summarizing the findings using the reporting format in annex 3.
12. On a rotating basis, the supervisor should join the community health workers for home visits. This is to monitor and supervise the community health workers, and ensure that they are doing their work correctly;
13. After completing home visits (the assigned contacts/households), the teams should assemble in the central meeting point to provide feedback to the supervisor;
14. The supervisor collects all the reports of contacts followed up that day and prepares a summary report for the epidemiologist. The report should, in addition, include any other emerging issues encountered during the home visit;
15. The epidemiologist makes a consolidated report of contact follow-up activity, which forms part of the surveillance sub-committee report that is presented to the task force.

4.0 Discharge of contacts

Contacts completing the 21-day follow-up period should be assessed by the team on the last day. In the absence of any symptoms, the contact persons should be informed that they have been discharged from the follow-up; and can resume normal activities and social interactions. The team should take time with the neighbors and close associates to assure them that the discharged contacts no longer poses any risk of transmitting the disease.

5.0 Recommended safety precautions for contact tracing teams

Since cases are more likely to arise from the contacts that are being followed up, it is important for the contact tracing teams to take measures to protect themselves during the follow-up. The teams should abide by the following precautionary measures during the visit:

1. Avoid direct physical contact like shaking hands or hugging;
2. Avoid sitting on chairs offered to you;
3. Avoid touching or leaning against objects that can serve as fomites for EVD;
4. Always have a good breakfast before departing for home visit in the field to resist the temptation of eating or drinking while following contacts in the villages;
5. Do not go for contact tracing while donning personal protective equipment like masks, gloves, or gowns.;
6. Put on disposable gloves if you must take the contacts temperature.

6.0 Developing case and contact database

With increasing number EVD cases, effective management of contacts can only be achieved using appropriate software, designed to manage cases and their corresponding contacts. In an effort to streamline management of contacts during infectious disease outbreaks, the World Health Organization developed the Field Information Management System (FIMS) software. The FIMS is a tool developed to support outbreak response activities in terms of case and contact data collection, analysis and production of related reports.

FIMS supports the following aspects of case and contact data management:

- Registration of cases and case related data;
- Registration of contacts and contacts related data;
- Production of daily follow up reports;
- Production of predefined summary and detailed reports
- Exporting of data to different formats (txt, xls, xml etc.) for further analysis;
- Summary case and contact mapping (using Health Mapper or GIS softwares);
- Visualization of chains of transmission;

During an ongoing outbreak, WHO collaborating partners like GOARN will deploy a data manager that is knowledgeable in using FIMS. This data manager will work with national epidemiologists and data managers to provide on the job orientations on FIMS as the outbreak case-contact database is established. This is a quick way of building local capacities for using the software to support field operations during an ongoing outbreak. The national Ministry of Health in collaboration with WHO should then organize formal training for national outbreak response teams including data managers, biostatisticians, epidemiologists, and other public health professionals after the outbreak is controlled. For areas that are at-risk of EVD spread, training of field teams should be prioritized as part of the activities for enhancing EVD outbreak readiness and response capacity.

7.0 Estimating resource requirements for contact tracing

Setting up a functional system for contact tracing is highly resource intensive in terms of human, financial and logistics requirements. The suggestions below provide a basis for estimating the resources needed for conducting contact tracing. The epidemiologist/surveillance officer responsible for contact tracing, in collaboration with the national/ district task force, should determine the following:

- The average number of contacts to be visited per day by one contact follow-up team (comprising of two trained community volunteers) e.g. 20 contacts per day;
- The amount of money to compensate each community volunteer per day e.g. USD 5 per day;
- The number of contact follow-up teams to be supervised by one trained supervisor e.g. one supervisor is responsible for an average of 15 teams;
- The allowance of the trained supervisor e.g. each supervisor is entitled to USD 10 per day;
- The supervisor will require transport, a motor cycle for one supervisor or a vehicle for 5 supervisors (who should be working along the same route).

Budgeting tool for contact tracing

No	Budget item	Formula
1	Allowance for community volunteers	$\frac{\text{Total No of contacts}}{20} \times 5\$ \times 2 \times \text{No of days}$
2	Allowance for supervisors	$\frac{\text{Total No CHW}}{15} \times 10\$ \times \text{No of days}$
3	Cost of fuel (motor cycle) for supervisors	$\text{No of supervisor} \times \text{cost of fuel per litre} \times \text{No of litres per day} \times \text{No of days}$
4	Cost of fuel (vehicle) for supervisors Drivers allowance	$\frac{\text{Number of supervisors}}{5} \times \text{cost of fuel per litre} \times \text{No of litres per day} \times \text{No of days}$ $\frac{\text{Number of supervisors}}{5} \times \text{drivers allowance} \times \text{No of days}$
5	Allowance for district data manager in each of the affected district	$\text{Number of data managers} \times \text{amount} \times \text{No of days}$

Annex 1: Contact listing form

EBOLA CONTACT LISTING FORM

Case Information								
Outbreak Case ID	Surname	Other Names	Head of Household	Address	Town	District	Date of Symptom Onset	Location Case Identified

Contact Information												
Surname	Other Names	Sex (M/F)	Age (yrs)	Relation to Case	Date of Last Contact with Case	Type of Contact (1,2,3,4)* <u>list all</u>	Head of Household	Address	Town	District	Phone Number	Healthcare Worker (Y/N) <i>If yes, what facility?</i>

***Types of Contact:**
 1 = Touched body fluids of the case (blood, vomit, saliva, urine, feces)
 2 = Had direct physical contact with the body of the case (alive or dead)
 3 = Touched or cleaned the linens, clothes, or dishes of the case
 4 = Slept or ate in the same household as the case

Contact sheet filled by: Name:

Title:

Telephone:

Annex 2: Contact follow up form

CONTACT FOLLOW-UP FORM

Contact Tracing Form – by Community Volunteer Volunteer’s name.....

Address Town District.....

CN	Family Name	First name	Age	Sex	Date of last contact	Day of Follow-up																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

Tick “ 0 “ if the contact has not developed fever or bleeding
 Tick “ X “ if the contact has died or developed fever and/or bleeding (complete Case Report Form and, if alive, refer to the hospital)

Annex 3: Reporting form for field team

REPORTING FORM FOR THE FIELD TEAMS

Variable		Date:
Team name:		
Team members		
Villages assigned	No villages	
	No. of households	
	Names of villages	
Villages visited	No villages	
	No. of households	
	Names of villages	
Total cases under follow-up (list names)		
Total contacts under follow-up		
Contacts who have completed 21 day follow-up today		
Total cases followed up today		
Total contacts followed up today		
Contacts who developed symptoms		
Details of community alerts responded to		

Remarks/ other issues arising

Annex 4. Checklist for monitoring performance of the contact tracing