



Ebola Virus Disease Surveillance in Uganda

By
Aggrey Byaruhanga, Senior Epidemiologist, MoH

Ebola Virus Disease

- ❑ Ebola virus disease is a serious illness that is often fatal in humans
- ❑ Without treatment, Ebola has a high mortality rate
- ❑ Chances of survival increase if treatment is administered quickly
- ❑ When we think of Ebola, we think of a sick person with bleeding but **Ebola patients do not always bleed**

Sudan Virus (SUDV) Outbreak in Kampala, Uganda

- ❑ Reported on (January 30, 2025),
- ❑ The 6th outbreak of Sudan virus
- ❑ By 12 February, registered 09 cases
- ❑ Listed and followed 286 contacts
- ❑ Isolated in quarantine centers



Where is the Ebola virus found in an infected person?

- ☐ Ebola virus can be found in ALL the body fluids of someone who is sick or has died of Ebola
- ☐ The virus can remain in semen several years after a previously infected person has recovered
- ☐ The virus can remain in breast milk even after the mother has recovered



Saliva



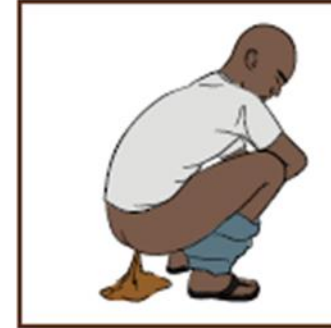
Sweat



Blood



Vomit



Diarrhea



Urine



Sperm



Amniotic fluid



Breast milk

How does the virus spread between people?

- ❑ Direct contact (through broken skin or mucous membranes) with the body fluids of a person who is sick or has died of Ebola virus disease
- ❑ Contact with objects (such as clothing, bedding, needles, and medical equipment) contaminated with the body fluids of a person who is sick or has died from Ebola virus disease

Ebola virus does NOT spread:

- ❑ By water
- ❑ By air
- ❑ By insect bites, like mosquitoes



INFECTION

Infection occurs after exposure to a person who is sick or has died of Ebola.



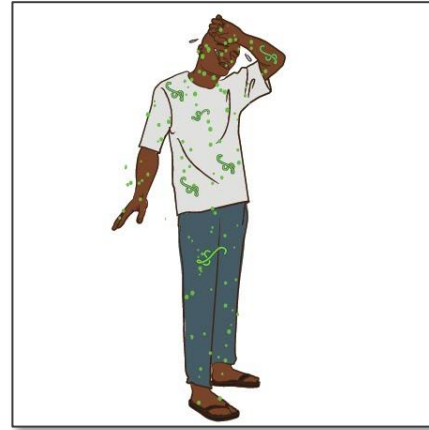
INCUBATION PERIOD

- It can last from 2-21 days (usually 4-17 days)
- Person feels well and has no symptoms
- The person cannot transmit the virus



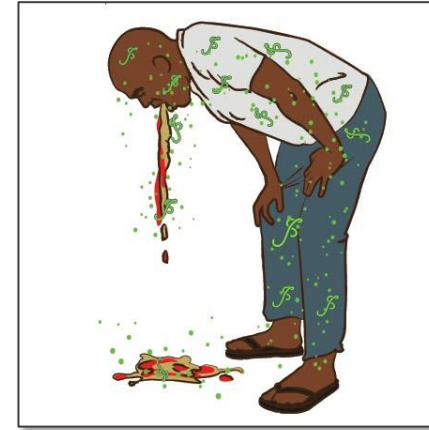
DRY PHASE

- Common signs and symptoms are
- Fever (not always present)
 - Fatigue
 - Headache
 - Joint pain
 - Muscle pain
 - Back pain
 - Sore throat



WET PHASE

- Common signs and symptoms are
- Diarrhea
 - Nausea/vomiting
 - Bleeding occurs in some cases
 - Hiccups
 - Eye redness



- The patient becomes more contagious as the disease progresses.
- In fatal cases, death occurs on average 7 to 10 days after the onset of symptoms.
- The amount of Ebola virus is highest at the time of death.



**EXPOSURE TO
THE VIRUS**

**NOT
CONTAGIOUS**



**DAY 0
OF THE DISEASE**

CONTAGIOUS



**DAY 4
OF THE DISEASE**

**EVEN MORE
CONTAGIOUS**



**DAY 7-10
OF THE DISEASE**

**THE MOST
CONTAGIOUS**



Active Case Search

Purpose of Active Case Search: find new cases



- ❑ **Actively search for individuals with signs and/or symptoms of Ebola for early referral, diagnosis and treatment**

OBJECTIVES

- ❑ **Identify an individual with EVD-like symptoms that are not identified through contact tracing or passive surveillance**
- ❑ **Discover suspicious deaths**

Types

- ❑ **Facility based**
- ❑ **Community based**



Active Case Search: Community Case Definition

- ❑ **Illness with onset of fever and no response to treatment**

OR

- ❑ **At least one of the following signs: bleeding (from the nose or any other part of the body), bloody diarrhea, blood in urine**

❑

OR

- ❑ **Any sudden death**

Case Definitions

Suspect I

Illness with onset of fever and/ OR negative laboratory diagnosis for usual causes of fever AND/ OR at least three of the following signs:

- Headache, vomiting, diarrhoea, anorexia/loss of appetite, lethargy, stomach pain, aching muscles or joints, difficulty swallowing, breathing, difficulties, or hiccups, convulsions

OR

Illness with onset of fever and no response to treatment for usual causes of fever AND at least one of the following signs

- Bloody diarrhea
- Bleeding from gums
- Bleeding into skin (purpura)
- Bleeding into eyes and urine
- Bleeding from the nose

Case Definitions

OR any person with a history of fever ($\geq 38^{\circ}\text{C}$) and at least one of the following:

- History of contact with a suspect, probable or confirmed Ebola case.
- History of travel to an area with a confirmed outbreak of Ebola

OR: sudden/unexplained death

OR: unexplained bleeding

PROBABLE

Any person who died from 'suspected' EVD and had an epidemiological link to a confirmed case but was not tested and did not have laboratory confirmation of the disease

Active Case Search



- ❑ **Involves VHTs, Health Assistants, Health Workers, Surveillance Officers, Epidemiologists, and other public health workers**

Community based:

- ❑ **VHTs to lookout, record and report suspected cases and deaths in the community and report to supervisors**

Facility based:

- ❑ **Teams go to health facilities and look through patient registers for any patients with Ebola like symptoms**
- ❑ **Interviews with patients and clinicians provide more information to determine if patient might be an Ebola case and need testing and isolation**



Example of an Active Case Finding Facility Visit Schedule

WEEKLY SCHEDULE – ACTIVE CASE SEARCH TEAMS - MUBENDE

WEEK 40 (2-8 October 2022)



N°	TEAM MEMBERS	SUB-COUNTY	HEALTH FACILITIES	ACTIVITIES	2	3	4	5	6	7	8
					Mark <u>X</u> when completed						
			Health Centre II:	Sensitization of personnel							
			Health Centre III:	Review in-patient registers							
			Health Centre IV:	Review out-patient registers							
			Regional Hospital:	Investigate patients w Ebola symptoms							
			Private Facilities:	Report any alerts to alerts call centre							
				Complete CIF for suspect cases							

Teams visit health facilities daily to look for possible cases and conduct initial investigations



Example of an Active Case Finding Community Visit Schedule

- VHTs go from house to house and asks if there is any sick person(s) in the household
- If yes, the team will ask if the person has signs and symptoms of Ebola based on the community case definition
- The team then completes the reporting form and immediately notifies the supervisor who will in turn call the alert desk number.
- If there is a community death, the VHT calls the alert desk to activate the alert management system.

WEEKLY VILLAGE ACTIVE CASE SEARCH FORM BY VILLAGE TASK FORCES (VTF)							
District : Sub county: Parish:							
Village: No. of HouseHolds: Total Population:							
Week starting from: Ending on:							
Name of the VTF Member: Contact: Signature:							
Indicators	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1. Number of Households Visited							
2. Number of Community Deaths							
3. Number of People Sick with Any Disease							
4. Number of Suspected Ebola cases							
In case of any death/ suspected Ebola case please call this toll free number: 0800 200 043							
Verified by: Title: Contact:							
Date: Signature:							



Case Investigation

Purpose of a Case Investigation: *Stop the Spread*



- ❑ **Collect information to inform how to stop further transmission**

OBJECTIVES

- ❑ **Identify the source of the patient's infection**
- ❑ **Determine who else might be at risk**

TOOLS

- ❑ **Case Investigation Form**
- ❑ **Case Narrative**
- ❑ **Transmission Chains**

Demographic

Name

Age

Gender

Residence

❏ Occupation

Location

Clinical Signs and Symptoms

☐ **Date of Initial Symptom Onset**

☐ All symptoms since symptom onset for this illness

Hospitalization

❑ Dates

☐ **Health Facilities and Traditional Healers visited for this illness**

❏ Isolation

Epidemiological Risk Factors and exposure

- ☐ Any contact with a case

❑ Travel history

Burials

❑ Contact with animals

Laboratory

☐ **Specimens collected**

Case Narrative



Complete description of the activities of a confirmed or probable case within the past month

- ❑ Case narratives describe events over two periods of time:
 1. Exposure period: the period during which a person may have been exposed to the Ebola virus
 2. Symptomatic period: the period after the onset of symptoms of EVD
- ❑ Components:
 - Demographic information
 - Describe the activities during the period of exposure and attempt to identify the source of the patient's infection (a person, a health care facility, etc.)
 - Determine the date of onset of symptoms. You may use the Ebola exposure window calculator to corroborate the date of onset of symptoms.
 - Describe the signs and symptoms and how they progress
 - Identify the different places the case went after it became symptomatic
 - Identify the people the patient came in contact with while ill

Age	5	Sex	Female						
Status	Alive	If case died:	Location of Death		SDB?				
Date of Onset of Symptoms	06/05/2019	Symptoms	Fever, body weakness, lack of appetite						
District	Lubero	Sub-County		Village					
Known Contact?	Yes	If yes, linked to which case?	C043 (mother)	Contact followed up?	Yes	Day #	8		
Healthcare Worker	No	Position	Health Facility						
Who alerted?	Contact tracing team								
Health Facilities Attended (include dates)	HGR Lubero 07/5/2019-9/5/2019								
Case History and Contact Tracing	06/05/2019: Fever, weakness, and lack of appetite started and self-medicated with paracetamol. 07/05/2019: Family took the child to HGR Lubero for treatment, where the contact tracing team found the child and alerted the case. Family was reticent to evacuation to ETU 09/05/2019: Child remained at HGR Lubero until 09/05, when the team was able to work with the family for transfer to ETU Butembo Contact pre-listing : 17 contacts								

Transmission Chains



Show initial exposure (index case)

Describe how EVD is being passed person-to-person

Determine points where transmission might be stopped

Includes:

- ☐ **Case and their contacts**
- ☐ **Contacts who become cases**
- ☐ **Sites of ongoing exposure and transmission**
- ☐ **Links between various chains of transmission**

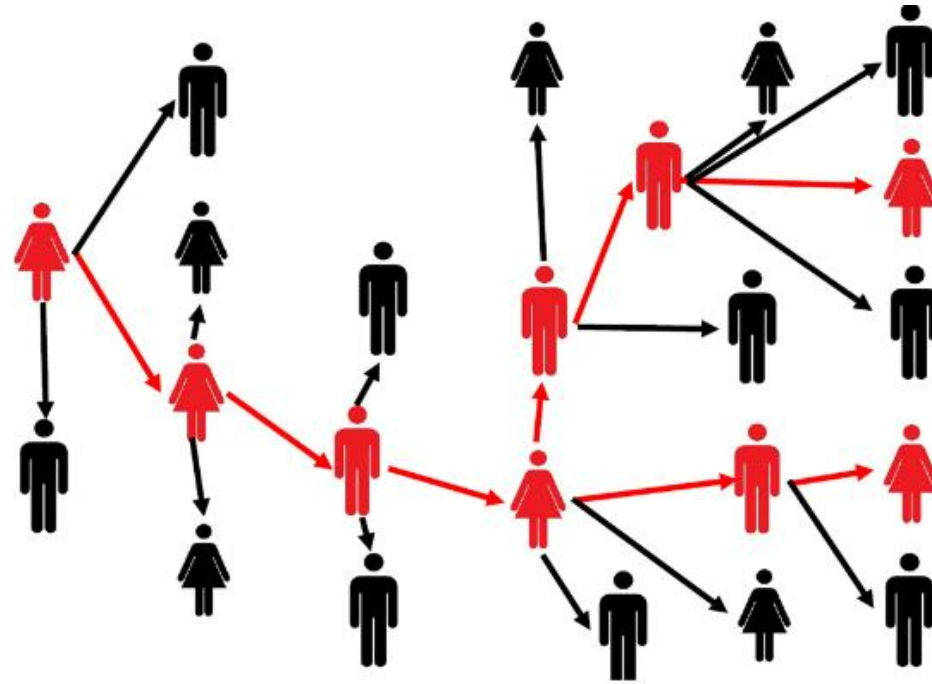


THE REPUBLIC OF UGANDA

EVD-Contact Tracing

What is contact tracing?

- ❑ Finding the persons who a sick person came in contact with
- ❑ The purpose is to ensure that anyone who is incubating infection or who is already ill can be identified as soon as possible



**Purpose of
contact
tracing**



**Reduce
spread**

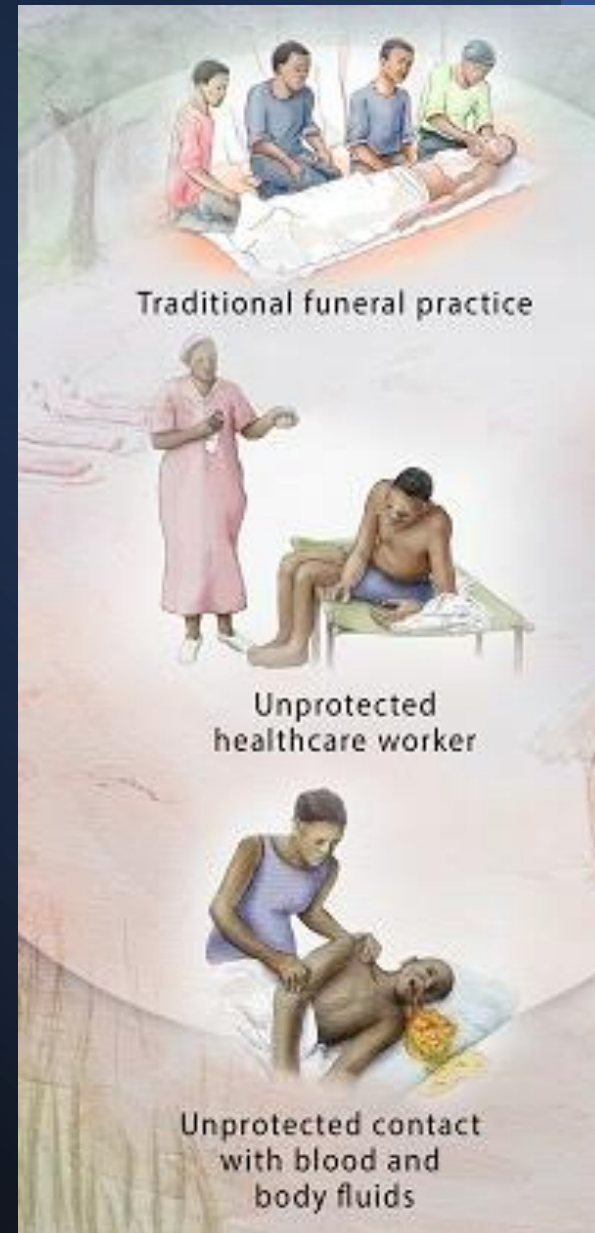
- ☐ **MAIN PURPOSE:** to limit the outbreak's spread by ensuring that sick people are caught as early as possible, and isolated
- ☐ Also, important to make sure that sick people can get help/treatment

Who is considered an EVD contact?

Usually friends, relatives, household residents, and healthcare workers

Someone who has:

- ☐ Cared for or touched a person sick with EVD without appropriate PPE
- ☐ Touched the blood or body fluids of a person sick with EVD
- ☐ Touched the body of a person who died of EVD without appropriate PPE
- ☐ Touched linens, clothes, mattress, or other belongings of a patient who is sick with or who has died of EVD



How to find and interview contacts?

- **Interview:**

- ☐ Case-patient, if alive and able to tell you
- ☐ Caretaker(s)
- ☐ Household members
- ☐ Healthcare workers
- ☐ Others who know about the patient's recent activities and travels (*may be classmates, teachers, co-workers, although often people sick with EVD do not feel well enough to work*)

DON'T MISS CONTACTS!

*****Missing even one contact can be the difference between stopping a transmission chain and spread to hundreds of people*****

Make a contact list using the tool: Contact Line List Form

Annex 2: Contact listing form

EBOLA CONTACT LISTING FORM[illegible][illegible]

*Types of Contact:

- 1 = Touched body fluids of the patient (blood, vomit, saliva, urine, faeces)
2 = Had direct physical contact with the body of the patient (alive or dead)
3 = Touched or cleaned the linens, clothes, or dishes of the patient
4 = Slept or ate in the same household as the patient

Contact sheet filled by: Name:

Title:

Telephone:

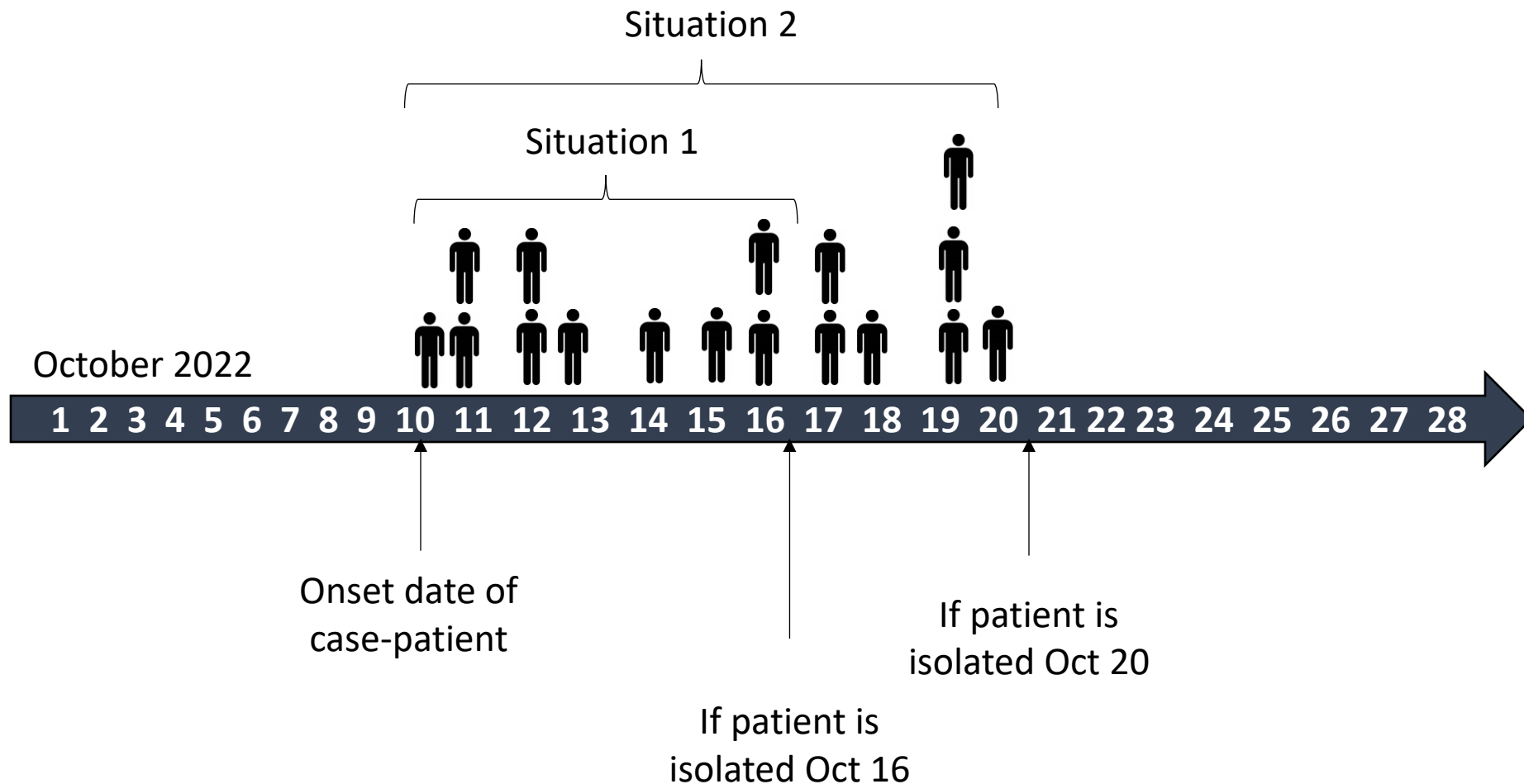
***Note: people may have as few as only 3-6 contacts, or more than 50 since becoming ill.**

Prioritize contacts if needed, by degree of contact

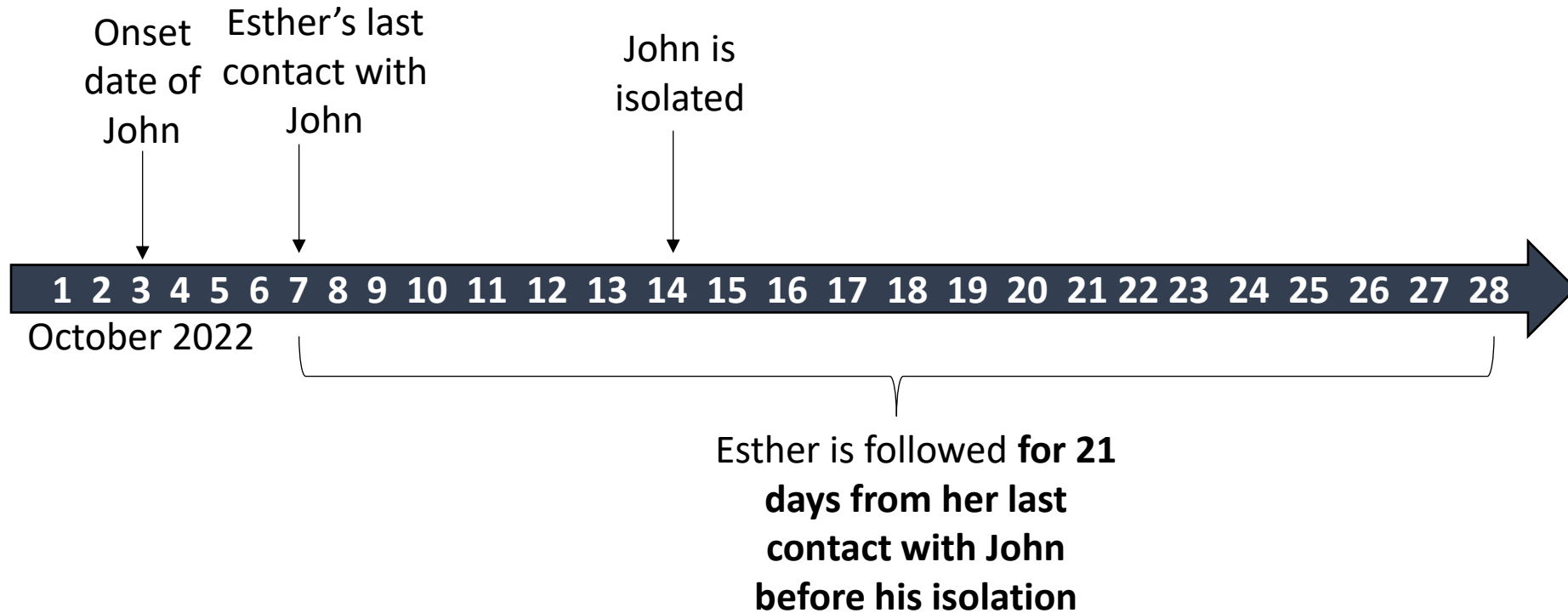
- Higher risk:
 - ☐ Anyone taking care of the patient while ill (household or healthcare)
 - ☐ Persons sharing sleeping space with the case
 - ☐ Persons attending burial of the patient
 - ☐ Persons sharing household items



The faster we find contacts after a patient's onset, the fewer we have to trace!



Contacts are followed for 21 days from their *last contact with case-patient*



***Date of last contact is Day 0**

Contact Tracing Form

Contact Tracing Form for Ebola Viral Haemorrhagic Fever

Name of patient: _____ ID-number _____ GPS coordinates: Latitude: ° ' " Longitude: ° ' "

Name of ~~contact~~ _____ Sex: F M Age: _____ (years)

Date of last contact (dd/mm/yy): _____ Physical Address (LC1): _____ Telephone Number _____

Next of Kin _____ Telephone _____

Type of contact in the last 21 days (Circle all that apply):

1. Touched fluid of a ~~case~~ (blood, vomit, saliva, urine, ~~feces~~)
2. Direct physical contact with body of case (dead or Alive)
3. Touched or cleaned clothes or other objects of the case
4. Was in the same room or house with contact or slept or ate in same household as case

Contact ~~through hospital~~ Y / N Name of hospital: _____ Date of 1st visit of Contact Tracing Team: _____

Household information: No. of rooms: _____ No. living in ~~household~~: _____ No. of toilets/bathrooms: _____ Are toilets/bathroom shared? Y / N

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Fever (take temperature)																					
Malaise																					
Muscle pain																					
Headache																					
Pharyngitis																					
Vomiting																					
Diarrhoea																					
Maculo-papular rash																					
Haemorrhagic sign																					

Mark "0" if ~~the contact~~ has not developed the symptom

Mark "v" if the contact has developed the symptom

Other comments on ~~contact~~: _____

Contact tracing form, 6 October 2014

THANK YOU FOR LISTENING

