

# Angola

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1. Health surveillance forms
2. Surveillance system guidelines and alert thresholds
3. Case definitions
4. **Guidelines for outbreak control**
5. Case management of epidemic-prone diseases
6. Guidelines for collection of specimens for laboratory testing
7. Outbreak investigation kit

Table 1  
**Steps in management of an outbreak**

<p><b>1. PREPARATION</b></p> <ul style="list-style-type: none"> <li>– Health coordination meetings</li> <li>– Surveillance system: weekly epidemic-prone disease reports to Ministry of Health and WHO</li> <li>– Stockpiles: sampling kits, appropriate antibiotics, intravenous fluids</li> <li>– Contingency plans for isolation wards in hospitals</li> <li>– Laboratory support</li> </ul>
<p><b>2. DETECTION</b></p> <ul style="list-style-type: none"> <li>– Diseases of outbreak potential are marked with an asterisk (*) on the <i>Weekly Morbidity Form</i>. They must be reported as soon as possible to your district medical officer (DMO) or district surveillance officer or health coordinator using the <i>Outbreak Alert Form</i> if the <u>weekly alert thresholds</u> provided in “Guidelines for use of surveillance forms” are passed. The health coordinator should inform the Ministry of Health and WHO.</li> <li>– A clinical specimen (e.g. stool, serum, cerebrospinal fluid) must be taken for laboratory confirmation. Include the case in the Weekly Morbidity Form.</li> </ul>
<p><b>3. RESPONSE</b></p> <p><b>Confirmation</b></p> <ul style="list-style-type: none"> <li>– The lead health agency will investigate reported cases to confirm the outbreak situation. Clinical specimens will be sent for testing.</li> <li>– The lead health agency will set up an outbreak control team with membership from relevant organizations: Ministry of Health, WHO and other United Nations organizations, nongovernmental organizations in the fields of health and water and sanitation, veterinary experts.</li> </ul> <p><b>Investigation</b></p> <ul style="list-style-type: none"> <li>– Collect/analyse descriptive data to date (e.g. age, date of onset, location of cases).</li> <li>– Develop hypothesis for pathogen/source/transmission.</li> <li>– Develop outbreak case definition.</li> <li>– Follow up cases and contacts.</li> <li>– Conduct further investigation/epidemiological studies.</li> </ul> <p><b>Control</b></p> <ul style="list-style-type: none"> <li>– Implement control measures specific for the disease.</li> <li>– Treat cases with recommended treatment as in WHO guidelines.</li> <li>– Prevent exposure (e.g. isolation of cases in cholera outbreak).</li> <li>– Prevent infection (e.g. immunization in measles outbreak).</li> </ul>
<p><b>4. EVALUATION</b></p> <ul style="list-style-type: none"> <li>– Assess timeliness of outbreak detection and response.</li> <li>– Change public health policy if indicated (e.g. preparedness).</li> <li>– Write and disseminate outbreak report.</li> </ul>

Table 2

**Resources needed for outbreak response**

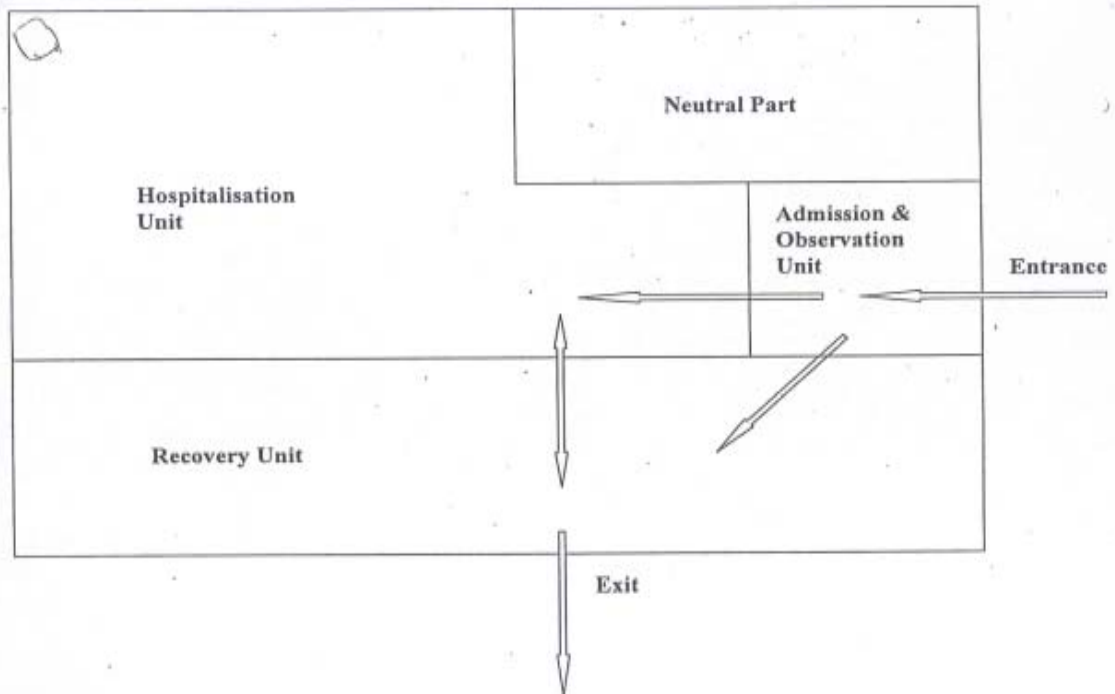
- Personnel (trained staff)
- Supplies (e.g. oral rehydration salts, intravenous fluids, water containers, water purifying tablets, drinking cups, vaccines, vitamin A, monitoring forms, vaccination cards, tally sheets)
- Treatment facilities (location, beds available, stocks of basic medical supplies)
- Laboratory facilities (location, capacity, stocks of reagents, etc.)
- Transport (sources of emergency transport and fuel, cold chain)
- Communication links (between health centres; between Ministry of Health, nongovernmental organizations and United Nations agencies)
- Computers (not essential)
- In an outbreak requiring an immunization campaign:
  - safe injection equipment (e.g. auto-disable syringes and safety boxes (puncture-resistant boxes)
  - immunization facilities (location, capacity)
  - cold-chain equipment (number and condition of refrigerators, cold boxes, vaccine carriers, ice-packs)

**Table 3**  
**Risk factors for outbreaks in emergency situations**

Acute respiratory infections	Inadequate shelter with poor ventilation Indoor cooking, poor health-care services Malnutrition, overcrowding Age less than 1 year old Large numbers of elderly Cold weather
Diarrhoeal diseases	Overcrowding Inadequate quantity and/or quality of water Poor personal hygiene Poor washing facilities Poor sanitation Insufficient soap Inadequate cooking facilities
Malaria	Movement of people from endemic into malaria-free zones or from areas of low endemicity to hyperendemic areas Increased population density promoting mosquito bites Interruption of vector control measures Inadequate health-care services Stagnant water Flooding, changes in weather patterns
Measles	Measles immunization coverage rates below 80% Population movement Overcrowding
Meningococcal meningitis	Meningitis belt Dry season Dust storms Overcrowding High rates of acute respiratory infections
Viral haemorrhagic fever (VHF)	Lack of hygiene, poor sanitation, contact with objects/food contaminated with rodent excreta; unsafe food handling and storage practices Population displacement with subsequent overcrowding Poor access to health services, poor isolation and protection measures (barrier nursing) Tick-infested areas (Crimean–Congo haemorrhagic fever) Handling or eating ill or dead infected chimpanzees (Ebola)
Yellow fever	Unvaccinated people moving to areas of endemicity are at risk Overcrowding Open water storage provides favorable habitat for <i>Aedes aegypti</i> Old tyres, old water containers increase vector breeding Poor drainage (leading to pools and open channels of water) may increase vector breeding opportunities.

Figure 1

### Organization of an Emergency Treatment Centre and Patient-Flow

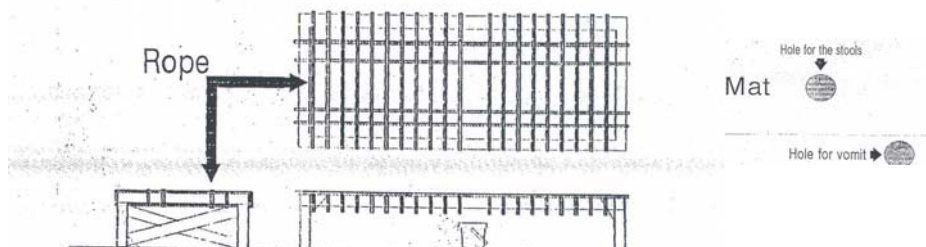


Four **separate** spaces:

- Admission and observation unit
- Neutral Part: Staff office and staff rest room, hospital Kitchen, store rooms
- Hospitalisation unit : reserved for severe patients with IV fluids
- Recovery unit : Oral Rehydration space

In **each** space :ensure exclusive latrines , washing areas , large quantity of water and safe disposal of waste

Cholera bed in wood and rope



**Table 4**  
**Essential hygiene rules in a cholera treatment centre**

<b>Mode of transmission</b>	<b>Essential rules in the unit</b>	<b>Additional recommended rules</b>
People	<ul style="list-style-type: none"> <li>– Access limited to patient + one family member + staff</li> <li>– One-way flow of people</li> </ul>	<ul style="list-style-type: none"> <li>– Ideally one carer per patient only</li> <li>– 3 separate spaces within Unit (see <i>Figure 1</i>)</li> </ul>
Water	<ul style="list-style-type: none"> <li>– Safe water (chlorine concentration according to specific use; see <i>Table 5</i>)</li> <li>– Large quantity needed (minimum 10 litres/person/day)</li> </ul>	<ul style="list-style-type: none"> <li>– Ideally 50 litres per patient and per day</li> </ul>
Hands	<ul style="list-style-type: none"> <li>– Hand-washing stations with safe water and soap in sufficient quantities</li> <li>– Wash hands with water and soap</li> <li>– before and after taking care of patients</li> <li>– after using the latrines</li> <li>– before cooking or eating</li> <li>– after leaving the admission ward</li> </ul>	Cut and clean nails
Food	<ul style="list-style-type: none"> <li>– Cooked food</li> <li>– Health-care workers should not handle food or water</li> </ul>	<p>Food provided by the unit (preferably not by families)</p> <p>Large stocks of food may be "tempting" and may lead to security problems</p>
Clothes	Wash clothes and linen with the appropriate chlorine solution (see <i>Table 5</i> )	If no chlorine available, wash clothes with soap and dry them in the sun
Environmental contamination (faeces and waste)	<ul style="list-style-type: none"> <li>– Ensure exclusive latrines for the unit</li> <li>– Disinfect buckets, soiled surfaces and latrines regularly with the appropriate chlorine solution (see <i>Table 5</i>)</li> <li>– Incinerator for medical waste</li> </ul>	<ul style="list-style-type: none"> <li>– Latrines at least 100 metres away from wells or surface water sources</li> <li>– Special cholera beds</li> </ul>
Corpses	<ul style="list-style-type: none"> <li>– Separate morgue</li> <li>– Disinfect corpses (see <i>Table 5</i>)</li> </ul>	<ul style="list-style-type: none"> <li>– Find ways to have safe funeral practices</li> <li>– Bury corpses as soon as possible</li> </ul>

*Developed by the WHO Global Task Force on Cholera Control*

**Table 5**  
**Preparation and use of disinfectants**

Starting with:	To obtain:		
	2% solution	0.2% solution	0.05% solution
<u>Calcium hypochlorite</u> at 70% active chlorine ("high-test hypochlorite" – HTH)	30 g/litre or 2 tablespoons/litre	30 g/10 litres or 2 tablespoons/10 litres	7 g/10 litres or ½ tablespoon/10 litres
<u>Chlorinated lime</u> at 30% active chlorine ("bleaching powder")	66 g/litre or 4 tablespoons/litre	66 g/10 litres or 4 tablespoons/10 litres	16 g/10 litres or 1 tablespoon/10 litres
<u>Sodium hypochlorite solution</u> at 6% active chlorine ("household bleach")	333 ml/litre or 22 tablespoons/litre	333 ml/10 litres or 22 tablespoons/10 litres	83 ml/10 litres or 5 tablespoons/10 litres
USE FOR DISINFECTION OF:	Excreta Corpses Shoes	Floor Utensils Beds	Hands Skin Clothes

*Developed by the WHO Global Task Force on Cholera Control*

Approximate measurements used:

1 teaspoon = 5 ml

1 tablespoon = 15 ml

Do not use a metallic bucket for the preparation and storage of chlorinated solutions.

**Table 6**  
**Cholera treatment supplies per population**

**How to estimate the initial amount of supplies needed for a cholera outbreak:**

Of the population, 0.2% is expected to fall ill initially.

The table below gives an estimate of the amount of supplies you will need according to the number of people in your area. To find the amounts needed for each item, look in the column under the approximate population of your catchment area to the nearest 5000. You may add several columns (e.g. if your health facility serves 35 000 people, add the amounts in the 10 000 and 5000 columns to those in the 20 000 column). Write the amount needed at your health facility in the empty column on the right.

ITEM	Population (numbers expected to fall ill)						Your area
	5 000	10 000	15 000	20 000	50 000	100 000	
	(10)	(20)	(30)	(40)	(100)	(200)	
<b>Rehydration supplies</b>							
ORS packets (for 1 litre each)	65	130	195	260	650	1 300	
Nasogastric tubes (adults) 5.3/3.5 mm (16 Flack) 50 cm	1	1	1	2	3	6	
Nasogastric tubes (children)	1	1	1	2	3	6	
Ringer's lactate bags, 1 litre, with giving sets	12	24	36	48	120	240	
Scalp vein sets	2	3	4	5	10	20	
<b>Antibiotics</b>							
Doxycycline, 100 mg (adults)	6	12	18	24	60	120	
Erythromycin 250 mg (children)	24	48	72	96	240	480	
<b>Other treatment supplies</b>							
Large water dispensers with tap (marked at 5–10 litres)	1	1	1	2	2	4	
1 litre bottles for ORS solution	2	4	6	12	20	40	
0.5 litre bottles for ORS solution	2	4	6	12	20	20	
Tumblers, 200 ml	4	8	12	16	40	80	
Teaspoons	2	4	6	8	20	40	
Cotton wool, kg	1/2	1	1 1/2	2	5	10	
Adhesive tape, reels	1	1	1	2	3	6	

Developed by the WHO Global Task Force on Cholera Control.

Table 7  
**Dysentery treatment supplies per population**

**How to estimate the amount of supplies needed for a dysentery outbreak.**

Of the population, 0.2% is expected to fall ill initially.

The table below gives you an estimate of the amount of supplies you will need according to the number of people in your area. To find the amounts needed for each item, look in the column under the approximate population of your catchment area to the nearest 5000. You may add several columns (e.g. if your health facility serves 35 000 people, add the amounts in the 10 000 and 5000 columns to those in the 20 000 column). Write the amount needed at your health facility in the empty column on the right.

On the basis of drug resistance in your area, choose only one of the recommended antibiotics (See: *First steps in managing an outbreak of acute diarrhoea*. Geneva 2004. World Health Organization. WHO/CDS/CSR/NCS/2003.7 Rev.1)

ITEM	Population (numbers expected to fall ill)						Your area
	5000	10000	15000	20000	50000	100000	
	(10)	(20)	(30)	(40)	(100)	(200)	
<b>Rehydration supplies</b>							
ORS packets (for 1 litre each)	10	20	30	40	100	200	
Ringer's lactate bags, 1 litre, with giving sets	2	4	6	8	20	40	
Scalp vein sets	1	1	2	2	5	10	
<b>Antibiotics</b>							
Ciprofloxacin, 500mg	100	200	300	400	1000	2000	
<b>Other treatment supplies</b>							
Large water dispensers with tap (marked at 5–10 litres)	1	1	1	1	1	2	
1 litre bottles for ORS solution	1	1	2	2	5	10	
0.5 litre bottles for ORS solution	1	1	2	2	5	10	
Tumblers, 200 ml	1	2	3	4	10	20	
Teaspoons	1	1	2	2	5	10	
Cotton wool, kg	1/2	1	1 1/2	2	5	10	
Adhesive tape, reels	1	1	1	2	3	6	
Hand soap, kg	2	4	6	8	20	40	
Boxes of soap for washing clothes	3	6	9	12	30	60	
1-litre bottle of cleaning solution (2% chlorine or 1–2% phenol)	1	1	1	1	2	4	

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Table 8  
**Typhoid fever treatment supplies per population**

**How to estimate the amount of supplies needed for a typhoid outbreak.**

Of the population, 0.2% is expected to fall ill initially.

The table below gives you an estimate of the amount of supplies you will need according to the number of people in your area. To find the amounts needed for each item, look in the column under the approximate population of your catchment area to the nearest 5000. You may add several columns (e.g. if your health facility serves 35 000 people, add the amounts in the 10 000 and 5000 columns to those in the 20 000 column). Write the amount needed at your health facility in the empty column on the right.

On the basis of drug resistance in your area, choose only one of the antibiotics.

ITEM	Population (numbers expected to fall ill)						Your area
	5 000	10 000	15 000	20 000	50 000	100 000	
	(10)	(20)	(30)	(40)	(100)	(200)	
<b>Rehydration supplies</b>							
ORS packets (for 1 litre each)	10	20	30	40	100	200	
Ringer's lactate bags <sup>a</sup> 1 litre, with giving sets	1	2	3	4	10	20	
Scalp vein sets	1	1	2	2	5	10	
<b>Antibiotics</b>							
Chloramphenicol , 250 mg	2 500	5 000	7 500	10 000	25 000	50 000	
Amoxicillin, 500 mg	1 680	3 360	5 040	6 720	16 800	33 600	
Co-trimoxazole, (SMX 400 mg + TMP 80 mg )	840	1 680	2 520	3 360	8 400	16 800	
Cefixime,200 mg <sup>b</sup>	840	1 680	2 520	3 360	8 400	16 800	
<b>Other treatment supplies</b>							
Large water dispensers with tap (marked at 5–10 litres)	1	1	1	1	1	2	
1 litre bottles for ORS solution	1	1	2	2	5	10	
0.5 litre bottles for ORS solution	1	1	2	2	5	10	
Tumblers, 200 ml	1	2	3	4	10	20	
Teaspoons	1	1	2	2	5	10	
Cotton wool, kg	½	1	1½	2	5	10	
Adhesive tape, reels	1	1	1	2	3	6	
Hand soap, kg	2	4	6	8	20	40	
Box of soap for washing clothes	3	6	9	12	30	60	
1-litre bottle of cleaning solution (2% chlorine or 1–2% phenol)	1	1	1	1	2	4	

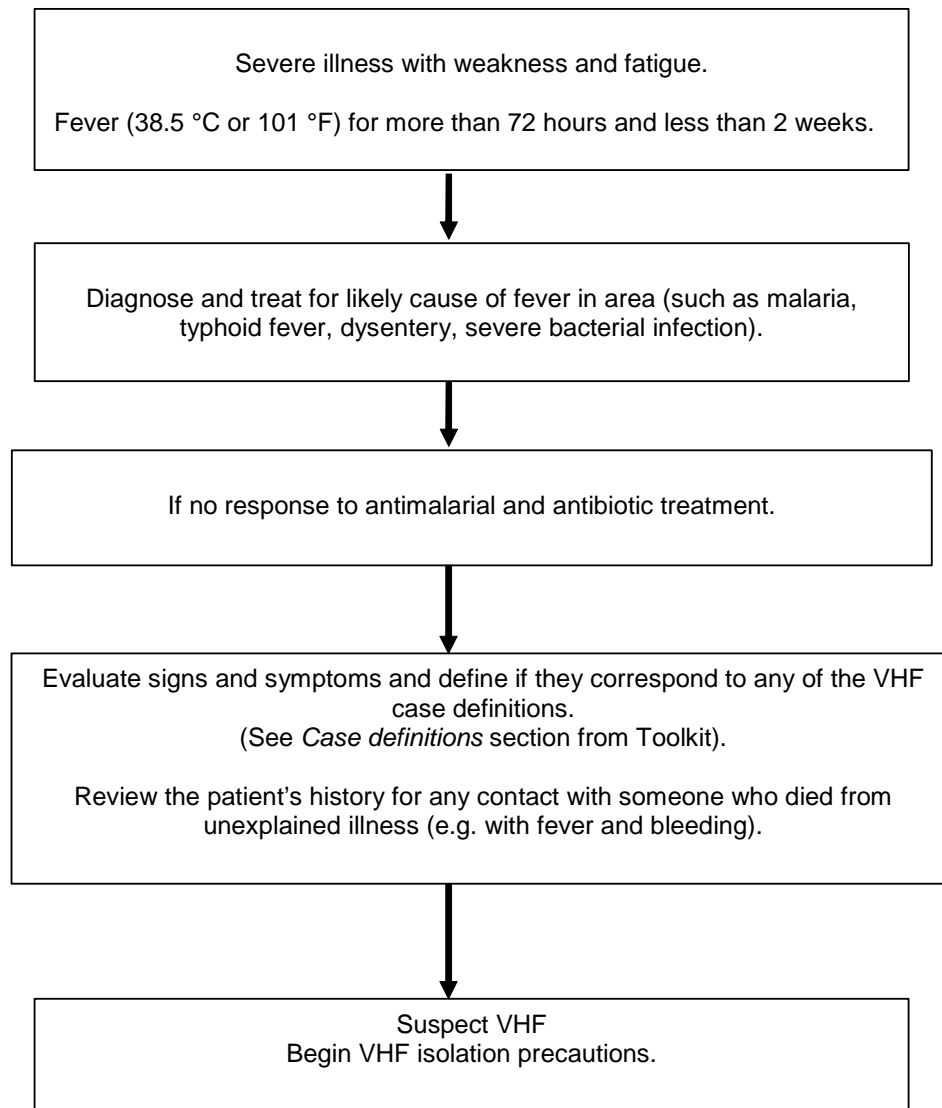
<sup>a</sup> Less than 50% of patients need IV rehydration.

<sup>b</sup> In case of multidrug resistance to above antibiotics, choose cefixime.

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Figure 2  
**VIRAL HAEMORRHAGIC FEVER OUTBREAK INVESTIGATION**

Identify suspected cases of viral haemorrhagic fever (VHF)



Note: The above flowchart applies to the first steps of a VHF outbreak investigation.

## VIRAL HAEMORRHAGIC FEVER OUTBREAK CONTROL

Health workers should be aware of the possibility of suspecting a VHF in a non-outbreak situation. As soon as a VHF is suspected, VHF isolation precautions should begin. This will help to reduce the number of people exposed to the VHF.

### **Use information from previous outbreaks to suspect a VHF:**

Talk with the district or national surveillance officer about VHFs that have been reported in your area.

Report suspected cases of VHF according to national surveillance guidelines to the corresponding health authorities.

### **Begin VHF isolation precautions:**

- Adapt VHF isolation precautions as needed.
- Designate the health officer who will coordinate VHF isolation precautions. As soon as a health-care worker suspects a VHF, he or she should notify the health facility administrator and the VHF coordinator who will:
  - refer the patient to the isolation area and take the necessary steps to begin VHF isolation precautions below;
  - limit the number of health-facility staff and visitors in the patient's room;
  - limit the use of invasive procedures and reduce the number of injectable medications.

*Important!* Between the time when a VHF is suspected and the patient beings received in the isolation area, there is a risk for disease transmission from the patient's blood and other body fluids (stool, urine, vomit). Prevent disease transmission to other patients, visitors and health staff in the waiting area by placing the suspected VHF patient apart from other patients. Make every effort to reduce this waiting time.

*Reinforce standard universal precautions in the health centre/hospital*

### **VHF ISOLATION PRECAUTIONS:**

These can be started even if the diagnosis has not been laboratory-confirmed.

- Isolate the patient.
- Wear protective clothing in the isolation area, in the cleaning and laundry areas and in the laboratory. Wear a scrub suit, gown, apron, two pairs of gloves, mask, headcover, eyewear, and rubber boots.
- Clean and disinfect spills, waste, and reusable equipment safely.\*
- Clean and disinfect soiled linens and laundry safely.\*
- Use safe disposal methods for non-reusable supplies and infectious waste.
- Provide information about the risk of VHF transmission to health-facility staff. Reinforce use of VHF isolation precautions with all health-facility staff.
- Provide information to families and the community about prevention of VHFs and care of patients.

\* Pour or soak in 0.5% chlorine solution, (see Annex 7: *Guidelines for collection of specimens for laboratory testing*).

See Appendix A: *Select the isolation area* below.

### **Identify patient's contacts and travel history:**

Ask the patient (or a family member who can answer for the patient) the following questions:

- Place where patient is currently living
- Other persons with the same symptoms in the family or village
- Which place(s) the patient has visited in the past 3 weeks

- Use the answers to identify contacts
- Provide them with information about VHF and when to seek care.

**Specimens for laboratory confirmation:**

Obtain specimen samples according to the suspected VHF for confirmation of diagnosis. See Annex 7: *Guidelines for collection of specimens for laboratory testing* in this Toolkit, for specific techniques for collecting blood and other specimens from suspected VHF cases and their method of transport.

All suspected cases should be reported and laboratory specimens given to the corresponding health authority (surveillance officer or WHO officer) or person responsible for coordinating epidemic control and transport/shipping of the sample to a WHO-recommended reference laboratory and follow-up of results.

**Alert health-facility staff about specific risks for VHF transmission:**

As soon as a VHF is suspected, alert the relevant health staff to begin using VHF isolation precautions, especially:

- doctors or nurses providing direct patient care;
- cleaning, laundry, and waste disposal staff who clean and disinfect contaminated material and supplies;
- laboratory staff who handle samples from the suspected VHF cases;
- medical or support staff who prepare or handle deceased VHF patients.

Explain how VHF transmission can occur in the health facility and the risks to health-facility staff. Remind the staff that VHF is a highly infectious disease. Emphasize and ensure use of VHF isolation precautions whenever they have contact with the VHF patient, the patient's blood or other body fluids, or contaminated supplies and equipment.

## Appendix A

### **SELECT THE ISOLATION AREA**

Establish a barrier between the VHF patient and uninfected patients, other health-facility staff, and visitors.

#### **Description**

- A single room with an adjoining toilet or latrine.
- A separate building or ward that can be used for VHF patients only (especially if Ebola haemorrhagic fever is suspected, or if there is a large number of patients).
- An area in a larger ward that is separate and far away from other patients in the ward.

Important: There should be an isolated toilet, adequate ventilation, and screened windows (see Figure 3 below). Place a security barrier around the isolation area and restrict access to the isolation area. Place signs around the isolation area clearly stating that access is restricted.

#### **Set up changing rooms for staff providing patient care:**

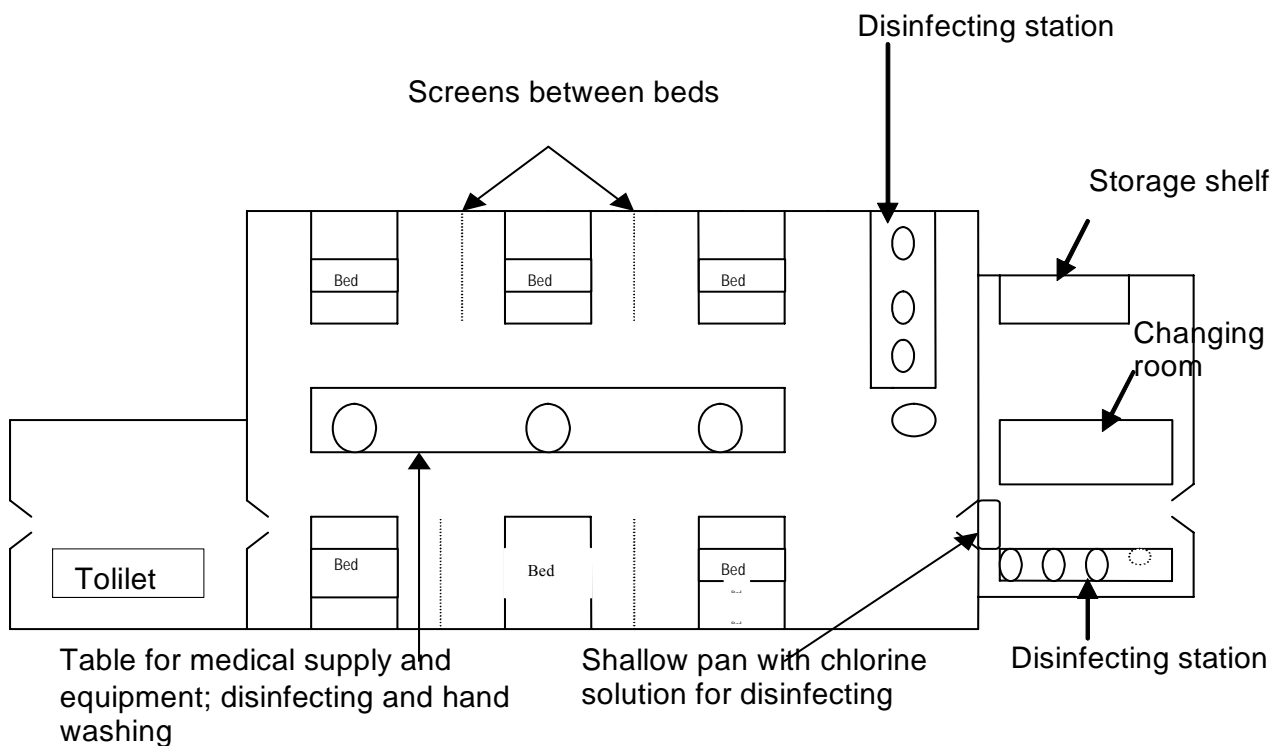
One changing room is needed outside the patient isolation area. This area is where health-care workers will put on protective clothing. Contaminated clothing and supplies remain in the changing room until cleaning staff trained to use VHF isolation precautions take the VHF-contaminated items to the laundry or disposal site.

If there are family members who will assist with direct patient care, give them information and training about:

- the risk of VHF transmission and the reason for protective clothing;
- how to wear gloves, gowns, and a mask;
- how to take off gloves, gowns, and mask and store or dispose of them safely.

Figure 3  
**EXAMPLE OF A VIRAL HAEMORRHAGIC FEVER TREATMENT ISOLATION AREA**

A sample layout of facility for several viral haemorrhagic fever patients



## APPENDIX B

### SAFE BURIAL PRACTICES:

The bodies and body fluids of deceased VHF patients remain contagious for several days after death. Family and community members are also at risk if burial practices involve touching and washing the body.

#### Prepare the body safely

Burial should take place as soon as possible after the body is prepared in the health facility.

Health-facility staff should:

- prepare the body safely;
- be aware of the family's cultural practices and religious beliefs. Help the family understand why some practices cannot be done because they place the family or others at risk of exposure and death.

#### To prepare the body in the health facility:

1. Wear protective clothing as recommended for staff in the patient isolation area. Use thick rubber gloves as the second pair (or outer layer) of gloves.
2. Spray the body and the area around it with a 0.5% chlorine solution.<sup>1</sup>
3. Place the body in a body bag (mortuary sack) and close it securely. Spray the body bag with a 0.5% chlorine solution.<sup>1</sup>
4. If body bags are not available, wrap the body in two thickness of cotton cloth soaked with a 0.5% chlorine solution.<sup>1</sup> Then wrap the body in plastic sheeting. Seal the wrapping with plastic tape. Spray the body bag as in Step 3. Place the body in a coffin if one is available.
5. Transport the body to the burial site as soon as possible. Assign a health officer or member of the health-facility staff to accompany the body to ensure that the safety precautions remain secure during the journey.

#### Prepare burial site

- The grave should be at least 2 metres deep.
- Carefully explain to the family the reason for limiting the burial ceremony to family members only.

#### Disinfect the vehicle after transporting the body

- The staff person who disinfects the vehicle must wear protective clothing.
- Rinse the interior of the vehicle where the body was carried with a 0.5% chlorine solution<sup>1</sup> and let it soak for 10 minutes.
- Rinse well with clean water and let the vehicle air-dry.

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<sup>1</sup> See Annex 6: *Guidelines for collection of specimens for laboratory testing* in this Toolkit.